Chapter 1
Harmonising Demographic and Socio-Economic Variables

The modern age of cross-national comparison of demographic and socio-economic variables began in February/March 1947 when the Economic and Social Council of the United Nations adopted a resolution to publish 'a demographic yearbook, containing regular series of basic demographic statistics, comparable within and among themselves, and relevant calculations of comparable rates …' (United Nations, 1949, p. 7). The first issue of the *Demographic Yearbook* appeared in 1948. It featured mainly demographic statistics on population size, birth and death rates, health and morbidity, international migration, and marital status. Only three tables were devoted to economic variables. They measured the 'economically active population' according to sex and age. However, a number of indicators were identified for inclusion in future issues. The *Demographic Yearbook 1948* begins with 22 pages of definitions of the terms used. This represents a first attempt at harmonisation. In the years that followed, a number of specialised agencies of the United Nations developed standard classifications for the cross-national comparison of socio-demographic variables. These instruments include, for example, the International Labour Organisation's (ILO) International Standard Classification of Occupations (ISCO), the first version of which – ISCO-58 – was published in 1958 (ILO, 1958), and UNESCO's International Standard Classification of Education (ISCED), first published in the early 1970s (UNESCO, 2003, p. 195).

In the 1960s and 1970s, cross-national comparative social research projects were often basically case studies. Rather than translating a master questionnaire into the languages of the surveyed countries, researchers such as Reinhard Bendix (1963) and Barnes, Kaase et al. (1979) employed country-specific questionnaires. These early cross-national comparative studies revealed the problems associated with comparative measurement. As Bendix (1963, p. 532) noted, 'Comparative sociological studies represent an attempt to develop concepts and generalizations at a level between what is true of all societies and what is true of one society at one point in time and space.' The key question in the late 1960s and early 1970s was whether or not social phenomena observed in different social systems were comparable

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(Przeworski & Teune, 1970, p. 11). During this phase of cross-national comparative survey research, it was assumed that systematic errors arose as a result of:

- Translation from one language to another,
- Differences between social and political systems, and
- The method of measurement.

Direct measurement by means of a survey calls for a questionnaire that can be understood equally by all those confronted with the instrument (researchers, interviewers, and respondents). This applies both to national and cross-national survey research. However, the problems that arise at the national level are amplified many times over in the case of cross-national comparisons because not only educational barriers and preconceptions but also language and cultural barriers must be overcome. Therefore, Przeworski and Teune (1970, p. 42) noted that 'Cross-system comparisons of single variables will be dependent upon the units and the scale of measurement within each social system.'

As a first step towards solving this problem, language barriers were overcome. One lesson that had been learnt from the early case studies was that functional equivalence must be established when translating research questions from one language to another. Przeworski and Teune (1970) taught researchers that functional equivalence could be established in a content-valid way by translating the target-language questionnaire back into the source language. Content validity was deemed to have been achieved if a question or item had not lost any of its content after the two-way translation process was completed. With regard to the establishment of functional equivalence, Przeworski and Teune (1970, p. 120) advocated that questionnaires employed in cross-national comparative research should feature a set of core items common to all the systems under study and a set of system-specific items. Although different translation techniques are used nowadays (see Section 2.1), the functional equivalence of translations continues to be established by means of face validity.

The second step towards establishing comparability in cross-national surveys was embarked upon – hesitantly at first – in the 1970s. Mobility researchers began to supplement the ILO's International Standard Classification of Occupations (ISCO) with comparative occupational prestige scales (Treiman, 1977) or class schemas (Erikson, Goldthorpe, & Portocarero, 1979). These instruments were, in turn, complemented in the 1990s by a social stratification scale (Ganzeboom, De Graaf, Treiman, & de Leeuw, 1992) (see Section 3.3.1). The CASMIN Educational Classification (Brauns, Scherer, & Steinmann, 2003; see Section 5.1.2) is one further fruit of social scientists' efforts in the 1970s to develop measurement instruments for the cross-national comparison of socio-demographic variables. Although CASMIN is still applied today, social researchers tend to favour UNESCO's International Standard Classification of Education (ISCED). ISCED 1997 is still in use, but a revised version – ISCED 2011 – is now available.

With a few exceptions, the harmonisation of demographic and socio-economic variables was bracketed out in academic survey research in the 1970s and 1980s. Indeed, it was not until the late 1990s that the harmonisation of socio-demographic

variables for cross-national comparison purposes began in earnest in academically driven research.

Demographic and socio-economic variables are so-called background variables that describe national and cultural concepts and structures. These concepts and structures cannot simply be translated. Besides the three classical variables – sex, age, and education – the number of demographic and socio-economic variables needed to determine relationships between attitudes and social characteristics depends on the research question (see also Braun & Mohler, 2003, p. 112). These background variables serve to typify the respondents and to describe the context in which they act. Therefore, they are the independent variables in social science analysis.

