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Notat 6/2012

**Longitudinal Research on Vulnerable
Young People Conducted at Volda
University College and
Møre Research:**

A Methods Report

Tittel	Longitudinal Research on Vulnerable Young People Conducted at Volda University College and Møre Research: A Methods Report
Prosjektleder	Jon Olav Myklebust, Rune Kvalsund, Finn Ove Båtevik og Irene Velsvik Bele
Notat nr.	6/2012
Sider	28
Prosjektnummer	17155
Prosjekttittel	Vaksenliv i 30-årsalderen
Oppdragsgiver	Høgskulen i Volda
Ansvarleg utgivar	Møreforskning Volda
ISSN	1891-5973
Distribusjon	Open http://www.moreforsk.no/volda.htm http://www.hivolda.no/fou

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Preface

This note provides a descriptive overview of the longitudinal data concerning youth with special needs in upper secondary school that have been collected for many years at Volda University College and Møre Research. Through four closely linked projects, the same individuals have been followed over a period of 16 years, in most cases, from the age of 17 to 33 years. The four projects are titled as follows:

- *Reform 94 – Specially Adapted Education* (financed by the Ministry of Education and Research [KUF], 1995–2000)
- *Adult Life on Special Terms? The Way Into Society for Students With Special Needs in Upper Secondary School* (financed by the Research Council of Norway [NFR], 2000–2004)
- *Young Adults* (financed by Volda University College and Møre Research Foundation, 2007)
- *Adult Life in the Mid-thirties* (financed by Volda University College and Møre Research Foundation, 2012)

This research has been documented in a series of reports, book chapters and articles, all of which are listed in an appendix to this paper.

Volda, October 2012

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Four Projects: A Longitudinal Study

This note presents a longitudinal study in which we have followed youths with disabilities over a period of 16 years. The study is based on four different projects; the first of which, *Reform 94 – Specially Adapted Education*, was part of an evaluation of the reform programme in upper secondary education that was conducted in the mid-1990s.¹ At that time, the main focus of the project was the provision of adapted teaching in upper secondary school for the group known then as *students with special educational needs*; that is, students who are in a situation in which conditions in school and apprenticeship companies can represent obstacles to their education.² Even in this early project, huge amounts of longitudinal data were collected based on information from the professionals involved in the education process at the upper secondary level (Kvalsund & Myklebust, 1998).³ In the spring of 2002, this initial project was followed up by a study of the same youths, titled *Adult Life on Special Terms? The Way Into Society for Students With Special Needs in Upper Secondary School*.⁴ In general, the informants were the youths themselves, and the topic of the study was based on the strategies and adaptations that characterised their early adult lives. Key themes were education, work and leisure. A separate report (Båtevik, 2002) presents the work involved in collecting the data for this project and explains why parents or other close friends were interviewed rather than the individuals themselves in certain cases. In the spring of 2007, the same individuals were followed up yet again in the project titled *Young Adults*.⁵ Even though this project had the same focus as the project conducted in 2002, it was more limited in scope than the initial one. By and large, the data collection in 2007 was performed along the same lines as in the first project 5 years earlier (Båtevik, 2002). In the spring of 2012, a new follow-up study was carried out as part of the project now titled *Adult Life in the Mid-thirties*. This note offers a brief summary of the work involved in collecting the data in 2007 and 2012, as well as a combined overview of the quantitative data on which the whole longitudinal study is based.

In this study, we have followed young individuals from the start of their upper secondary education in the mid-1990s to their adult lives in 2012. Even though the material also includes certain individuals who were adults when they started their upper secondary education, the vast majority are now in their mid-thirties in 2012. Special needs students from a total of six counties were involved in the first data collection. In the spring of 1996, schools in three of these counties (Møre og Romsdal, Nord-Trøndelag and Hedmark) provided data about youths who had commenced upper secondary school in individually adapted teaching programmes in 1994 and 1995. From the other three counties (Finnmark, Rogaland and Oslo), we received information concerning those youths who started in 1995. This information is what we refer to as the base material for the study, and it represents a total of 760 students, among whom we find those who have been followed up continually until the year 2012. During the early years, the schools supplied data once or twice a year (cf. Kvalsund & Myklebust, 1998). In the spring of 2002, 2007 and 2012, the youths themselves were interviewed by telephone (or they themselves filled in questionnaires). All in all, data have been

¹ Financed by the Ministry for Education, Research and Church Affairs.

