Children as Respondents
Results from the German Mobility Survey (MiD 2002)

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DIW Berlin

DLR

Bundesministerium
für Verkehr, Bau
und Stadtentwicklung

- **Project Objectives**

- **Options Accessing the Target Group of Children Aged 10 to 13**

- **Measuring the Mobility Behavior of Children Aged 10 to 13**

- **Summary**

Project Objectives

■ **To what extent is it feasible to involve children and young people as respondents in surveys?**

The ESOMAR international code for market and social research states that researchers "...shall take special care when interviewing children and young people. The consent of the parent or responsible adult shall first be obtained before interviewing children." (Article 8, ICC/ ESOMAR Code 2007). As a general rule, a "child" is to be defined as "under the age of 14" and a "young person" as "aged 14-17" (ESOMAR World Research Codes & Guidelines "Interviewing Children and Young People" 2005).

■ **How reliable is information provided by children and young people?**

In many surveys the competence of children's and young people's self-report is being assessed as rather low due to their cognitive as well as linguistic skills. Questions relating directly to the children's and young people's world resp. referring to specific behavior seem to lead to more valid data.

The validity of the information provided by children and young people depends on:
- topics resp. survey contents,
- age-adequate survey instruments (complexity of the questions' wording, linguistic level,
  the developmental state of adjusted items and scales)
- as well as the length of the survey.

■ **To what extent was it feasible to involve children aged 10-13 as respondents in MiD 2002?**

In MiD 2002 the initial contact to a household led to the identification of an adult respondent who provided the means of organizing all further contacts with this household and access to the individual household members. Mainly the women in the household were contacted first and allowed for accessing the children. Thus, among other things, accessing older children is rather granted than accessing younger children. Whether household characteristics and household composition also play a role in addition to individual characteristics will be checked within the scope of this analysis.

■ **To what extent does the measured mobility behavior resulting from the self-report by children aged 10-13 differ from proxy report?**
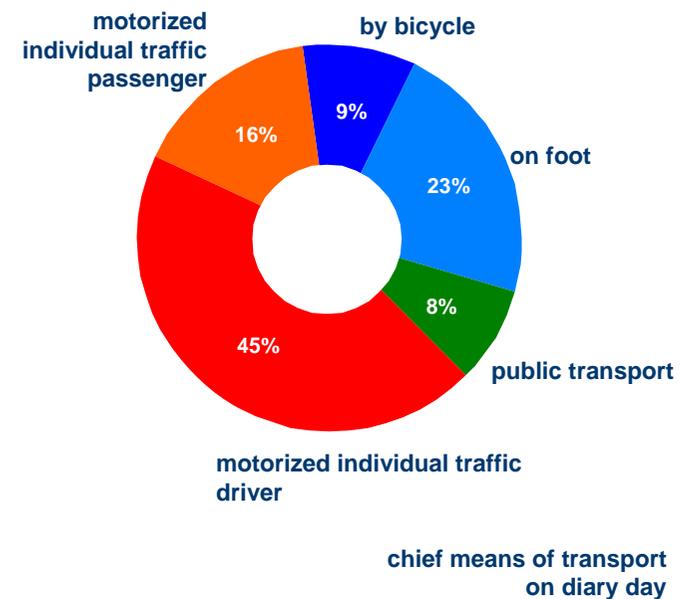
Children were supposed to provide information in MiD 2002 about trips covered on a certain diary day. For all those cases where accessing the target person was impossible a parent resp. another adult household member should provide substitutional information (proxy). Since the questions referred directly to the children's world and their specific behavior, it was assumed that the children aged 10-13 could provide valid information. The kind of differences resulting from the self- and the proxy report will be presented within the scope of this analysis.

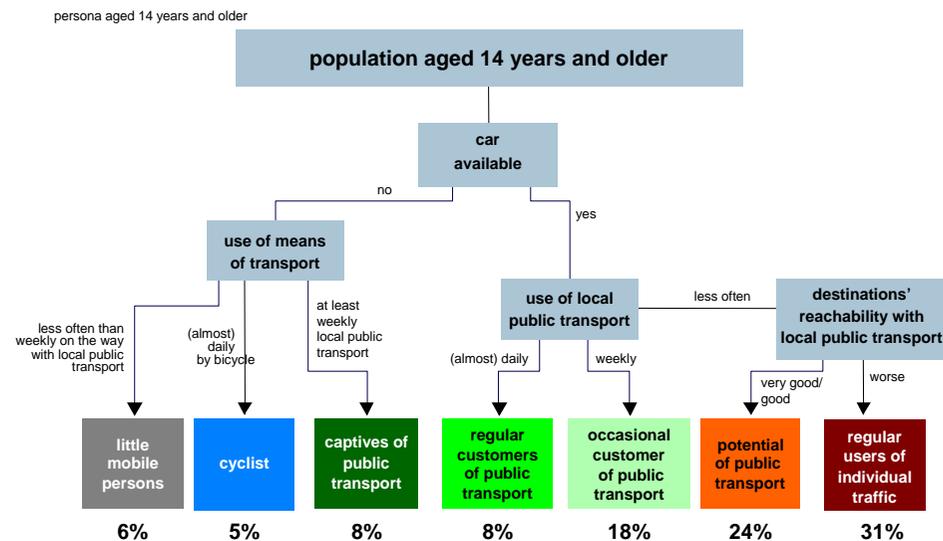**The MiD survey design is available for other regions as well and exhibits several special features:**

- recording entire households including children aged 0 years and older

- diary date survey throughout an entire calendar year

- reliable method for recording trips by combining postal and telephone survey methodology

- extremely large sample in order to regionalize the results (50,000 interviewed households in 2002 including add-ons)

- extrapolation of the traffic volume and the traffic performance differentiated by means of transport and purpose of the trips

- within the scope of additional contracts the optional opportunity of a trip analysis based upon a geo codification of the available trip information and apportion to the transport network

- project partners: 2002 DIW Berlin, 2008 DLR

- contractor 2002 and 2008: Federal Ministry of Transport, Building and Urban Affairs