A review of the current situation with regard to the harmonisation of demographic and socio-economic variables reveals the existence of a number of techniques and rules (Hoffmeyer-Zlotnik & Wolf, 2003b). However, generally accepted standardised measurement instruments or indices are available for only a small number of variables and they are limited mainly to classification systems developed by institutions specialising in comparative statistics, namely the ILO, UNESCO, and Eurostat. The present book aims to fill this gap by developing a set of instruments for the comparable measurement of core socio-demographic variables in academically driven social survey research.

The third step towards establishing comparability in cross-national research has not really begun yet. It entails developing Likert-type scales for attitudinal items. This is a methodological sub-field in which debate is shaped more by confessions of faith than by research findings. Efforts to alleviate the paucity of research are currently being made by a group of researchers led by Willem Saris, who are investigating the scaling of responses to attitudinal items in cross-national comparative research within the framework of accompanying research for the European Social Survey (Saris & Gallhofer, 2007).

1.1 The Concept of Equivalence

Because human behaviour is perceived differently across cultures, assumptions with regard to the role of a particular behaviour in different cultural groups must be verified. This is done by assessing functional equivalence.

Functional equivalence has been the central concept in translation theory from the beginning. In an early work on the equivalence of translations, Catford (1965, p. 20) defines translation as ‘the replacement of textual material in one language by equivalent textual material in another language.’ Matthiessen (1999, p. 27) discusses the equivalence of translations in relation to context and environment, noting that ‘the wider the context, the more information is available to guide the translation,’ and ‘the wider the environment, the more congruent languages are likely to be; the narrower the environment, the more incongruent languages are likely to be.’ Therefore the translator must take account of the cultural background against which respondents think and act.

Socio-demographic variables constitute a problem in cross-national comparative research because, as a rule, the researcher is genuinely familiar only with his own culture and the organisational structures in his own country. This is the reason why many researchers restrict their analysis to the three 'central' variables: sex, age, and education. Education is surveyed in system-specific categories, and coding is frequently limited to a rudimentary set of categories – namely, 'low', 'medium', and 'high'. In order to analyse survey data adequately, a range of other characteristics for the classification of an individual or a group must be equivalently transferred from one culture or national structure to another. Because researchers wish to be able to compare the structures of private households, educational attainment levels, or purchasing power across the countries participating in a cross-national survey, the variables must be measured in a comparable way during the data collection process.

This can be achieved when the national teams participating in a comparative research project agree on what should be measured. This agreement should precede data collection and should be as precise as possible. The variable to be measured should be described exactly – ideally, this description should include a definition of the categories needed for the analysis. This technique harmonises the nationally collected output of the survey. However, this output harmonisation procedure is problematic when the data in each participating country are collected using the instrument usually applied there, and the national research groups attempt to discover comparability post hoc, or to 'squeeze' the data to make them comparable.

The alternative to output harmonisation is input harmonisation. In the latter case, a set of instruments with which the variables can be measured in a comparable way across participating countries is developed *before* data collection. A set of instruments such as this forms the centrepiece of the present book.

1.2 Aim and Structure of the Book

This book is addressed to all those who are engaged in cross-national comparative research. It aims to offer information, suggestions, and a set of instruments for the comparable measurement of core socio-demographic variables. The book is organised as follows:

Chapter 2 explains that harmonisation should not be confused with translation. It stresses that harmonisation is a technique that has nothing to do with linguistics, but a lot to do with the analysis of cultural concepts and the social structures of national systems. The chapter concludes with eight rules of harmonisation.

Chapter 3 discusses the main measurement instruments and classification systems currently available to cross-national comparative survey research. For the most part, they have been developed by specialised agencies of the United Nations and have been made available for use in cross-national comparative research. However, a small number of instruments have been specifically designed for academically driven social research.

In Chapter 4, the following data sources for background variables are compared across countries: first, collections of measurement instruments (for example, the classifications database on Eurostat's metadata server RAMON) and data on national structures – such as the information on national education systems provided by the Eurydice Network; second, cross-national surveys conducted by statistical agencies or academic social research bodies; and third, collections of metadata – two international and one German.

The fifth and sixth chapters form the centrepiece of the book. Chapter 5 presents the instruments with which the six core socio-demographic variables are currently measured in cross-national comparative research, and the authors' views on how these variables should be measured. This prepares the ground for the presentation in Chapter 6 of the proposed set of instruments for the measurement of the said variables in cross-national comparative research. Because most of the constituent instruments are input-harmonised, national structures must be included in just a few instances. Hence, it represents an attempt to develop demographic standards for cross-national comparative social research.

Because the harmonisation of socio-demographic data is also of importance in the case of the secondary analysis of cross-national comparative surveys, Chapter 7 begins by exploring the extent to which three major academically driven surveys – the International Social Survey Programme, the European Values Study, and the European Social Survey – measure core background variables such as education, labour status, occupation, etc. in such a way that within-survey and cross-survey comparison is possible. In view of the fact that social scientists tend to use the Eurostat surveys as reference statistics, the chapter concludes with an analysis of comparability within and across surveys conducted under the auspices of Eurostat.

All in all, the present book aims to provide social researchers engaged in cross-national comparative research with a guide to, and a set of standardised instruments for, harmonising core socio-demographic variables.