² The term *students with special educational needs* is recommended instead of *special needs students*.

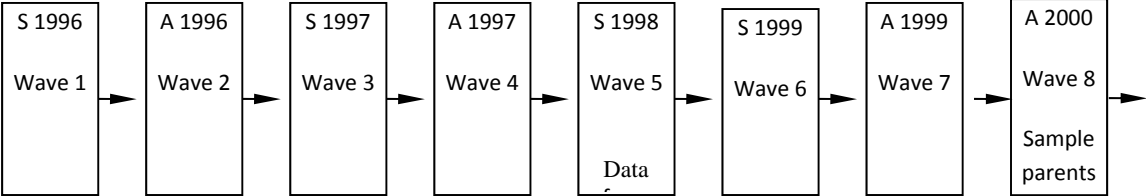
³ Many interviews were conducted with pupils in upper secondary school during the project *Reform 94 – Specially Adapted Education*. These youths were not the same ones who participated in the longitudinal part of the study because of the terms of the licence issued by the Data Inspectorate in Norway.

⁴ Financed by the Welfare Programme of the Research Council of Norway.

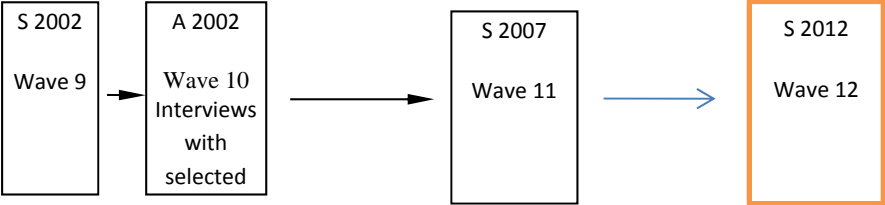
⁵ Financed by Volda University College and Møre Research Foundation, Volda.

collected in 12 stages, of which those collected at the upper secondary school level were the most comprehensive. New information about the youths was gathered about every 6 months during their upper secondary education. The majority of the data collected in this longitudinal study is quantitative. Figure 1 illustrates the various steps in this process.

Reform 94 – Specially Adapted Education



Adult Life on Special Terms Young Adults Adult Life in the Mid-thirties



S = spring A = autumn

Figure 1. Schematic overview of collection of longitudinal data in the four projects.

Total Data Set, Basic Data Set and Samples

At the commencement of their upper secondary school education in 1994 and 1995, 2025 students with special educational needs were registered for school in the six counties involved in the project. These students were first registered for this study in the spring of 1996, by which time 172 students had dropped out of school. Certain key variables were recorded for the 1853 students with special educational needs from the two cohorts who were still engaged in education on a full-time basis. The information collected from these two cohorts comprises what we later in this note refer to as the *total data set*. Of these 1853 students with special educational needs, 760 youths participated in the project. We collected the most comprehensive information about these 760 youths in the spring of 1996. This information comprises the *basic data set* for the longitudinal study (see Table 1). While conducting this study, we were able to follow the progress of these 760 youths through the education system until they fully or partially completed their upper secondary education.

Table 1

Overview of the Data

Type of data	Description	No. of students
Initial data	Commencement of upper secondary education in 1994 and in 1995	2025
Total data set ^a	In school on a full-time basis, spring 1996	1853
Basic data set ^b	Basis for the longitudinal study on upper secondary education	760

^aThe total data set comprises students with special educational needs from six Norwegian counties who commenced their upper secondary education in 1994 and 1995. ^bThe basic data set comprises students with special needs from the same cohorts who were involved in the longitudinal study.

