Suicidal Behaviour: Theories and Research Findings
Table of Contents

Foreword  Benedetto Saraceno ............................................................... vii

Part 1: Introduction

Chapter 1  Suicide Prevention – Background, Problems, Strategies:
  Introductory Remarks
  Wolfgang Rutz .......................................................... 3

Chapter 2  The WHO/Euro Multi-Centre Study on Suicidal Behaviour:
  Its Background, History, Aims and Design
  Unni Bille-Brahe, Armin Schmidtke, Ad Kerkhof and Diego De Leo 5

Part 2: Theoretical Aspects

Chapter 3  Definitions of Suicidal Behaviour
  Diego De Leo, Shelley Burgis, José M. Bertolote, Ad Kerkhof and
  Unni Bille-Brahe .................................................. 17

Chapter 4  Psychological Dimensions of Attempted Suicide:
  Theories and Data
  Elena Chopin, Ad Kerkhof and Ella Arensman .................. 41

Chapter 5  The Psychobiology of Suicidal Behaviour
  Cornelis Van Heeringen, Gwendolyn Portzky and Kurt Audenaert 61

Chapter 6  Intentional Aspects of Non-Fatal Suicidal Behaviour
  Heidi Hjelmeland and Keith Hawton .............................. 67

Part 3: Research Findings

Chapter 7  Socio-Demographic Variables of Suicide Attempters
  Armin Schmidtke and Cordula Löhr .................................. 81

Chapter 8  Negative Life Events and Non-Fatal Suicidal Behaviour
  Ella Arensman and Ad Kerkhof ...................................... 93

Chapter 9  Repetition of Attempted Suicide: Frequent, but Hard to Predict
  Ad Kerkhof and Ella Arensman ....................................... 111
Chapter 10 Marital Relations of Suicide Attempters
   Cordula Löhr and Armin Schmidtke ........................................ 125

Chapter 11 Physical Illness and Suicidal Behaviour
   Jacinta Hawgood, Kym Spathonis and Diego De Leo ......... 139

Chapter 12 Addiction and Suicidal Behaviour: Questions and Answers
   in the EPSIS
   Helen Keeley, Paul Corcoran and Unni Bille-Brahe ............ 165

Chapter 13 Sexual Abuse and Suicidal Behaviours
   Ellenor Salander-Renberg, Sibylla Lindgren and Inger Österberg . 185

Chapter 14 The Importance of Social Support
   Unni Bille-Brahe and Borge Jensen ........................................ 197

Chapter 15 Imitation of Suicidal Behaviour
   Armin Schmidtke, Cordula Löhr, Unni Bille-Brahe and
   Diego De Leo ........................................................................ 209

Chapter 16 Seasonality and other Temporal Fluctuations in Suicidal
   Behaviour: Myths, Realities and Results
   Gert Jessen ........................................................................... 219

Part 4: Suicidal Behaviour in Special Interest Groups

Chapter 17 Suicidal Behaviour Among Young People
   Ella Arensman and Keith Hawton ........................................... 239

Chapter 18 Suicide and Suicidal Behaviour in Late Life
   Diego De Leo and Kym Spathonis ........................................... 253

Chapter 19 Immigrants and Attempted Suicide in Europe
   Halise Devrimci-Özguven, Isik Sayil, Bora Baskak and
   Unni Bille-Brahe .................................................................. 287

Part 5: Clinical Aspects in Non-Fatal Suicidal Behaviour

Chapter 20 Contacts with Health Care Facilities Prior to Suicide Attempts
   Sándor Fekete, Peter Osváth and Konrad Michel ................. 301

Chapter 21 Suicide Attempters, Health Care Systems and the Quality of
   Treatments
   Unni Bille-Brahe and Cordula Löhr ........................................ 313

List of Contributors ................................................................. 327
Foreword

Even before suicide was clearly recognized as a major public health problem a few years ago, the WHO/EURO Multi-Centre Study on Suicidal Behaviour (originally the WHO/EURO Study on Parasuicide) initiated what was to become the largest multi-site source of information on suicide attempts.