motorized individual traffic passenger **16%**

by bicycle **9%**

on foot **23%**

public transport **8%**

motorized individual traffic driver **45%**

chief means of transport on diary day

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The survey in 2002 developed various new elements, which proved to be of value:
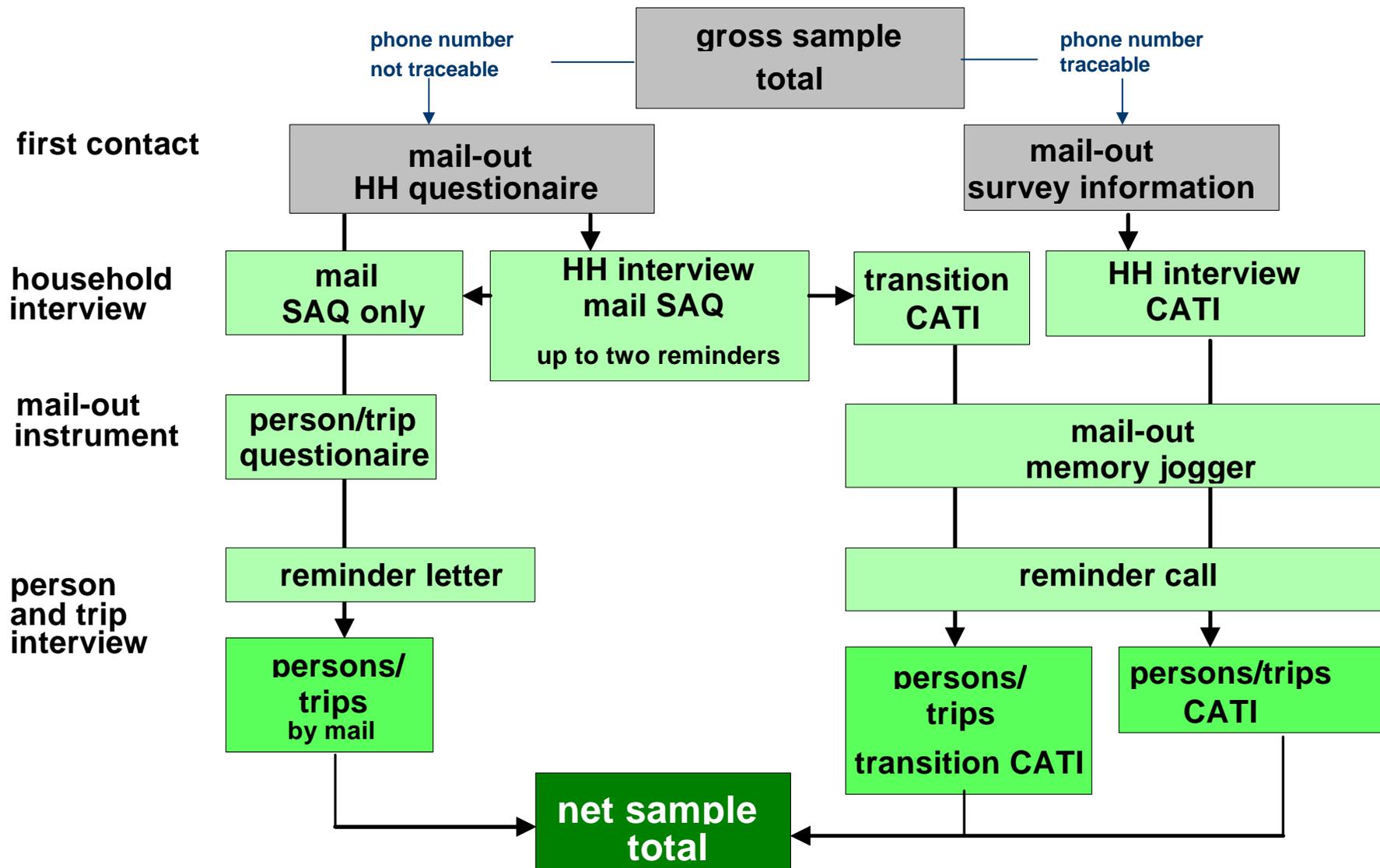
- **use of a registry offices' sample**

- **transparent depiction of field course**

- **methodological mix of postal and telephone, and online survey**

- **recording the data in a personal and trip matrix**

- **provision of differentiated information about trip purposes**

- **additional enquiry about the general mobility behavior independent from diary date and user groups' segmentation as well as the theoretical potential of the local public transport**

- **regular updates of project information on the Internet**

persona aged 14 years and older

population aged 14 years and older

car available

no — use of means of transport

yes — use of local public transport — less often — destinations' reachability with local public transport

less often than weekly on the way with local public transport → **little mobile persons** — **6%**

(almost) daily by bicycle → **cyclist** — **5%**

at least weekly local public transport → **captives of public transport** — **8%**

(almost) daily → **regular customers of public transport** — **8%**

weekly → **occasional customer of public transport** — **18%**

very good/ good → **potential of public transport** — **24%**

worse → **regular users of individual traffic** — **31%**

example user segmentation

first contact

household interview

mail-out instrument

person and trip interview

phone number not traceable

gross sample total

phone number traceable

mail-out HH questionaire

mail-out survey information

mail SAQ only

HH interview mail SAQ

up to two reminders

transition CATI

HH interview CATI

person/trip questionaire

mail-out memory jogger

reminder letter

reminder call

persons/ trips by mail

persons/ trips transition CATI

persons/trips CATI

net sample total

population register sample

un-successful (40%) ← telephone number search → successful (60%)

gross sample PEN

gross sample CATI

return household-interview

42%

68%

stays in PEN interview ← no (19%) ← successful PEN-HH interview: telephone number returned? → yes (82%) → transfer to CATI

successful CATI-HH interview

return person and trips interview

53%

78%

73%

successful PEN person / trips interview

successful CATI person / trips interview

overall return

22%

33%

48%

40%

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households	cars	persons	trips

in general

- household size
- vehicle ownership
- telephone
- telephone number
- income
- cell phone, computer, internet
- residential are
- profile househo
- e-mail address

- vehicle data
- usual parking space at home
- annual mileage
- main driver

- socio-demographics
- school/occupation
- driving licenses
- long dist
  quarter
- duration
- accessib
  transpor
- mobility
- car avail
- local pub
  subscrip
- bicycle a
- use of m
  general
- accessib
  destinati

respondent:
adult within the
household

*proxy only with
memory jogger

respondent:
adult
proxy* permitted

respondent:
children aged 10-17
proxy* permitted
10-13 children's questionnaire
14-17 adult's questionnaire

respondent:
children under 10
proxy* only

diary day

- odometer reading

- being ou
- normal
- car avail
- weather

rival)

cle

red: expansion compared to previous
surveys of the KONTIV type (since 2002)

grey: abbreviation 2008

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Personenauswahl (1.0.0.0)

Stichtag Montag 21.01.2008, Abstand -15 Tage

#A1

Guten Tag, meine Name ist ....
Ich rufe an vom infas Institut für angewandte Sozialwissenschaft in Bonn. Es geht um die Untersuchung des Mobilitätsverhaltens der Bevölkerung in der Bundesrepublik. In diesem Zusammenhang haben wir vor kurzem bereits mit **muster mustertest** gesprochen und Ihnen vor einigen Tagen Unterlagen zugeschickt.

Folgende Personen möchten wir jetzt gerne zu Ihren Wegen an Ihrem Stichtag befragen, der am **Montag**, den **21.01.2008** war.

Interviewer: Bitte immer die aktuelle Kontaktperson setzen.
Interviewer: Person auswählen, für die das Interview gefürt werden soll.

Person am Telefon
Seble | Reset

Termin | Verweigert | Zum Interview

Wegebefragung für ...
Seble | Reset | Anmerkung:

ID	Name	Alter	Geschl	Proxy	Status	Bemerkungen
1	Seble	30	W	Selbst Erw.	noch nicht befragt	
2	Andreas	45	M	Selbst Erw.	noch nicht befragt	
3	Jeremias	14	M	Selbst Erw.	noch nicht befragt	
4	Jonathan	12	M	Selbst Ki ...	noch nicht befragt	
5	Joelle	3	W	Proxy K<10	noch nicht befragt	

Abbrechen

Right at the start of each person and trip interview the CATI interviewer must be able to spot, which contacts already took place in this household as well as which persons have still to be interviewed.

For this purpose – in the background controlled via relational data storage – an overview screen will show up in the beginning indicating all persons living in the household – incorporated from the previous household interview – as well as the current interview status in the second interview phase.