As long as the students were engaged in upper secondary education on a full-time basis, the schools were in possession of the lists of names of the students and apprentices and were responsible for keeping track of the information they had about students (e.g., reporting transfers between schools) and for establishing routines for following up this information. To facilitate the implementation of the follow-up project, *Adult Life on Special Terms*, the lists of names from the schools were handed over to those responsible for the research project. During this process, it proved impossible for the schools to identify 118 of the youths who had participated in the project from the outset for several reasons, including the failure by some schools to keep these lists on file. This situation is discussed in greater detail by Båtevik (2002, pp. 9–10). As a consequence, we were left with the names of 642 individuals whom we could contact for the surveys carried out in 2002 and 2007. This number was further reduced because of the deaths of 2 of these youths by 2002; an additional 7 individuals were registered as deceased by 2007. In 2002, a total of 494 youths were interviewed, which represents a response rate of 77.2% if we take into account those who had died by this time.⁶ In 2007, a total of 373 young adults were interviewed, representing a response rate of 58.9%.

In 2012, the Data Inspectorate allowed interviews to be conducted with only those 373 individuals who had stated 5 years earlier in the 2007 survey that they would agree to remain participants in this longitudinal study.

A summary of the interview data for the 2002, 2007 and 2012 surveys is presented in Table 2.

⁶ A report by Båtevik (2002) stated that 497 interviews were conducted. However, a closer examination of the data file later revealed that the wrong person had been interviewed in three cases; these data were then discarded.

Table 2

Overview of interview data from the surveys in 2002, 2007 and 2012

	No. of youths
Those from basic data who could be identified in 2002	642
Deceased before interviews in 2002	2
Interviews completed in 2002	494
Response rate, %, of the 2002 survey (494 of 640)	77.2
Deceased between 2002 and 2007	7
Interviews completed in 2007	373
Response rate, %, of the 2007 survey (373 of 633)	58.9
Deceased between 2007 and 2012	2
Interviews and questionnaires completed in 2012	216
Response rate, %, of the 2012 survey (216 of 371)	58.2

Of the 373 individuals who responded to the 2007 survey, 298 also participated in the 2002 survey, which means that 75 new individuals from the basic data set were included in this wave of interviews.

The 2007 Survey

The 2007 survey was conducted as a combined postal and telephone survey, whereas the whole data collection process for the 2002 survey was carried out solely with telephone interviews. Both surveys were based on a structured questionnaire; the vast majority of cases involved closed response alternatives. The questionnaire from 2007 was shorter and simpler than the form used in 2002, thus making it more suited to a postal survey. Moreover, an effort was made to draw up a questionnaire that provided the best possible basis for comparison of data over a period of time, which is essential in a longitudinal study.

The first step in the process of gathering data was to update the earlier address lists with the help of the extensive Directory Enquiries database, which is provided by Telenor, Norway's largest telecommunications operator. In February 2007, all those individuals with sufficient postal information were sent a questionnaire and detailed information about the project itself. When questionnaires were returned because of "address unknown" or inadequate postal address details, a search was performed in the National Registry to find updated information. The first reminder was sent by post in March. All those who did not reply by post were contacted by telephone during the period between 27 March and 4 July. Another reminder was sent by post in June 2007.

A number of measures were taken to obtain responses from as many participants as possible. In general, these measures followed the same pattern as in the earlier interview survey in 2002 (Båtevik, 2002, pp. 15–19) and can be summarised briefly as follows:

- A simple questionnaire with concrete questions that are easy to understand and quick to answer was used.
- A telephone interview was conducted to contact those who, for a variety of reasons, did not wish to fill out the questionnaire themselves.
- Close relatives or friends were allowed to provide assistance to those individuals who were not able to answer the questions on their own. The vast majority, however, answered the questions without the help of such individuals.
- A course of instruction was provided to those carrying out the telephone interviews.
- The collection of data was conducted over a fairly long period of time (February–July) to ensure that as many individuals as possible were contacted.
- Using various sources (e.g., the Telenor database, the National Registry, the Internet), the researchers made an effort to locate the correct individual and find the correct address. In addition to performing a collective search (e.g., in the National Registry), each interviewer carried out individual searches during the process and phoned at various times of the day and week to offer the best possible chance of finding individuals at home. The interviewers kept a detailed logbook of their own phone calls.
- Those who responded were offered an extra incentive in the form of a prize draw, with gifts awarded to 25 of those who participated.