For some 15 years, data were collected in up to 45 European cities – large- and medium-sized – and provided a wealth of knowledge on the epidemiology, demography, clinical aspects, associated factors (both risk and protective) and methods employed in a vast number of cases of suicide attempts. The use of a common methodology allowed reliable comparisons across sites and originated a kind of European atlas of suicide attempts. Numerous papers, dissertations, theses and books that used data collected by participants in this study attest to its scientific importance and created a sound basis for action that, from a public health perspective, should give priority to prevention.

And the time for action has arrived. The network of researchers, clinicians, public health officers, community leaders organized around this WHO/EURO study now has the possibility – as well as the moral obligation – to transform the knowledge amassed during all these years of the study’s duration into concrete action to prevent suicidal behaviours and to improve the quality of the care for both those who are at greater or immediate risk and for those who have already engaged in suicidal acts.

It is our hope that the stamina that kept the WHO/EURO study alive and productive for so long will now fuel the same enthusiasm for the prevention of suicidal behaviours. WHO, at both Headquarters and the Regional Office for Europe, gives a high priority to suicide prevention and all well intentioned collaboration in this respect is welcome.

I wish readers of this book a fruitful and insightful reading, convinced that they will find in it lots of inspiration for their current or future work.

Dr Benedetto Saraceno
Director, Department of Mental Health and Substance Dependence
World Health Organization
Part 1

Introduction
Chapter 1

Suicide Prevention – Background, Problems, Strategies: Introductory Remarks

Wolfgang Rutz, M.D., Ph.D.

Regional Adviser, Mental Health, WHO Regional Office for Europe

Suicide is one of the most dramatic symptoms of mental illness. The diversity of suicide rates and populations in Europe is immense, and statistics can reveal up to a fifty-fold difference in the rates of suicidality between different countries and the populations at risk. Factors such as psychosocial determinants of mental health, biological and gender-related vulnerability, the quality, accessibility and acceptability of services, cultural influences as well as issues of social cohesion, existential meaning in life, helplessness and control, as well as dignity and identity, form intricate interrelated patterns in explaining the backgrounds of suicides. The countries of Eastern Europe, currently in dramatic transition, are illustrative examples here for the self-destructive consequences of change, transition, helplessness and unpredictability, as, in the same way, do Western Europe’s at-risk populations – adolescents, farmers, elderly men and young women – reveal different factorial elements.

European countries show 300-fold differences in the national per capita income and an enormous variety in the provision and quality of care and support, including the development and implementation of suicide preventive strategies and national action plans against drugs and alcohol, a problem we know is related to suicide and suicide prevention.

From the wide diversity of suicide problems in Europe and worldwide and on the basis of the World Health Report 2001, the messages from the World Health Organization are:

– suicide is one of the most important public health problems, causing immense cost and suffering, both individually as well in the family and the society;
it can be prevented;
suicide prevention has to be comprehensive, multidisciplinary and involve different aspects of life as well as different sectors of society; and
national strategies and policies have to be developed, addressing the specific problems as well as respecting the cultural patterns, value systems and societal structures of the individual country.

To cope with the problems of suicidal behaviour, to facilitate action and to raise awareness, a WHO European network on suicide prevention and research has recently evolved from the former WHO/EURO Multi-Centre Study on Suicidal Behaviour and is today established in most of the Members States of the Region. This network aims at:

- continuously assessing the suicide situation in Europe;
- creating, proposing and facilitating national mental health planning on suicide prevention, integrated in national master plans on mental health development;
- developing specific suicide preventive strategies; and
- continuously monitoring and evaluating the implementation of these.

The book presented here makes an important contribution to our knowledge of suicidal behaviour, illustrating the work already done by WHO and the former Multi-Centre Study, educating professionals and the public, raising awareness of this problem and facilitating the future work of this group and others. In over 20 chapters, European experts in the field of suicidology linked to the suicide prevention work of WHO, describe the current state of research, theory and practice.