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What kind of role do the household and person characteristics play for the access to children aged 10-13?

variables:

- age, sex and status of education of the children aged 10-13
- age, sex and occupation of the household's first respondent
- residential area, status, nationality of and sibling constellation within the household

data basis:

- MiD households with children aged 10-13 (5,189 children)
- share of households with access to the target group and self-report (17.2 percent of the children)

logistic regression

model based estimator for probabilities

Can children aged 10-13 provide valid information about their mobility behavior?

variables:

- number and duration of the diary day's trips
- purpose of the trips
- used means of transport

data basis:

- person and trip interviews for children aged 10- 13: self-report vs. proxy report
- control of the access effects (model based weighting)

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**Options Accessing the Target
Group of
Children Aged 10 to 13**

source: MiD 2002, individuals' data set, children aged 10-13
figures in percent

	10 years		11 years		12 years		13 years	
self-report	7	7	13	11	16	16	22	27
proxy	94	93	88	89	84	84	78	73

main differences:
- **self-report from older children – mainly girls**

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Share for the Access Groups:
Type of School Attended by the Interviewed Target Children

source: MiD 2002, individuals' data set, children aged 10-13
figures in percent
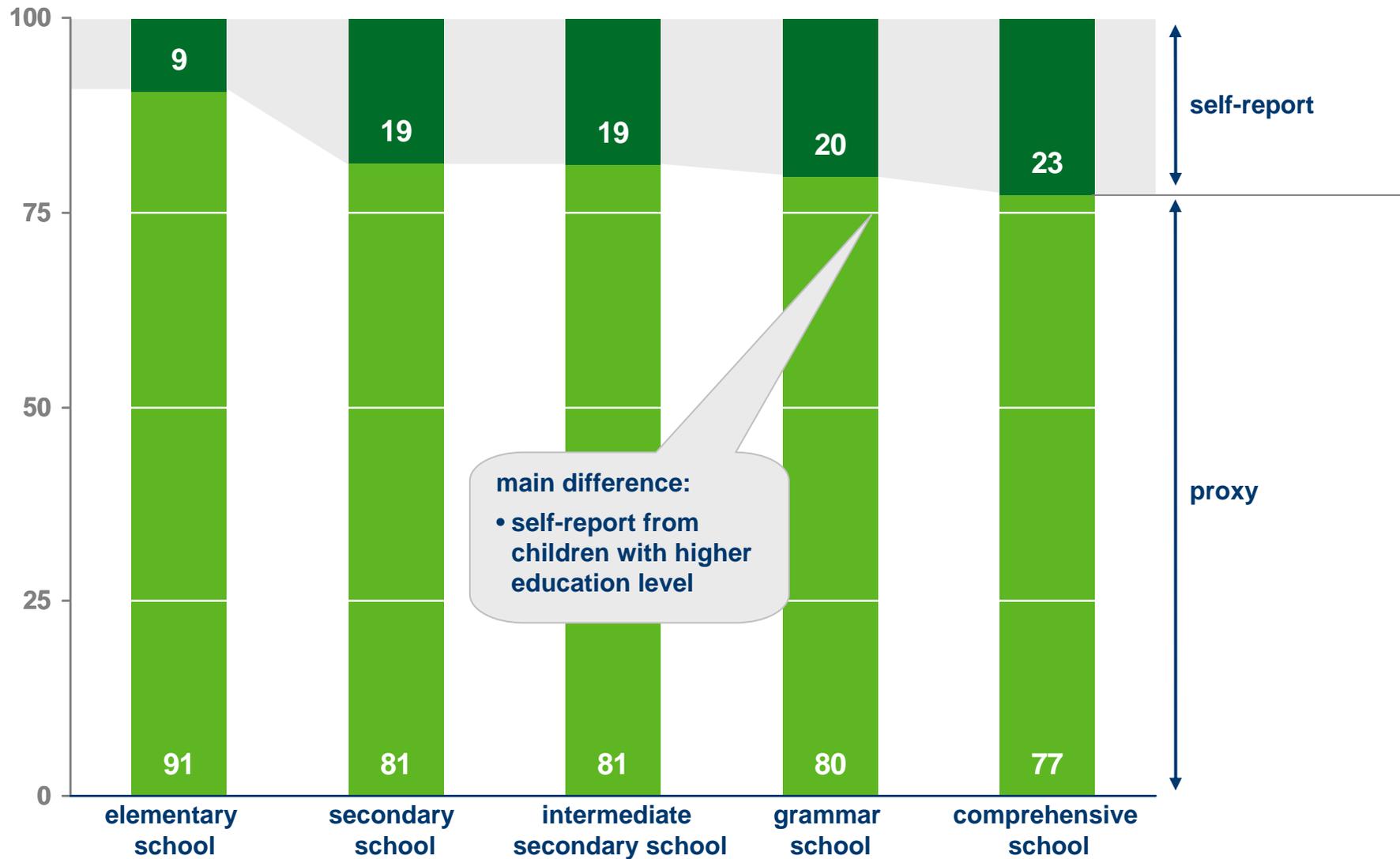
source: MiD 2002, individuals' data set, children aged 10-13
figures in percent

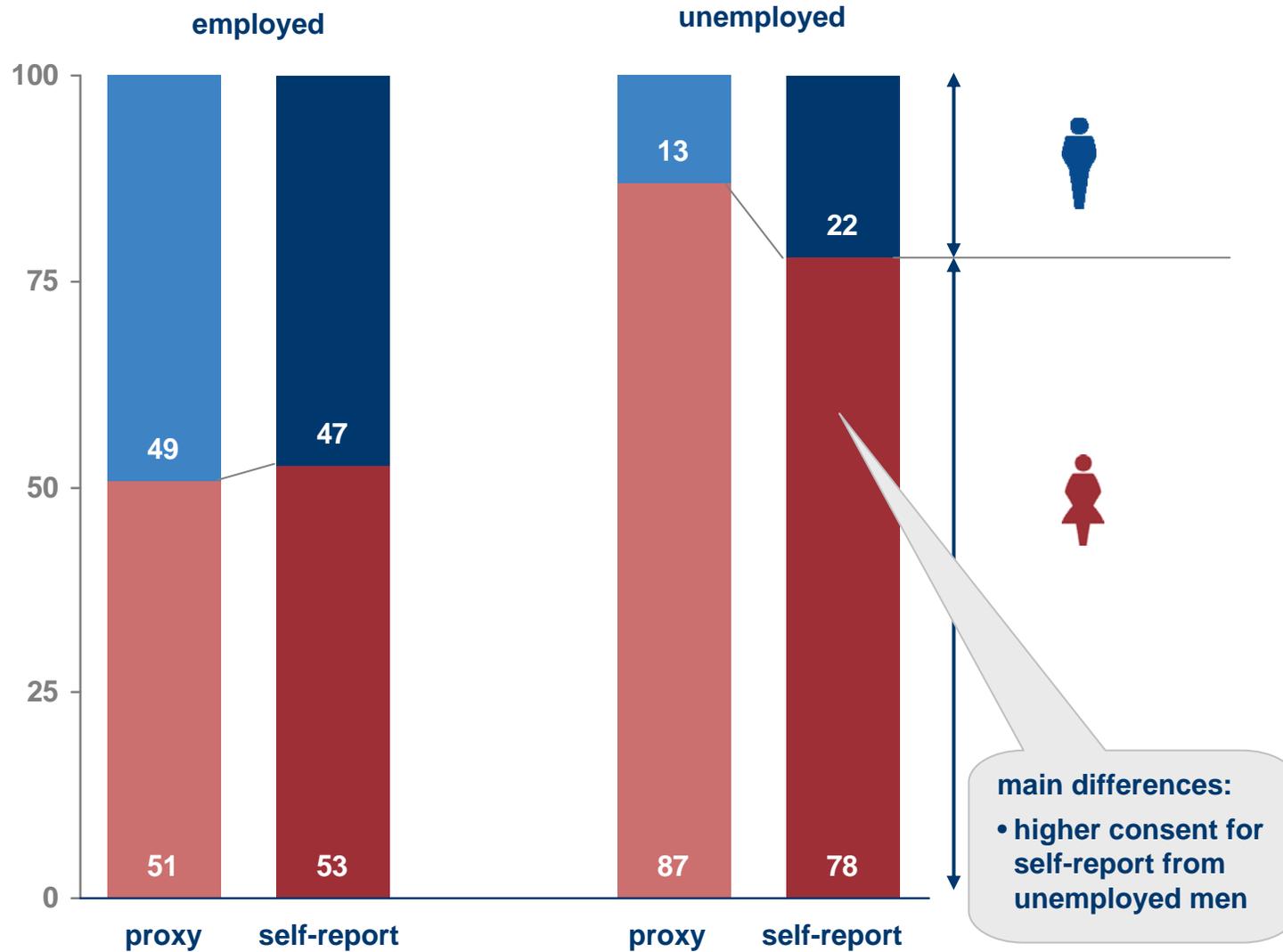**Access to children by male or female informant with less differences.**