Table 3

Status After Completion of the 2007 Interview Survey

Status	No. of young adults	%
Completed interviews	373	58.9
Refusals	113	17.9
Not identified or wrong person	22	3.5
No contact established	125	19.7
Potential candidates for interview in 2007	633	100.0
Deceased	7	
Basis for interview survey	640	

As revealed in Table 3, there are several reasons why fewer interviews were carried out in 2007 than in 2002. One reason is that a higher number of interview candidates refused to participate in the 2007 round of interviews than in 2002. Nearly 18% of those who were potential candidates for interviews in the spring of 2007 did not wish to be interviewed. In addition, it was impossible to identify candidates or establish contact with approximately 23% of the potential respondents.

There are many reasons for the interviewers' inability to establish contact with some of the individuals whose names were on the original list that formed the basis for the interview survey.

Because these individuals are young and are in the midst of trying to establish a foothold in life as adults, their situation sometimes makes it difficult to contact them. For instance, some change their names, and many move once or even several times. In some cases, it may be helpful that many of these people have mobile phones, assuming that they still have the same phone number after they have moved. However, it is not unusual for individuals to change their phone number, thus making it difficult to contact potential interview candidates. We also cannot ignore the possibility that lack of contact is a form of implicit refusal. When conducting the 2002 survey, we noticed that some individuals whom we had contacted by phone to set up a subsequent interview time neglected to answer their phone at the mutually agreed upon time. With the adoption of telephone services such as calling number identification, individuals are now aware of who is calling and can choose whether or not they wish to answer the phone. By not answering the phone, individuals are refusing to participate and can do so without having to communicate their response directly.

Identification and interpretation of network data – data collection 2007

In most projects there are different types of data often collected alongside one another as integral aspects of the research process. e.g. data about the attributes of units of research inviting the researcher to do variable analysis or data about the relations between units – relational data inviting to do network analysis. Both categories of data can be generated either by applying interviews, survey, observation or text. In the present project we have used telephone interview. The basic logic behind our questions about relations and networks in the questionnaire form is to identify with whom the EGO-person *usually* is together with in different settings during the day. Research indicates that the respondent is able to recall and give reliable answer to this question.

1. We have **two sets of ring binders** – the primary ones containing original completed questionnaires – and two ring binders Network Data I and Network Data II, containing original network data transferred to separate forms (Form for review of network data 2007. Project: Adult life on special conditions)
2. **Review of network data** have been undertaken in 2010 by Irene Bele and Rune Kvalsund during a separate series of meetings. The answers to network questions archived in ring binder Network Data I, were reviewed in detail for form number 1–94 in order to identify the kinds of errors and in this way have a basis for further control.
3. Reviewing network data information the results have been written into a **separate network data form**. Based on data in the original ring binders we have calculated figures for network size and network density. Combining low and high values of these two variables into a typology making it possible for us to compare vulnerable youth patterns of adaptation in the spare time arena. The separate Network form is attached to the present report.
4. **Corrections**. The review of network data is a consequence of indications of error caused by external research assistants not having followed the written rules developed for the data collection. Because of disease this review work had to be postponed for two years.

5. **The number of forms and their location.** *The ring binder I of original completed questionnaires contains 185 forms, ring binder II: 133 forms and ring binder III: 54 forms added up to a sum of 372 original completed forms. Of these 4 forms were discarded because network data were missing or were incomplete and therefore unusable.*

6. **Form numbers.** *18 forms do not have numbers in the upper left corner of the front page. A misunderstanding occurred about these numbers – they were considered to be the number for case identification – however they do not have this function. On the top of the front page of each form are two numbers – one in the top left corner and one number in the top right corner of the front page of the original questionnaire. The number in the right corner identifies the cases in the data matrix. All original questionnaire forms have this identification number in the upper right corner with digits identifying county, municipality, school and person.*

7. *A small number of questionnaire forms is completed and signed by the respondent. This was an option for respondents that preferred this way of answering as an alternative to telephone interview.*