Only accurate information, derived from reliable and valid data embedded in well-founded theory and practice – as presented in this volume – can originate effective prevention programs, which is the principle message of this book. I sincerely hope that the experiences matured by the scientists who have run the WHO/EURO study for nearly 15 years may guide European member states in the development of national and regional strategies of suicide prevention and the related research necessary monitoring and evaluation.

The present decrease of suicide in some European countries with nationally coordinated suicide prevention approaches is a sign of hope. The new consensus on focusing on comprehensive programmes that include sociological, psychological, existential as well as hereditary and psychopathological factors in the understanding and treatment of suicidal behaviour – as explored in detail in this book – permits the use of new tools that allow for concrete possibilities and new perspectives for powerful synergistic and comprehensive suicide prevention in Europe.
Chapter 2
The WHO/Euro Multi-Centre Study on Suicidal Behaviour: Its Background, History, Aims and Design

Unni Bille-Brahe¹, Armin Schmidtke², Ad Kerkhof³ and Diego De Leo⁴

¹Suicide Research Centre, Odense, Denmark (retired), ²Department of Clinical Psychology, University of Würzburg, Germany, ³Department of Clinical Psychology, Vrije Universiteit, Amsterdam, The Netherlands, ⁴Australian Institute for Suicide Research and Prevention, Griffith University, Brisbane, Australia

Background, and the History in General

Lasting for many years, the WHO/EURO Multi-Centre Study on Suicidal Behaviour has been one of the few collaborative projects in the field of suicidological research. It is interesting to note that the endeavour began back in the beginning of the 1980s by one man having an idea. That man was Dr. John Henderson, Regional Officer of Mental Health at the WHO Regional Office for Europe in Copenhagen.

During the beginning of the 1980s, the World Health Assembly had worked out the common target “Health for All by the Year 2000” for all governments and the WHO. By that time, increasing rates of both completed and attempted suicide were causing concern in most European countries, and when the member countries of the European Region of WHO in 1984 wanted to specify the very broad goal of the Health for All programme into 32 concrete targets, one of these targets, namely Target 12, was to aim at the reduction of the problem of suicide: “By the year 2000, the current rising trends in suicides and attempted suicides in the Region should be reversed.”
The Department of Mental Health at the WHO European Regional Office was, however, aware that to approach this target, there was a need for more valid and comparable information, especially on non-fatal suicidal acts. Some reports had been indicating that rates of attempted suicide were no longer increasing with the epidemic haste as in 1970s, but findings were not consistent, and more studies were obviously needed.

In May 1985, Dr. John Henderson therefore summoned a small group of experts to a brainstorm meeting. The group consisted of the late Prof. Niels Juel-Nielsen, Denmark, Professor Rene Diekstra, The Netherlands, Dr. Armin Schmidtke, Germany, and Dr. Peter Kennedy, England. The outcome of the meeting was that the group should act as a provisional planning group of advisers, and, with research fellow Stephen Platt as secretary, they should prepare a meeting for a Regional Office Working Group on Preventive Practices in Suicide and Attempted Suicide.

And thus the idea of a WHO/EURO Multi-Centre Study was launched in York in September, 1986. Through three days, 31 persons from 15 European countries discussed feasible structures for the project, and aims, designs, definitions, etc. In the end, a smaller working group was established, their task being to work out a strategy and then concrete plans for the project.