Proxy in MiD 2002 could only be set as first respondent in household interview.

Significant differences between men and women from database MiD 2008 by identifying the proxy person.
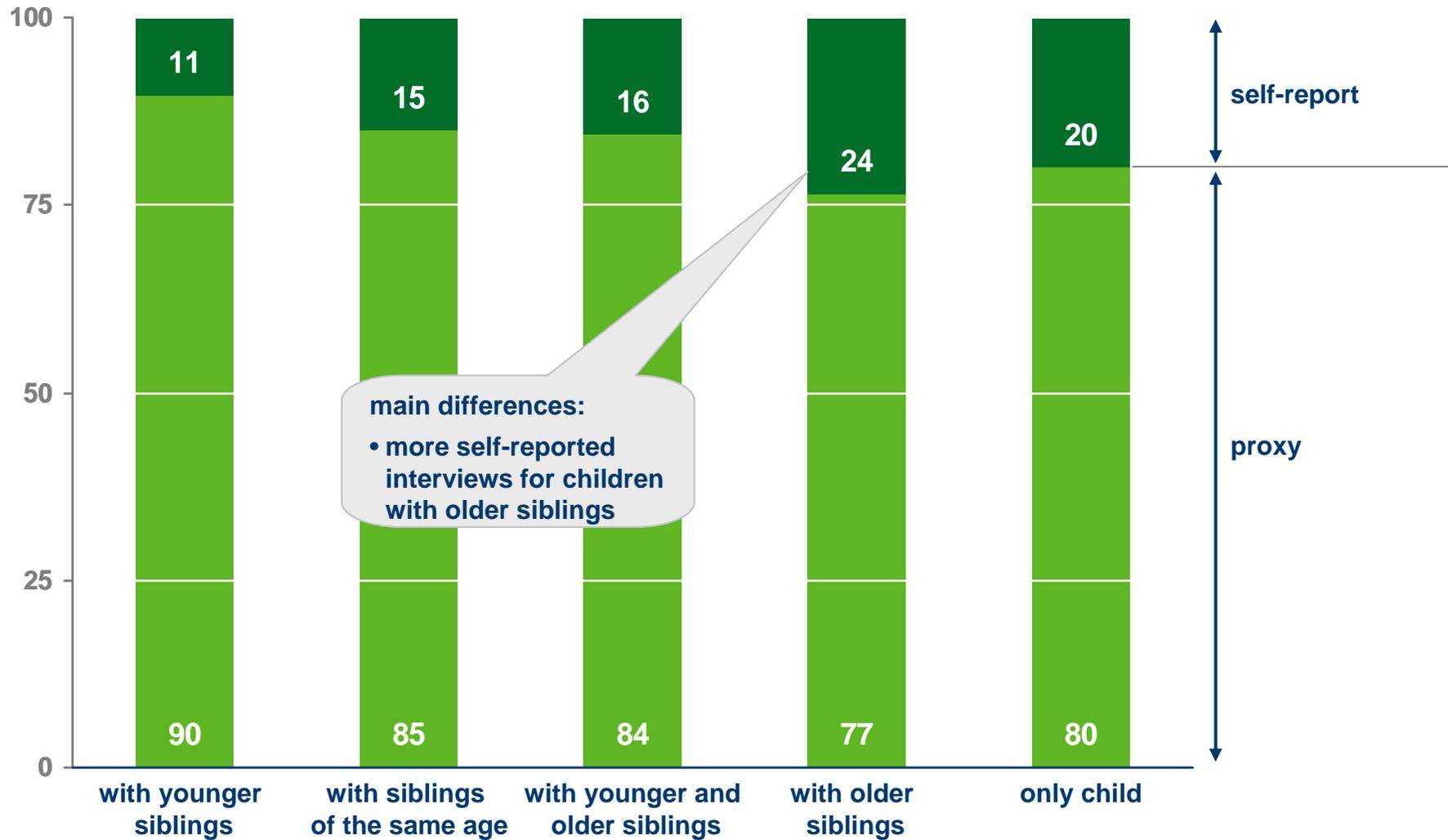
	proxy	self-report
(top, male)	41	42
(bottom, female)	59	58

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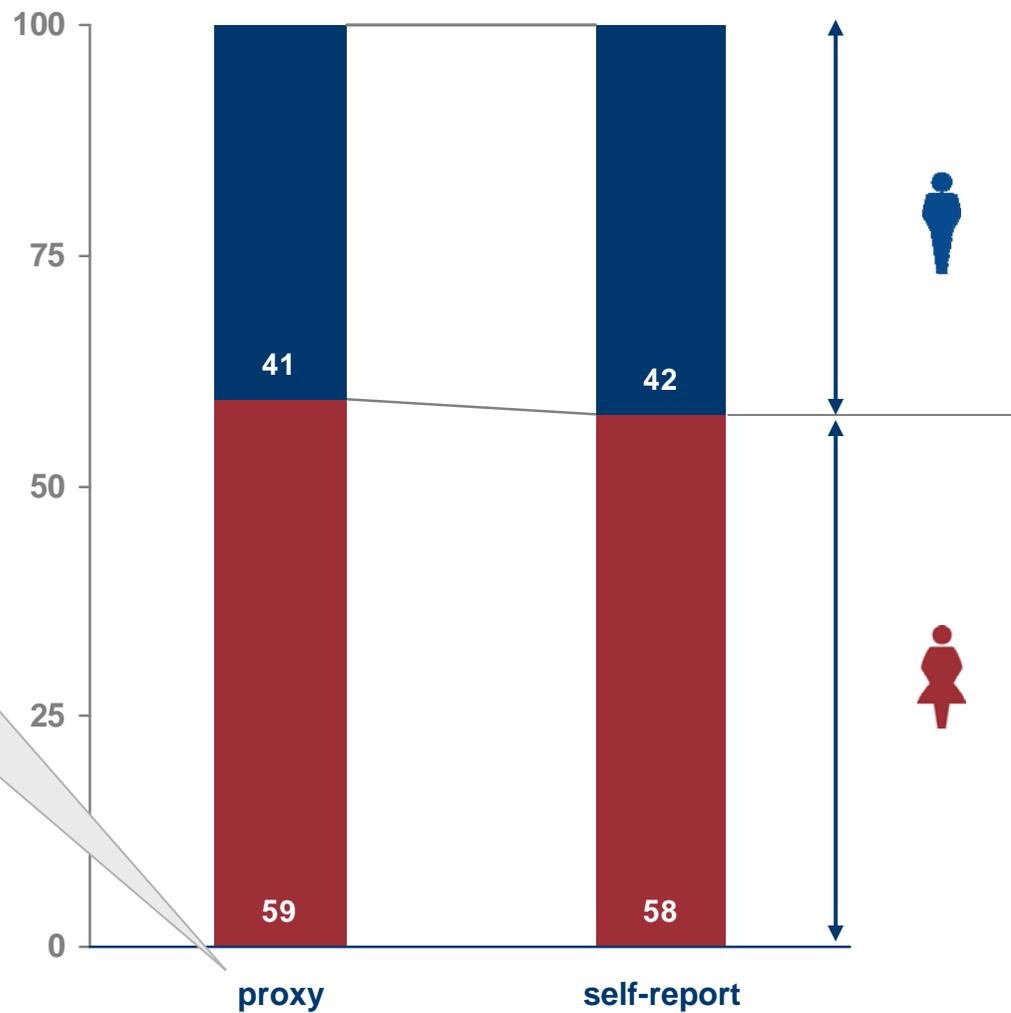
Share for the Access Groups:
Sex and Occupation of the Households' Main Respondents

