THE DANISH
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DANISH LONGITUDINAL SURVEY OF YOUTH – CHILDREN (DLSY-C) - TECHNICAL REPORT

SFI – THE DANISH NATIONAL CENTRE FOR SOCIAL RESEARCH

Danish Longitudinal Survey of Youth – Children (DLSY-C) - Technical Report

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1. Background

The Danish Longitudinal Survey of Youth – Children (DLSY-C; in Danish: *Generationsundersøgelsen*) is a survey which samples all children born to all participants in an ongoing Danish cohort study, the Danish Longitudinal Survey of Youth (DLSY). The original sample of 3,151 DLSY participants were all born in or around 1954 and were first interviewed in 1968 when they were around 14 years old. Since then the DLSY respondents, and their parents, have been interviewed in 1969, 1970, 1971, 1973, 1976, 1992, 2001, and in 2004. The DLSY used face-to-face interviews and is similar to other cohort studies such as the National Child Development Study in the United Kingdom and the National Longitudinal Surveys of Youth in the United States. More information on the DLSY and DLSY-C is available on www.sfi.dk/dlsy.

The DLSY-C was motivated by pending research questions in social science research on intra- and intergenerational social mobility. Notably, what are the resources, processes, and mechanisms that explain persistence in socioeconomic and social outcomes across generations? The DLSY-C focuses on intergenerational relations since information on the DLSY-C respondents can be linked to, first, information on parents collected over the period 1968-2004 (data available in the DLSY Cumulative 1968-2004 File) and, second information on grandparents (the parents of the original DLSY respondents). Furthermore, information on all three generations can be linked to data from administrative registers which provide comprehensive longitudinal information on, for example, education, income, social transfers, labor market history, and health care usage. Finally, the DLSY-C may also be used for within-family comparisons because in many cases several children of each DLSY respondent have been interviewed.

This technical report provides basic information on the sampling framework, response rates, and a summary of the items included in the first wave of the DLSY-C (collected in 2010). It is our ambition to follow the DLSY-C respondents over an extended period of time.

2. Design

2.1 Basis for sampling

The most common approach for selecting respondents to be included in surveys in Denmark is to draw samples from the so-called CPR register (Central Person Register). Upon birth or after receiving legal residency status in Denmark, each person is assigned a unique Personal Identification Number (PIN). This PIN identifies the person in all contact with and between public authorities, for example, tax, family, housing, or unemployment services. All PIN numbers are stored in the CPR register. The national statistics bureau, Statistics Denmark (SD), collects and stores data from public authorities on each person living in Denmark based on the PIN. In addition to producing national statistics, DS also allows researchers to use the CPR register for research. This is typically done by merging information from different registers (for

example, income, labor market participation, unemployment benefits, housing, and health care usage). Because comprehensive information exists on the entire Danish population it is easy to draw samples (random or selective) from the CPR register.

2.2 Sampling universe

The sampling universe in the DLSY-C includes all children born to all DLSY respondents (children must be registered in the CPR register). We refer to this sample as the *gross sample*. This sample includes both biological children, adopted children, and children given up for adoption (but not step-children).We carried out a search of the CPR register (February 2010), which showed that the DLSY respondents have a total of 5,468 children. This amounts to 1.74 children per DLSY respondent, which is very close to the national completed fertility rates for individuals born in the mid-1950s. Table 1 shows the status of the 5,468 DLSY-C respondents as of 1 January 2010. Almost 96% of the respondents were alive and living in Denmark or Greenland, 2.4% had left Denmark, 1.5% of the respondents were deceased, and 1 respondent had disappeared.

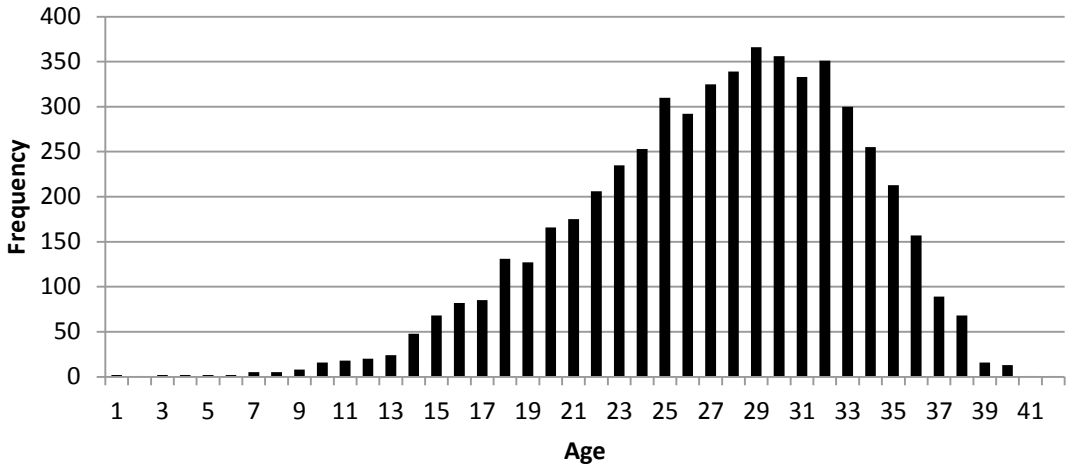
Table 1: Status of DLSY-C respondents as of 1 January 2010