The group decided that the project should, at least for the time being, concentrate on non-fatal suicidal acts. As one of the main obstacles to epidemiological research had been the lack of common nomenclature, a term and a definition of non-fatal suicidal acts that were at the same time reasonable from a theoretical point of view, and operational in everyday praxis were therefore needed. The group agreed (following the previous suggestion made by Norman Kreitman and his colleagues, 1969) to introduce the term “parasuicide” to identify such acts, replacing the many other labels in use such as attempted suicide, deliberate self-harm, self-poisoning and the like, and a definition of the term was drafted:

\[
\text{An act with non-fatal outcome, in which an individual deliberately initiates a non-habitual behaviour that, without intervention from others, will cause self-harm, or deliberately ingests substance in excess of the described or generally recognized therapeutic dosage, and which is aimed at realizing changes which the subject desired via the actual or expected physical consequences.}
\]

The overall goal of the project was to enhance throughout Europe the awareness of the growing problem of suicidal behaviour, and to promote in general suicide research and prevention. The group decided that initially the Multicentre Study should concentrate on covering two broad areas of research, namely:

- monitoring of trends in the epidemiology of parasuicide, including the identification of risk factors (The Monitoring Study), and
- follow-up studies of parasuicide populations as special high risk group for further suicidal behaviour, with a view to identify social and personal characteristics predictive of future suicidal behaviour (The Repetition-Prediction Study).
A group of the leading researchers (Principal Investigators) from each individual participating centre was to be constituted, acting as a kind of General Assembly, while a steering group, appointed by WHO, was to be responsible for the detailed planning and the design of the instruments to be used. It was also to be the task of this steering group to “facilitate the progress, ensuring conformity and keeping in close control and supervision of the research in progress” (WHO, 1986).

The group of the Principal Investigators (PI), who planned to take part in the Multi-Centre Study, first met in London in November, 1986. At the meeting the following were appointed as members of the Steering Group (SG): Ass. Prof. Unni Bille-Brahe, Odense; Prof. Rene Diekstra, Leiden; Dr. Armin Schmidtke, Wuerzburg; and Ass. Prof. Stephen Platt, Edinburgh as technical coordinator. In March 1987, Rene Diekstra, due to other commitments, left the group and was replaced by Dr. Ad Kerkhof, also of Leiden.

The first task of the PI and SG was to outline the structure of the study. It was decided that a participating centre should cover a population of at least 200,000 adult inhabitants (15 years and older), and that the areas under study should be clearly defined both geographically and administratively to allow for comparison of information on the population of suicide attempters with the statistics on the total population in the area. All centres were asked to provide information on their area under study, including general background data such as the area’s size and location, and the breakdown of its population according to age, sex, civil status, housing and urban/rural distribution. This background information was eventually presented in the publication *Facts and Figures* (Bille-Brahe et al., 1993, 1999), which also includes information on indicators of social stability/instability in the area (such as crime and violence), the general health situation (including the frequency of alcoholism and drug abuse), and on the local welfare and health care system including hospital facilities.

For the Monitoring Study, four targets were outlined:

- to assess the feasibility of using local case registers to monitor parasuicide in defined catchment areas
- to estimate the incidence of medically treated parasuicides and trends over time, using the standardized definition and case-finding criteria
- to identify socio-demographic risk factors significantly associated with parasuicide
- to ascertain variations in patterns of treatment following parasuicide in different cultural contexts with the aim of establishing more effective services for preventing this type of behaviour

The registration (or monitoring) of suicide attempts was to be carried out according to the same case finding criteria on consecutive episodes at all places within the health care system where suicide attempters were seen. A Monitoring Form, to be used by all centres, was to be worked out by the SG. The form should include ques-
tions about age, sex, the method(s) used, any previous suicide attempts, and about various socio-demographic characteristics such as civil status, usual and actual household composition, religion, education and economical activity and status. All monitoring data were to be transferred to the centre in Wuerzburg, where they were to be checked by Dr. Armin Schmidtke’s group, being responsible for the quality of the Monitoring Study.

The Repetition-Prediction Study was to be a follow-up study with interviews to be carried out on random samples of suicide attempters. The aims were:

- to identify personal and social characteristics predictive of future suicidal behaviour
- to evaluate existing scales which have been designed to predict suicidal behaviour
- to estimate the social, the psychological, and the economic burden of repeated parasuicide on the individual, his/her close social milieu, and on society as a whole
- to assess the utilization of health and social services by the parasuicide population and the effectiveness of the various treatments offered
- to compare differences in personal characteristics (clinical, socio-demographical, psychological, etc.) among parasuicides in different cultural and socio-economic settings

The initial interview (EPSIS I) was to be carried out within one week after the attempt (or after regaining consciousness), the second interview one year later. All data were to be collected and corrected by the centre in Odense under the leadership of Unni Bille-Brahe.