source: MiD 2002, individuals' data set, children aged 10-13
figures in percent

employed

unemployed

100

75

50

25

0

| proxy | self-report | proxy | self-report |

49 | 47 | 13 | 22
51 | 53 | 87 | 78

main differences:
• higher consent for self-report from unemployed men

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Share for the Access Groups: Households' Sibling Constellations

source: MiD 2002, individuals' data set, children aged 10-13
figures in percent

main differences:
• more self-reported interviews for children with older siblings

self-report

proxy

	with younger siblings	with siblings of the same age	with younger and older siblings	with older siblings	only child
self-report	11	15	16	24	20
proxy	90	85	84	77	80

Modeling:
Influencing Variables for Self-Report of the Children Aged 10-13

source: MiD 2002, individuals' data set, children aged 10-13 multiple logistic regression with self-report as dependent variable

level of significance:
p<0.1=*/ p<0.05=** / p<0.01***

	reference	values	odd's ratio	
political municipality size	*less than 5,000*	5,000 - less than 20,000	0.89	
		20,000 - less than 50,000	0.75**	
		50,000 - less than 100,000	0.86	
		more than 100,000	1.16	
region	*west*	east	0.91	
age/sex target child	*boy 10-11*	girls aged 10-11	1.08	
		boys aged 12-13	2.00***	
		girls aged 12-13	2.39***	
school target child	*lower school type*	grammar school	1.21**	
residential area	*modest*	upscale	0.91	
		medium	0.89	
		no answer	1.66*	
status combination within household	*laborer*	other status	1.22	
		unemployed	0.48	
		salaried HH	1.23	
		managerial HH	1.18	
		self-employed HH	1.41*	
sex/occupational status main respondent within household	*women unemployed*	men employed	1.25*	
		men unemployed	1.49*	
		women employed	1.25**	
age group main respondent within household	*aged 18-24*	aged 25-34	0.83	
		aged 35-44	0.89	
		aged 45-54	0.85	
		aged 55 and older	1.08	
sibling constellation	*only child*	older + younger	0.78	
		older siblings only	1.25**	
		younger siblings only	0.56***	
		siblings of same age only	0.76**	
adult constellation	*single parents*	two adults	0.77*	
		several adults in HH	0.85	
nationality within household	*German*	not German	1.69***	
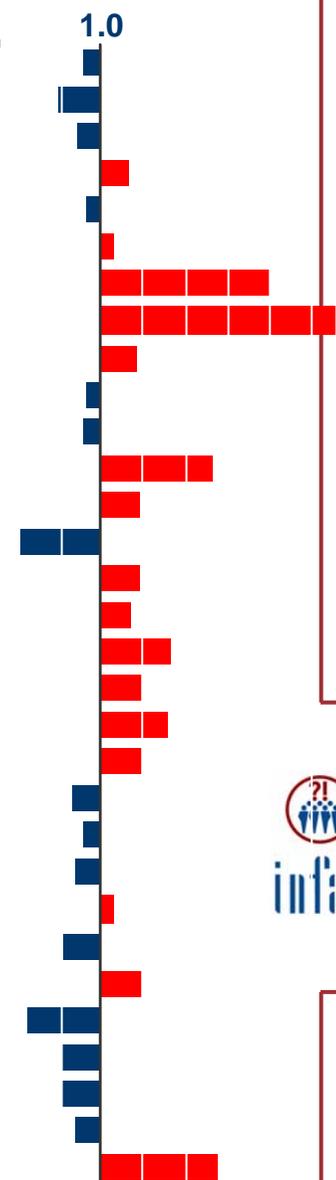
Mc Fadden Pseudo R² = 0.054

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■ **Effects of children's individual characteristics:**
Older children are more likely to be interviewed themselves than younger. This phenomenon is moreover affected by the level of education.

■ **Access to children with special household constellation:**
From household characteristics mainly the constellation of younger and older children effect the access to them as respondents. Children aged 10-13 could be interviewed themselves when they have older siblings.

■ **Next Step:**
Control of the access effects (model based estimator for probabilities as weighting variable).

# Measuring the Mobility Behavior of Children Aged 10 to 13

Number of Reported Children's Trips on Diary Day: Self-Report vs. Proxy

source: MiD 2002, individuals'/trips' data set, children aged 10-13
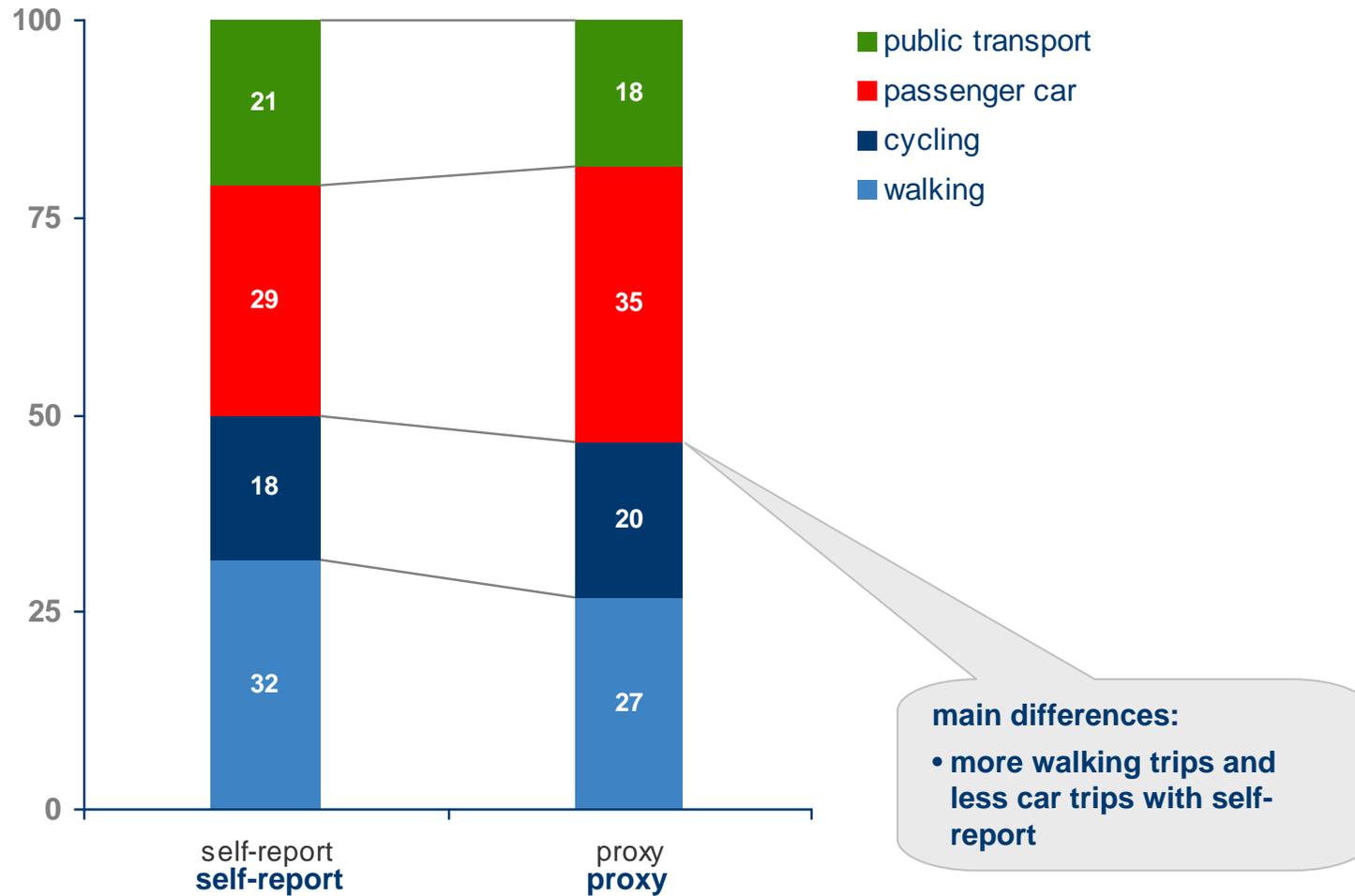
figures in percent