Status:	Frequency	Percent
Alive, living in Denmark	5,235	0.957
Alive, living in Greenland	16	0.003
Left the country	133	0.024
Deceased	83	0.015
Disappeared	1	0.000
Total	5,468	1.000

Source: CPR register

Figure 1 shows the age distribution of the DLSY-C respondents. The figure shows that as of 1 January 2010 most of the DLSY-C respondents were between 20 and 35 years old. Mode age is 28. We decided that the minimum age for being included in this wave of the DLSY-C was 14. This age restriction means that we exclude 155 or 2.8% of the DLSY-C population. We plan to interview these respondents in the future.

Figure 1: Age of DLSY-C respondents as of 1 January 2010



2.3 Contacting respondents

The DLSY-C used face-to-face interviews. Interviewers were instructed to visit DLSY-C respondents' homes at least four times in order to make personal contact (in addition to at least four visits, interviewers typically also telephoned respondents to set up interviews). Interviewers were instructed also to visit respondents in the evening and on weekends in which there was the highest likelihood that the respondent was at home. If the interviewer was not able to make contact in the first two visits to the respondent's home, the interviewer was instructed to wait up to two months and then again attempt to make contact. The mean number of contacts either in person or via phone was 3.9. Interviewers were not allowed to write off a respondent with the code "no contact" until at the end of the interview period.

Interviewers sent out letters to respondents 2-3 days before attempting to make first contact. The letters included an invitation to participate in the DLSY-C, a short description of the DLSY-C, and a folder which briefly introduced the DLSY (including a reference to the DLSY website www.sfi.dk/dlsy).

2.4 Interview period

The interviewing period began in May 2010 and ended in mid-January 2011.

3. Response rates

The total population of DLSY-C children is 5,468. However, not everybody in the population is eligible for interview in the DLSY-C due to, for example, having died, moved abroad, or being below the age limit (14 years of age). It is possible to link data from administrative registers for all 5,468 DLSY-C respondents. Table 2 summarizes interview status for the total population of 5,468 DLSY-C respondents.

The active sample of respondents whom we wanted to interview consists of 4,338 respondents. This sample includes all respondents who meet the criteria for inclusion in the DLSY-C (this sample excludes respondents with code 10-15 in Table 2 below). Respondents who are covered by research protection and whose parents did not allow us to contact these respondents are not included in the active sample.

Table 2 shows that we have completed interviews with 3,515 respondents, which amount to 81% of all respondents in the active sample (in addition, 3 respondents have partially completed an interview). The group whom we did not interview mainly comprises respondents who refused to participate and respondents with whom no contact could be established.

Table 2: Completed interviews, non-response by type, and response rates

Code:		Sample type		
		Not covered by research protection	Covered by research protection	Total
1	Completed interview	3,165	350	**3,515**
2	Partially completed interview	3	0	**3**
	Non-participation by type:			
3	Refused to participate	500	8	
4	Illness	17	0	
5	Out of town	36	1	
6	No contact	173	8	
7	Moved to unknown address	42	0	
8	Disabled	20	0	
9	Other (including language problems)	14	1	
	Active sample	**3,970**	**368**	**4,338**
10	Research protection – no contact	0	747	
11	Moved abroad	22	0	
12	Below eligible age (14 years)	117	11	
13	Address in Greenland	15	1	
14	Disappeared	1	0	
15	Deceased	83	0	
	Total non-response	**371**	**759**	**1,130**
	Total			**5,468**
	Response rates by category:	**Number**	**Percent**	
	Completed interviews	3,515	81.0	
	Partially completed interview	3	0.1	
	Refused to participate	508	11.7	
	Illness	17	0.4	
	Out of town	37	0.9	
	No contact	181	4.2	
	Moved to unknown address	42	1.0	
	Disabled	20	0.5	
	Other (including language problems)	15	0.3	
	Respondents in active sample	**4,338**	**100.0**	

4. Items in the first wave of the DLSY-C

4.1 Summary of items

Table 3 summarizes the items included in the first wave of the DLSY-C. These items were motivated by three overall research questions.