8. *We developed detailed instructions and rules guiding the interviewer in filling in information into the questionnaire form. Despite this some of the answers to question 11 either are not precisely enough recorded as to the size of the ego-network and who of these are having relations to each other. We developed a set of extended scoring rules based on the review of data referred to in point 2 above. We have followed these rules consistently in the critical review of the complete material of social network data. The results of our interpretations following these rules are filled in to the separate form (cf separate attachment) archived in the two ring binders Network Data I and Network Data II. Network data material collected in 2007 is made available for analysis by August 1st, 2011.*

9. *The ring binders of draft forms (forms containing support information filled in during the telephone interview, information filled into the completed questionnaire form immediately after the interview.) are examined to control how many questionnaire forms that are lacking the network data. Some answers to question 11 unclear and raises doubt about what exactly has been answered to. This concerns the form number 112023, 114003, 122007, 122013, 122030, 123002, 123005, 123009, 131008, 131011, 131012, 131013, 133006, 133014, 133020, 133024, 133028, 133037, 135001, 136003, 136013, 412003, 412004, 412005, 413002, 426030, 426042, 428001, 416033, 437004, 501002, 502029, 601014, 506005, 515012, 613002. In these cases we have made rules of interpretation which treats equal cases at the same way. In those cases where the actual rule was not clarifying, the form was rejected. Of the forms mentioned above this were the forms 423008, 426045, 51501, and 502029. Before the next data collection we have to go through question 11 and possibly make this more clear. Insufficient following up by the persons who made the interview has given some uncertain answers. We have handled this aspect by formulating some systematic rules of interpretation, and consequently treated all similar cases in the same way. We have done this by formulating rules of interpretation:*

10. **Rule of interpretation 1:** *When there are two network groups – one consisting of close family and neighbours and a group of close friends – we consider the relations as if this was an*

integrated group of family/neighbours/friends in those cases where the respondent is an adult parent in a core family. The value of the network density is then set to 1, which means that all persons have relationships to each other. (However, this is not applied to interpret the network situation for single young persons).

11. **Rule of interpretation 2:** *In the forms, network relations are mentioned, being unspecified as if they were in a kind informal interplay with some persons for some hours during the evening. Such network relations are too unprecise and are excluded from the data analyzes.*
12. **Rule of interpretation 3a:** *when spouse and children are ticked off in the questions 6 and 7, but only one or nobody is ticked off in the first column (close family) in question 11, this is considered as an unprecise registration and we then add markings and relations for these in the first column of question 11.*
13. **Rule of interpretation 3b:** *When sufficiently many persons are ticked off in the first column (close family) in question 11 which may contain the members of close family under the questions 6 and 7, we are considering these to be included in the network form, the first column of question 11.*
14. **Rule of interpretation 4:** *When there is a sign of a bow between the first and the last person in question 11, column 1(close family), this is interpreted as relationships between all these persons. Persons and relationships are marked with red print in the form.*
15. **Rule of interpretation 5a:** *When a group of persons is mentioned as a clique who is together we make the interpretation that all relations are realized: that the number of real and possible relationships are the same – i.e. network density 1.*
16. **Rule of interpretation 5b:** *Where rule no. 5 is irrelevant and where no network bows are marked in the table (in the form) for question 11, we set the network density to 0.*
17. **The network types** *are coded in 6 categories. One of these are mixed networks. Mostly the persons have family networks – small or larger. In addition, the majority has friends. In some cases the family relations are dominating in combination with only one friend. In these cases we consider it as misleading categorizing the network as mixed. It is more correct to categorize this as a family network. Equivalently, when the mate group is dominating we call it a network of friends.*
18. *When the network concerns **public assistents** we categorize the network as **public network** even if it also includes friends, neighbours, and family members.*
19. *During the inserting of data into SPSS we observe that the values of the network density (a number between 0 and 1) are being changed into an equivalent number higher than 1. For example 0,3 is being transformed into 3,00. We have not managed to find out how to change this by changing the adjustments. Instead we have chosen to multiply the values with 100. Still, 0 becomes 0. However, 0,1 becomes 10,00, 0,2 becomes 20, 0,3 becomes 30, etc., 0,9 becomes 90, and 1 becomes 100. This transformation or recoding does not change the relation between the values.*

The rules of interpretation above are used in consideration with a summing up of many other questions (among others housing situation, family situation, work and income, subjective health information). Taken together this information gives a background to evaluate whether the picture of the network appear reasonable due to the answers given in question 11. It is an evaluation of validity at face sheet level reducing possible errors of interpretation of the network data.