main differences:
- lower no-trip-rate for proxy
- background: not reported short walking trips
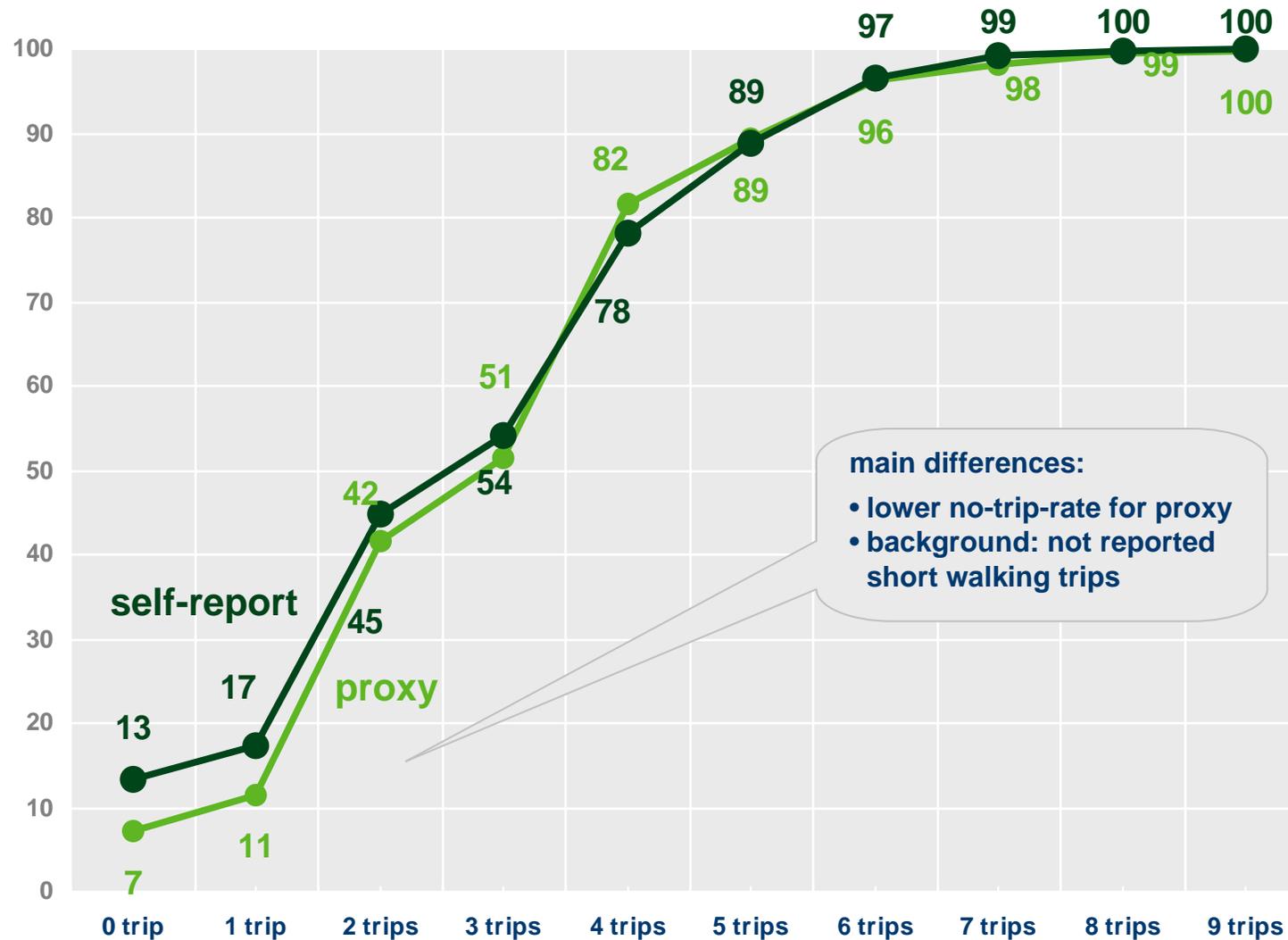
self-report

proxy

Length of Reported Children's Trips on Diary Day: Self-Report vs. Proxy

source: MiD 2002, individuals'/trips' data set, children aged 10-13
figures in percent