When drafting the interview schedules for the follow-up study, the SG took point of departure in empirical research findings and theoretically based hypothesis about predictors of suicidal behaviour. The schedules therefore came to include instruments already well known such as the Beck Depression Inventory and the Hopelessness Scale, as well as instruments constructed especially for the study, such as the Life Event and History Scale, and the Social Support Scale. In addition to detailed medical and socio-demographic information, the schedules were to cover, by observer-rated or self-rated instruments, constructs such as motives for the suicide attempt, suicidal transmission, life events, social integration. While drafting the instruments, the SG was in regular contact with the participating centres, and drafts were discussed with the PI, who during this period met 2–3 times a year. In 1989, a draft for the schedules was sent to all participating centres for field testing, and based on the comments received, the SG worked out the final versions of The European Parasuicide Study Interview Schedules (EPSIS I and II) which were accepted in May 1989 (Kerkhof et al., 1993a, 1993b). The schedules were worked out in standard English versions, which were translated into the various languages and then back-translated for the sake of control. The standard English version of the schedules were presented in the 1st edition of Facts and Figures.
In 1988, Dr. Henderson stepped down from his official position at WHO, but he continued to act as administrator and chairperson of the PI meetings until Dr. Jose Sampaio Faria was appointed as the new Mental Health Officer later that year.

Due to other commitments, Stephen Platt had to leave the SG in 1991, and he was replaced by Diego De Leo. It can be added that for the last ten years of the study, the SG has had regular telephone meetings, usually once a month.

From the beginning, the working group and the WHO had stressed the importance of a close collaboration between centres, and it was decided that representatives from the centres participating in the Multicentre Study should meet regularly. Usually such meetings were arranged in connection with relevant European or international conferences or other events, but soon a tradition also developed for having annual technical meetings in Wuerzburg. No doubt these meetings, with their free discussions on theoretical, methodological and practical problems between trusted colleagues and experts in the field, have been contributional to the high quality of the Multicentre Study.

During these meetings, it became gradually clear that some publication rules for the Multicentre Study were needed, and a group, consisting of Armin Schmidtke, Unni Bille-Brahe, Ad Kerkhof, Diego De Leo and Juoko Lönnqvist (chairman), was commissioned by the PI to work out a set of such rules. In 1993, a set of Publication Rules was accepted by the PI and WHO, and a Publication Group was established. Armin Schmidtke, Unni Bille-Brahe and Ad Kerkhof were to be members ex officio, the chairman and a representative of the PI were to be elected by the PI for a two-year period. The provisional group was officially elected as the Publication Group (PG) in 1996. In 1998, Juoko Lönnqvist resigned from his task as chairman and, at the same time, Diego De Leo had served his term of two years. As new members Cees van Heeringen and Keith Hawton were then elected as chairman and PI representative, respectively. Since 2000, the Publication Group has consisted of Unni Bille-Brahe (chair), Heidi Hjelmeland (co-chair), Diego De Leo, Keith Hawton, Ad Kerkhof, Armin Schmidtke and Danuta Wasserman.

The first results from the Multi-Centre Study were released at a conference held by The Netherlands Institute for Advanced Study in the Humanities and Social Sciences, at Wassenaar in November, 1993 (later to be published in the book Attempted Suicide in Europe. Findings from the Multicentre Study on Parasuicide by the WHO Regional Office for Europe (Kerkhof et al., 1994).

In the same year, the centre in Odense entered, on behalf of the Multi-Centre Study, in negotiations with EC about financing the cost connected with dealing with the huge amount of data collected by the Repetition-Prediction Study. Funding was eventually granted for the project in cooperation with the EC Concerted Action on Attempted Suicide.