Data Collection in 2012

The survey in the spring of 2012 followed the same procedure used for data collection conducted 5 years earlier; that is, a combination of telephone interviews (QuestBack) and postal surveys were carried out. As previously mentioned, the Data Inspectorate allowed interviews only with those who in 2007 had agreed to participate in future waves of this longitudinal study.

A comparison of the response rates for the 2007 and 2012 surveys reveals similar results (58.9% vs. 58.2%, respectively), with about 58% of the potential respondents participating in both surveys (see Table 4). There were fewer refusals in the 2012 survey but greater difficulties in establishing contact than 5 years earlier.

Table 4

Status After Completion of the 2012 Survey

Status	No. of young adults	%
Completed interviews	216	58.2
Refusals	43	11.6
Not identified or wrong person	18	4.9
No contact established	94	25.3
Potential candidates for interview in 2012	371	100.0
Deceased	2	
Basis for survey	373	

Representativity

With each new round of data collection, the number of respondents has decreased. A declining response rate poses a problem because it can mean that the net sample, which comprises those who do reply, becomes systematically dissimilar to the gross sample, which comprises those individuals whom we interviewed at the beginning of the project. However, in longitudinal studies, there exists an advantage of being able to compare data at different points in time across a series of variables, which allows the identification of biases in the data. The tables 5 to 12 provide such an insight. The total data set is the basis for the comparisons in the first five tables.⁷

⁷ However, because we lack information about certain variables, this number varies somewhat in the tables below.

Table 5 *Gender Distribution*

	Total data set in education spring 1996	Basic data set 1996	Sample 2002	Sample 2007	Sample A ^a 2012	Sample B ^b 2012
Girls	37.6	38.7	38.5	37.5	39.5	39.8
Boys	62.4	61.3	61.5	62.5	60.5	60.2
Total	100	100	100	100	100	100
<i>N</i>	1844	760	494	373	205	216

Note. Values are percentages unless otherwise indicated.

^aSample A contains only answers from former special needs students themselves. ^bSample B also includes 11 answers from parents.

As shown in Table 5, a slight bias exists in the gender distribution. Girls are slightly over-represented in the basic data set from 1996 and in the interview sample from 2002, but the gender distribution is almost identical in the sample from 2007 and in the total data set. However, there is an increased female over-representation in 2012.

Table 6 shows the percentage of students in each type of class in the spring of 1996. Here, students who attended mainstream classes (full- or part-time basis) are distinguished from those who were placed in different types of special classes.

Table 6 *Type of Class, Spring 1996*

	Total data set in school spring 1996	Basic data set 1996	Sample 2002	Sample 2007	Sample A ^a 2012	Sample B ^b 2012
Mainstream class	60.6	51.3	51.8	52.8	58.5	55.6
Non-mainstream class	39.4	48.7	48.2	47.2	41.5	44.4
Total	100	100	100	100	100	100
<i>N</i>	1844	760	494	373	205	216

Note. Values are percentages unless otherwise indicated.

^aSample A contains only answers from the former special needs students themselves. ^bSample B also includes 11 answers from parents.

As shown in Table 6, the students from mainstream classes are under-represented in both the basic data set from 1996 and the interview samples from 2002 and 2007. The reason for this bias appears to be that during the data collection process in 1996, the form teachers in the special classes were more conscientious in providing data than their counterparts in the mainstream classes. In 2012, the bias is somewhat less, especially in sample A.

Table 7

Branch of Studies, Spring 1996

	Total data set in education spring 1996	Basic data set 1996	Sample 2002	Sample 2007	Sample A ^a 2012	Sample B ^b 2012
Academic specialisation	13.7	12.1	9.7	8.8	10.2	10.2
Vocational programmes	78.9	76.1	78.1	78.3	82.0	77.8
Unspecified	7.4	11.8	12.1	12.9	7.8	12.0
Total	100.0	100.0	99.9	100.0	100.0	100.0
<i>N</i>	1828	760	494	373	205	216

Note. Values are percentages unless otherwise indicated.