self-report

proxy
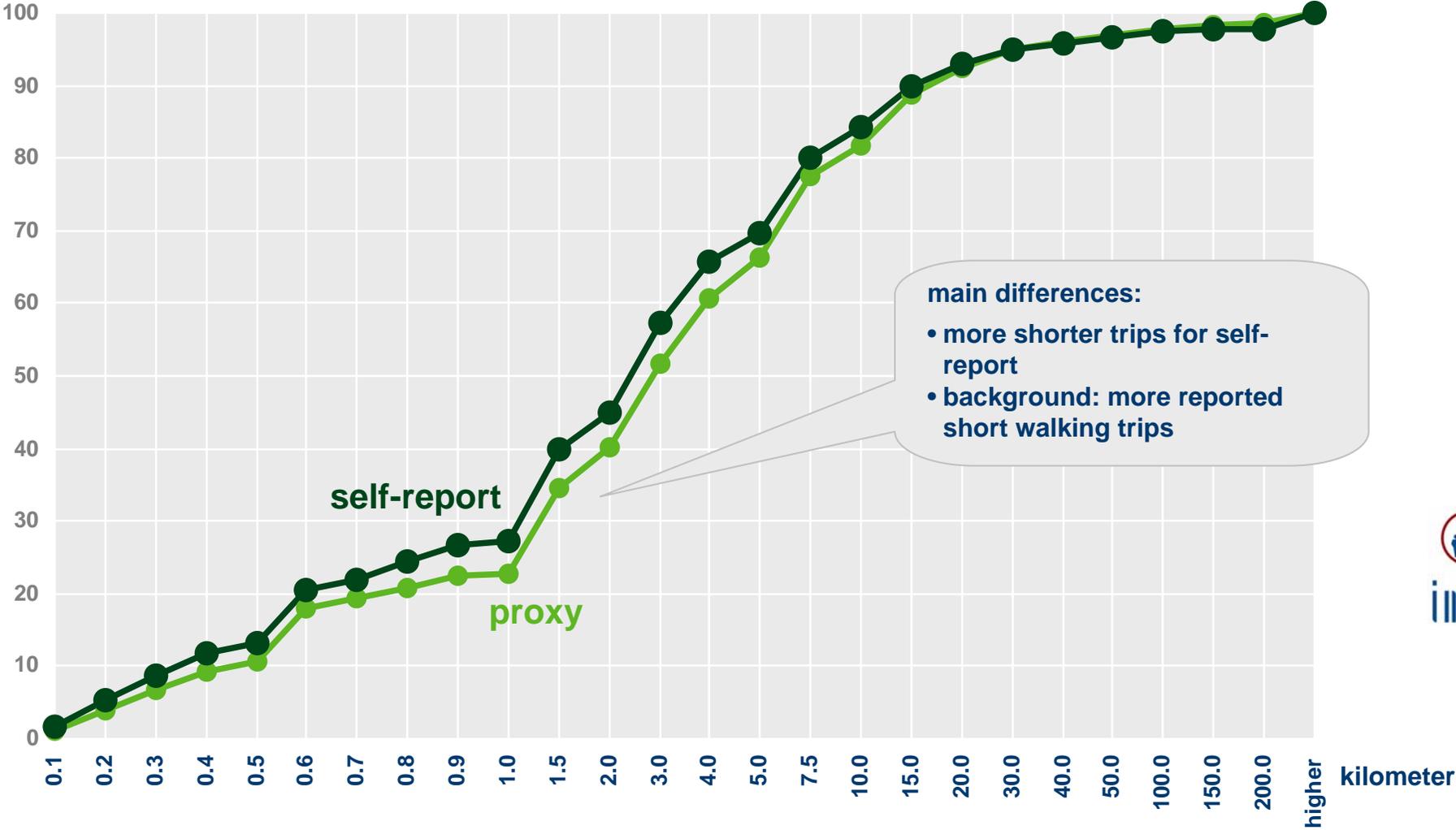
main differences:
- more shorter trips for self-report
- background: more reported short walking trips

kilometer

Main Mode Choice for Reported Children's Trips: Better Reporting for Short Trips with Self-Report

source: MiD 2002, individuals'/trips' data set, children aged 10-13
figures in percent

main differences:
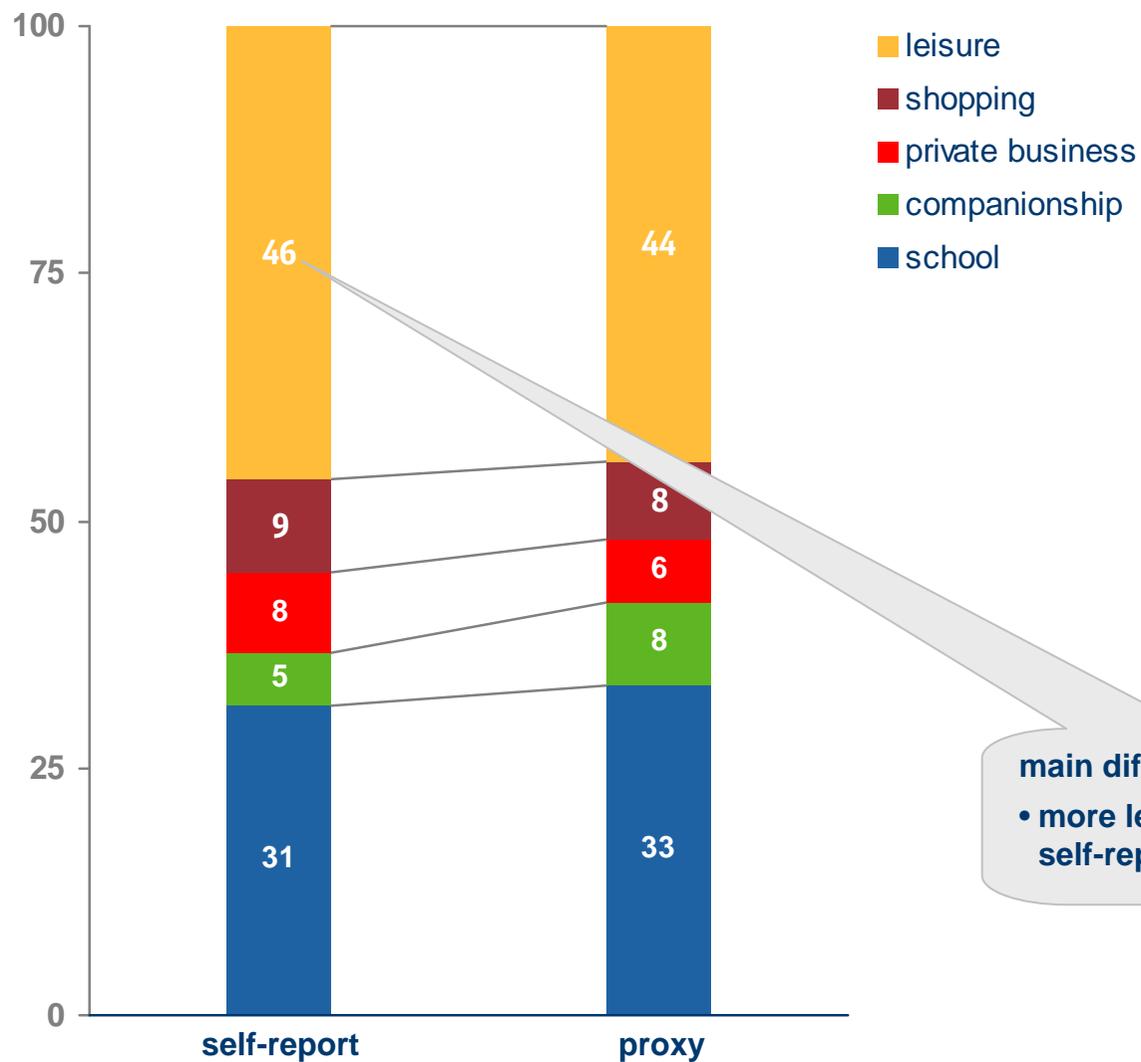- **more walking trips and less car trips with self-report**