First, we wanted to collect detailed information on respondents' educational career: Did respondents attend public or private primary school, which type of secondary and tertiary education did they complete, and what was their Grade Point Average (GPA) from primary and secondary education? In addition, we ask a series of questions to learn more about respondents' motivation for choosing different types of education and their beliefs about returns to education.

Second, we wanted to replicate items from the DLSY capturing respondents' economic, cultural, and social resources. Regarding economic resources, we obtained information on respondents' income and property (home, care, boat, and summerhouse). Regarding cultural resources, we asked whether respondents subscribed to a newspaper, their interest in visual arts, number of foreign languages spoken, and their cultural consumption over the past 12 months. Regarding social resources, we asked whether respondents have social connections in business, public administration, and political life in the area in which they live.

Third, we wanted to obtain baseline information on respondents' cognitive ability and personality traits.

We summarize the measurement tools used below.

Table 3: Summary of items in DLSY-C wave 1

Topic	Content	Replication from DLSY*
Demographics	Sex	Yes, G1+G2
	Age	Yes, G1+G2
Family background	Lived with both biological parents until age 16	Yes, G2
Educational career	Public/private elementary school, type of private school	No
	GPA from final exams at the end of 9th grade	No
	Type of secondary education track completed/enrolled in	Yes, G1+G2
	GPA from upper secondary education	No
	Type of higher/vocational education completed/enrolled in	Yes, G1+G2
Marital status	Marital status	Yes, G1+G2
	Cohabitation status	Yes, G1
	Number of children living in household	Yes, G1+G2
Health	Self-rated health	Yes, G2
	Self-rated physical appearance	No
	Height/weight	No
	Assessment of own weight	No
	Wants to lose weight (and how much)	No
Occupation	Main occupation	Yes, G1+G2
	Actual job description	Yes
Income and property	Owns home, car, boat, summerhouse	Yes, G1+G2
	Gross income, own and spouse	Yes, G1+G2
Social connections/contacts	Self-assessed social connections in business, public administration, and political life	Yes, G1+G2
		Yes, G1+G2
	Has social connections which can help in different situations	Yes, G1+G2
Leisure time activities	Subscribes to newspaper	Yes, G1+G2
	Interest in visual arts	Yes, G2
	Proficiency in foreign languages	Yes, G2
	Cultural participation in last 12 months	No
Attitudes towards education	How important were different people for R's educational choices after 9/10th grade (parents, friends etc.)	No
	R's assessment of which level of education you need to hold 18 different occupations	No
	Attitudes towards status maintenance relative to parents	No
Social attitudes	Government responsibility for income redistribution	No
	Work hard to get things in life	No
	Importance of coming from a wealthy family	No
Risk attitudes	Hypothetical lottery investments	No
	Risk attitudes	No
	Time discounting preferences	Yes, G2
Personality	Rotter Locus of Control	No
	Rosenberg Self-Esteem scale	Yes, G2
Cognitive ability	IST 2000R Matrices test score (0-20)	Yes, G2

Note: * G2 refers to the parents of the DLSY-C participants (i.e., the DLSY participants). G1 refers to the parents of the DLSY participants, i.e., the grandparents of the DLSY-C participants.