^aSample A contains only answers from the former special needs students themselves. ^bSample B includes 11 answers from parents.

Table 7 provides information about what type of programme the students studied in the spring of 1996. The vast majority (almost 4 of 5) at that time attended vocational education programmes. By contrast, less than one seventh attended academic specialisation programmes. The rest (most of whom with relatively severe functional difficulties) attended unspecified programmes.

As indicated in Table 7, students in academic specialisation programmes are under-represented in both the basic data set and in the interview samples to an increasing degree until 2007. However, this bias is decreased 5 years later. Students in unspecified programmes are correspondingly over-represented, with the exception of sample A in 2012, which excludes those individuals who needed help from their parents to answer the survey questions. The bias is rather small in the case of students with special needs who attended vocational education programmes in the spring of 1996, with the exception of sample A in 2012.

As mentioned previously, the students participating in this longitudinal study represent six Norwegian counties.

Table 8

Home County, Spring 1996

	Total data set in education spring 1996	Basic data set 1996	Sample 2002	Sample 2007	Sample A ^a 2012	Sample B ^b 2012
Rogaland	25.6	33.0	36.8	30.3	31.2	32.4
Hedmark	19.4	9.6	9.3	10.2	10.2	10.2
Oslo	8.2	12.2	9.3	11.3	10.2	9.7
Møre og Romsdal	21.1	22.0	23.7	26.8	27.8	28.2
Nord-Trøndelag	16.9	15.5	13.4	14.5	13.7	13.0
Finnmark	8.8	7.6	7.5	7.0	6.8	6.5
Total	100.0	99.9	100.0	100.1	99.9	100.0
<i>N</i>	1853	760	494	373	205	216

Note. Values are percentages unless otherwise indicated.

^aSample A contains only answers from the former special needs students themselves. ^bSample B includes 11 answers from parents.

A general pattern is apparent: In comparison to the total data set, Rogaland in particular is strongly over-represented, and Hedmark strongly under-represented, in the basic data set from 1996. A similar pattern is also revealed when the sample from 2002 is compared with the total data set. When comparing the interview samples from 2007 and 2012 with the total data set, we find that Rogaland is under-represented to a lesser degree, Møre og Romsdal is clearly over-represented in 2007 and 2012 and Hedmark remains under-represented. In the other three counties, the bias is not particularly large, neither for the basic data set from 1996 nor for the samples (2002, 2007 and 2012).

A distinct feature of the four tables 5 to 8 is that the greatest bias exists during the collection of data in 1996. It appears that the efforts of the form teachers influenced, to varying degrees, the composition of what we here refer to as the basic data set from 1996. Differences between the basic data set and the three interview samples in 2002, 2007 and 2012 exist because of a slightly different response rate among the various categories of students with special educational needs; however, these differences have not created a particularly large bias. The subsequent tables (tables 9 to 12) consist only of basic data from 1996 and the interview samples from 2002 and 2007. The total data set did not include the types of data that are shown here.

Table 9

Language Background

	Basic data set 1996	Sample 2002	Sample 2007	Sample A ^a 2012	Sample B ^b 2012
Foreign language speakers	5.4	3.4	3.2	2.0	1.9
Norwegian speakers	94.6	96.6	96.8	98.0	98.1
Total	100	100	100	100	100
<i>N</i>	760	494	373	205	216

Note. Values are percentages unless otherwise indicated.

^aSample A contains only answers from the former special needs students themselves. ^bSample B includes 11 answers from parents.

As shown in Table 9, the percentage of students with special educational needs with a foreign language background in the basic data set was low. This percentage has decreased still further during subsequent waves of data collection.

During the collection of data in 1996, the students' possible functional difficulties were registered. As revealed in Table 10, the basic data set from 1996 and the samples from 2002, 2007 and 2012 in general are very similar in terms of functional difficulties and functional levels.

Table 10 reveals that compared to the other samples, sample A from 2012 has a higher functional level and fewer specific problems of a somatic, psychological and social nature (with the exception of reading and writing skills).

In the spring of 1996, a detailed report was obtained of what types of specially adapted teaching the students were offered in school. Table 11 shows the percentages of students who received all their individually adapted teaching within the framework of a mainstream class and of those who were offered at least one remedial measure.