Gradually, the scope of the Multi-Centre Study had broadened to encompass both non-fatal and fatal suicidal acts (Bille-Brahe, 1998), and in 1999, the name was changed to The WHO/Euro Multicentre Study on Suicidal Behaviour.

In the mean time, the Mental Health Office at the WHO Regional Office for
Europe had been closed down. Dr. Jose Sampaio Faria had left office and was not to be replaced. Formally, however, the Multi-Centre Study continued to be under the auspices of the WHO Regional Office for Europe under the direction of Dr. Marc Danzon, Head of the Department for Lifestyle and Health. In 1998, it was decided by the WHO General Assembly that the topic of mental health was to be back on the priority list, and a new Mental Health Officer at the WHO Regional Office in Copenhagen was to be appointed. In 1999, the position was given to Dr. Wolfgang Rutz.

In 2000, a suggestion of establishing a task force for suicide prevention was launched at the meeting of PI in Bled, and at the annual meeting in Wuerzburg later that year, Dr Wolfgang Rutz presented the concrete plan for transforming the Multi-Centre Study into a *WHO/Euro Network for Suicide Prevention*. The establishment of the Network was confirmed at a special meeting in Copenhagen in May, 2001. According to the Terms of Reference, the network is to be “a tool for action of the WHO Regional Office for Europe and a pool of resources for the improvement of the situation regarding suicidality in Europe.” The Network is going to consist of national centres of excellence (national “focal points”), and its tasks are listed as:

- to collect evidence-based knowledge on suicide prevention
- to collect information needed for the continuous monitoring of the suicidal in the country
- to coordinate national activities on suicide prevention
- to link internationally to national activities of other countries
- to facilitate development of guidelines on comprehensive suicide prevention
- to assist in starting national suicide prevention planning
- to monitor and evaluate this planning
- to produce position papers, scientific literature, books and information on suicidality in individual countries and Europe as a whole
- to offer peer review and peer support to members of the Network
- to function as a pool of resources for WHO and its member states
- to prepare an action plan on suicide prevention to be presented and adopted at this workshop
- to contribute to the European ministerial conference on mental health planned to be held in 2004, covering the field of suicidality

The SG of the Network is composed of Dr. Wolfgang Rutz (Chair), Prof. Armin Schmidtke (Secretary), Ass. Prof. Unni Bille-Brahe, Dr. Alexander Botsis, Prof. Diego De Leo, Dr. Margaret Kelleher, Prof. Ad Kerkhof, Prof. Airi Varnik and Prof. Danuta Wasserman. The Publication Group is consisting of Unni Bille-Brahe (Chair), Heidi Hjelmeland (Co-Chair), Diego De Leo, Keith Hawton, Ad Kerkhof, Armin Schmidtke and Danuta Wasserman. It should be added that after a meeting in Copenhagen in December, 2001, the name of the Network was changed into WHO/Euro Network for Suicide Prevention and Research.
The Progress of the Monitoring Study

The Monitoring Study started in 1989 with the following participating centres:

Berne, Switzerland (Dr. Konrad Michel)
Bordeaux, France (Dr. Xavier Pommerau)
Emilia-Romagna, Italy (Dr. Paolo Crepet)
Guipuzcoa, Spain (Dr. Imanol Querejeta)
Helsinki, Finland (Prof. Juoko Lönqvist)
Innsbruck, Austria (Dr. Christian Haring)
Leiden, The Netherlands (Dr. Ad Kerkhof)
Odense, Denmark (Ass. Prof. Unni Bille-Brahe)
Oxford, England (Dr. Keith Hawton)
Padua, Italy (Dr. Diego De Leo)
Pontoise, France (Dr. A. Philippe)
Stockholm, Sweden (Ass. Prof. Danuta Wasserman)
Szeged, Hungary (Dr. Beata Temesvary)
Sør-Trøndelag, Norway (Prof. Tore Bjerke)
Umeå, Sweden (Dr. Ellinor Salander Renberg)
Würzburg, Germany (Dr. Armin Schmidtke).