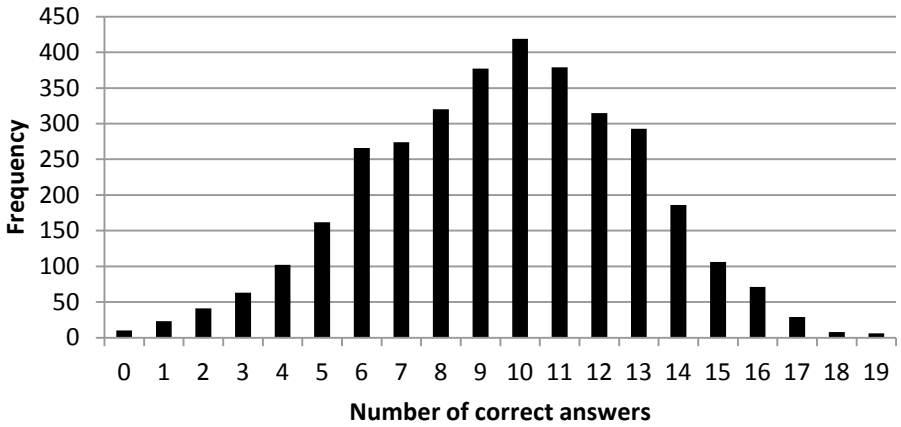
4.1 Cognitive ability test

We use a sub battery of items from the IST (Intelligens Struktur Test) 2000R test to assess respondents' cognitive ability. The IST 2000R is designed to measure general intelligence and related domains. The test includes nine sub tests which measure subjects' ability in three cognitive domains: verbal, numeric, and visual-spatial ability.

Since the IST 2000R takes about 80 minutes to complete it was not possible to implement all sub tests in the DLSY-C. Instead, in consultation with Hogrefe Psykologisk Forlag A/S who are the copyright owners of the IST 2000R, we decided to use the Matrices sub battery. The Matrices sub battery, which is similar to the well-known Raven Progressive Matrices test, includes 20 assignments of increasing difficulty. In each assignment the respondent is shown three matrices with different shapes or content and a blank fourth matrix. The three matrices are related via a hidden pattern, for example the direction of an arrow or the shape of an element in a matrix. The assignment is to decode the hidden pattern which links the three matrices and find the missing fourth matrix. In each assignment the respondent is presented with five possible solutions and must choose one solution (only one of the five solutions is correct).

The Matrices sub battery was implemented using pen and paper. The respondent was given a booklet with the 20 assignments and an answering sheet to write down his/her answer to each assignment. The interviewers collected the answering sheets. Due to copyright restrictions respondents' answers to each assignment is not available, and the DLSY-C data includes a summary measure of cognitive ability which counts the total number of assignments which the respondent answered correctly (i.e., a 0-20 scale). Figure 2 shows the distribution of number of correct answers.

Figure 2: Distribution of correct answers in IST 2000R Matrices Test



4.2 Personality traits

We include two widely used measurement tools to capture personality traits: The Rotter Locus of Control scale and Rosenberg's Self-Esteem scale.

The Rotter Locus of Control scale (Rotter 1966) captures the extent to which individuals believe that they have control over event that happen to them. Thus, Locus of Control refers to the extent to which individuals believe that they can control events that affect them. Individuals with a high *internal locus of control* believe that events result primarily from their own behavior and actions. Those with a high *external locus of control* believe that powerful others, fate, or chance primarily determine events.

In the DLSY-C we include a subset of four items from the Locus of Control scale (we include items 13, 15, 25, and 28). These items have the following phrasing (respondents are asked to state which of the two statements they agree with the most):

13.

a. When I make plans, I am almost certain that I can make them work.

b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.

15.

a. In my case getting what I want has little or nothing to do with luck.

b. Many times we might just as well decide what to do by flipping a coin.

25.

a. Many times I feel that I have little influence over the things that happen to me.

b. It is impossible for me to believe that chance or luck plays an important role in my life.

28.

a. What happens to me is my own doing.

b. Sometimes I feel that I don't have enough control over the direction my life is taking.

Each item is usually scored 1 if respondents agree with the statement expressing external locus of control (13b, 15b, 25a, and 28b) and 0 otherwise. The Rotter scale summarizes respondents' overall score.

The Rosenberg Self-Esteem scale (Rosenberg 1965) captures individuals' confidence/self-esteem. The scale includes ten items:

1. On the whole I am satisfied with myself.
2. At times I think that I am no good at all.
3. I feel that I have a number of good qualities.
4. I am able to do things as well as most other people.
5. I feel I do not have much to be proud of.

6. I certainly feel useless at times.
7. I feel that I am a person of worth, at least the equal of others.
8. I wish I could have more respect for myself.
9. All in all, I am inclined to feel that I am a failure.
10. I take a positive attitude toward myself.

In each item respondents provide a self-assessment using one of four response categories: (1) strongly disagree; (2) disagree; (3) agree; (4) strong agree. The Rosenberg Self-Esteem scale summarizes respondents' answers on all ten items, with higher values indicating higher self-esteem (note that some items use reverse coding).

References

Rosenberg, M. (1965). *Society and Adolescent Self-Image*. Princeton, NJ: Princeton University Press.

Rotter, J.B. (1966). "Generalized expectancies of internal versus external control of reinforcements." Psychological Monographs, 80(1): 1-28.