Table 10

Functional Status, Spring 1996

	Basic data set 1996	Sample 2002	Sample 2007	Sample A ^a 2012	Sample B ^b 2012
Normal eyesight	97.0	96.6	96.0	94.6	94.0
Normal hearing	96.4	95.5	96.2	94.6	94.9
Normal freedom of movement	94.5	94.5	93.3	95.1	92.6
No motor difficulties	86.3	85.2	84.5	89.3	86.1
No language or communication problems	77.9	78.5	79.9	88.3	83.8
Normal speech & articulation	86.6	86.8	87.7	91.7	88.4
Normal reading & writing skills	41.6	40.1	39.9	40.0	38.9
Normal numeracy skills	53.2	54.3	54.4	61.0	59.3
Normal intellectual ability	52.0	55.1	53.4	64.4	61.1
No psycho-social problems	66.4	69.0	66.8	73.7	70.8
Normal concentration ability	62.2	62.3	62.2	68.3	65.3
No medical problems	82.5	80.8	83.1	82.5	81.5
No psycho-social stress	80.4	81.4	79.4	82.9	82.4
Average functional level ^c	4.5	4.5	4.5	3.7	4.3
<i>N</i>	760	494	373	205	216

Note. Values are percentages unless otherwise indicated.

^aSample A contains only answers from the former special needs students themselves. ^bSample B includes 11 answers from parents. ^cArithmetic average of the 13 indicators of functional difficulties listed in the table; the lower the number, the higher the functional level.

Table 11

Individual Adaptation, Spring 1996

	Basic data set 1996	Sample 2002	Sample 2007	Sample A ^a 2012	Sample B ^b 2012
Exclusively in mainstream class	43.3	43.3	44.5	50.2	47.7
At least one intensive remedial measure	57.6	57.3	60.3	58.5	60.6
<i>N</i>	760	494	373	205	216

Note. Values are percentages unless otherwise indicated. ^aSample A contains only answers from the former special needs students themselves. ^bSample B includes 11 answers from parents.

Fairly tiny differences exist among the basic data set and the two samples from 2002 and 2007 in terms of the percentage of students who are offered all their remedial measures in a mainstream class. However, mainstream students are over-represented in the samples from 2012, especially in sample A. The sample from 2007 and sample B from 2012 have somewhat higher percentages of students with more than one remedial measure than do the basic data set and the interview sample from 2002. However, sample B from 2012 is not biased concerning individuals with at least one intensive measure at the start of upper secondary school.

Finally, we compare the progression of students—that is, whether they are on schedule—in the basic data set and the samples. As shown in Table 12, higher percentages of students with normal progression exist in the samples, especially in the samples from 2012, than in the basic data set.

Table 12

Progression in Upper Secondary School

	Basic data set 1996	Sample 2002	Sample 2007	Sample A ^a 2012	Sample B ^b 2012
On schedule, autumn 1996	34.3	38.1	38.9	48.8	46.3
On schedule, spring 1997	31.2	35.6	35.1	45.4	43.1
Qualified for admission to higher education or vocation, spring 1999	13.9	16.4	15.3	19.5	18.5
<i>N</i>	760	494	373	205	216

Note. Values are percentages unless otherwise indicated.

^aSample A contains only answers from the former special needs students themselves. ^bSample B includes 11 answers from parents.

Table 12 also reveals an over-representation, especially in the samples from 2012, of students who had succeeded in obtaining vocational qualifications or had qualified for admission to colleges and universities by the spring of 1999 than in the basic data set.

Overall, based on those variables that we were able to investigate in this study, there appear to be only small biases in the interview samples from 2002 and 2007 compared to the basic data set.

Concluding Remarks

In longitudinal research, respondent attrition occurs at each wave of data collection. Thus, the samples may be biased, which is a serious problem that may threaten the external and internal validity of the research. This limitation may, however, be somewhat diminished if it is known in what respect the sample is distorted. Such information was acquired by comparing the population and samples in terms of strategic variables. The results of these comparisons are presented in this research note and may help readers assess the representativeness of the different samples established through several waves of data collection.

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