The first report from the Multi-Centre Study was published in 1992 (Platt et al., 1992) and then a full report covering the years 1989–1992 was published in 1994 (Kerkhof et al., 1994).

Unfortunately, after a few years, six centres (Bordeaux, Emilia-Romagna, Guipuzcoa, Pontoise and Szeged, and later Leiden) had to drop out of the study – mainly because of lack of funds (it should be noted that for the first years, WHO covered the cost connected with the meetings of PG and SG. Each centre has always had to provide its own funding, and subsequently for covering costs of attending meetings).

On the other hand, new centres kept joining the Monitoring Study, which at the end comprised 21 active centres, including:

Cork, Ireland (Dr. Margaret Kelleher)
Gent, Belgium (Prof. Cees van Heeringen)
Rennes, France (Dr. Agnes Batt)
Leiden, The Netherlands, re-entered the study in 2001 (Ella Arensman)
Ljubljana, Slovenia (Prof. Onja Grad)
Novi Sad, The Federal Republic of Yugoslavia (Dr. Slavica Selacovic-Bursic)
Odessa, Ukraine (Dr. Alexander Mokhovikov)
Pecs, Hungary (Dr. Sandor Fekete)
Tallinn, Estonia (Prof. Airi Varnik)
Athens, Greece (Dr. Alexander Botsis)
Mamak, Turkey (Prof. Isik Sayil)
Holon-Batt, Israel (Prof. Alan Apter)

The new centres started monitoring in 1995. Reports from all centres, and also analyses of rates and trends based on data from the 10 centres that have provided data for the full period 1989–1997/1998, is presented in the book *Suicidal Behaviour in Europe: Results from the WHO/Euro Multi-Centre Study on Suicidal Behaviour* [Schmidtke, Bille-Brahe, De Leo, & Kerkhof, 2004].

**About the Repetition-Prediction Study**

Both the interview schedules include detailed instructions as to how to contact and inform the patient. Furthermore, to ensure inter-rater reliability, all interviewers attended a three-day intensive training at St. Andrews Hospital in Northampton, UK before the study started. At most centres, the first wave of interviews started in 1990.

**Table 1** Numbers of interviews carried out in the period 1990–1993.

<table>
<thead>
<tr>
<th>Centre</th>
<th>EPSIS I</th>
<th>EPSIS II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berne</td>
<td>66</td>
<td>48</td>
</tr>
<tr>
<td>Emilia Romagna</td>
<td>56</td>
<td>–</td>
</tr>
<tr>
<td>Helsinki</td>
<td>224</td>
<td>115</td>
</tr>
<tr>
<td>Leiden</td>
<td>141</td>
<td>106</td>
</tr>
<tr>
<td>Odense</td>
<td>139</td>
<td>92</td>
</tr>
<tr>
<td>Padova</td>
<td>106</td>
<td>35</td>
</tr>
<tr>
<td>Stockholm</td>
<td>202</td>
<td>133</td>
</tr>
<tr>
<td>Sør Trøndelag</td>
<td>89</td>
<td>23</td>
</tr>
<tr>
<td>Umeå</td>
<td>122</td>
<td>49</td>
</tr>
<tr>
<td>Wuerzburg</td>
<td>124</td>
<td>–</td>
</tr>
<tr>
<td><strong>In all</strong></td>
<td><strong>1269</strong></td>
<td><strong>601</strong></td>
</tr>
</tbody>
</table>

In 1996, a second wave of the Repetition-Prediction Study was started, and a new training session was arranged by the centre in Odense, November, 1996. In the end, six new centres joined the study, but unfortunately, the funding from EU stopped in 1998, and consequently the controlling procedure could not be completed.

In December 2001, Dr. Christian Haring and his group volunteered to go through the control procedure for the EPSIS I and II interviews not yet corrected.