Main Mode Choice by Interview Type and Age: Less Walking and Public Transport Trips in Proxy Interviews

source: MiD 2002, individuals'/trips' data set, children aged 10-13
figures in percent

self-report   **proxy**

public transport
passenger car
cycling
walking

age

10 11 12 13   10 11 12 13
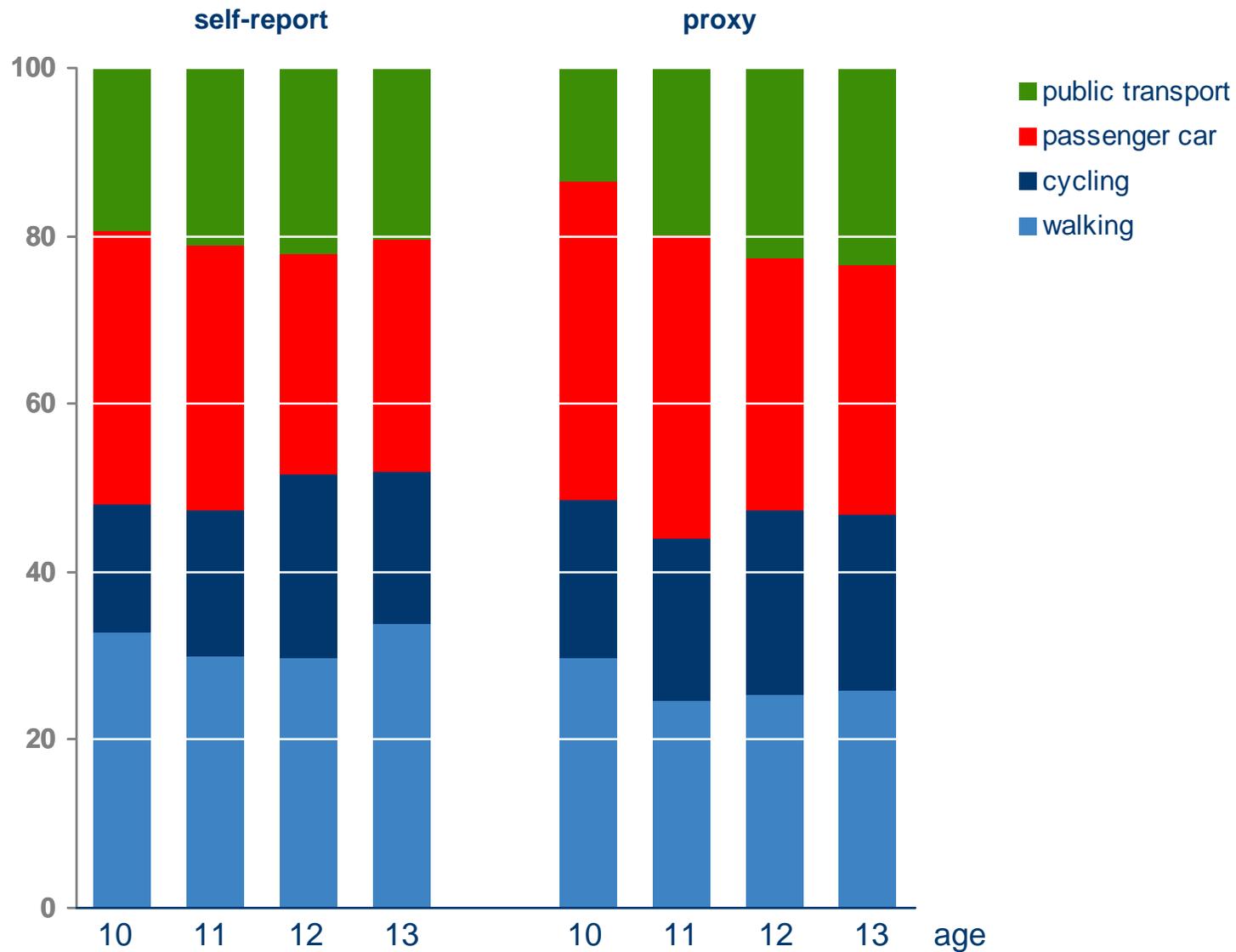
Main Trip Purpose for Reported Children's Trips: More „Unusual" Trips with Self-Report?

source: MiD 2002, individuals'/trips' data set, children aged 10-13
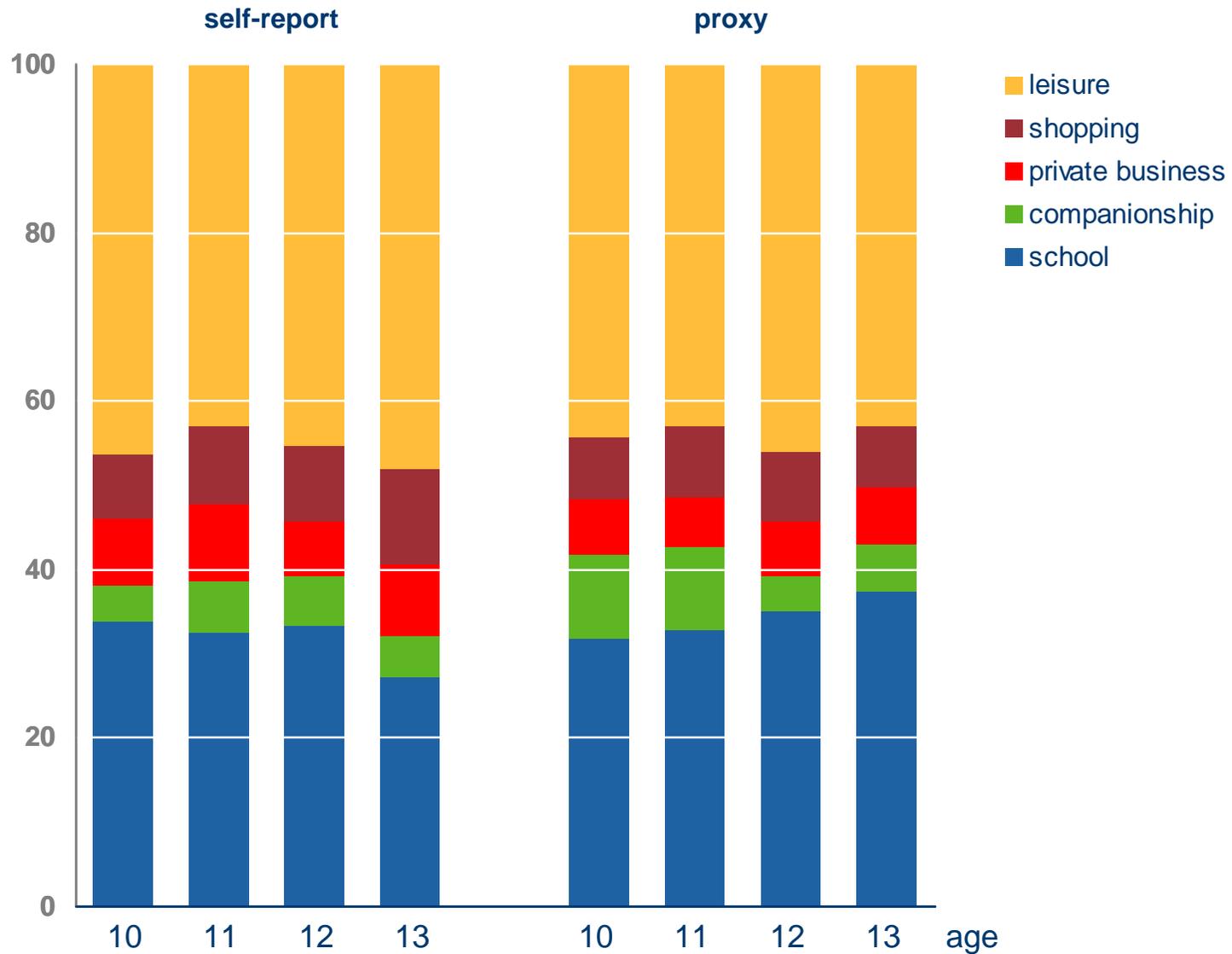figures in percent

leisure
shopping
private business
companionship
school

self-report: leisure 46, shopping 9, private business 8, companionship 5, school 31
proxy: leisure 44, shopping 8, private business 6, companionship 8, school 33

main differences:
• more leisure trips with self-report

source: MiD 2002, individuals'/trips' data set, children aged 10-13
figures in percent

self-report

proxy

- leisure
- shopping
- private business
- companionship
- school

age

Number of Companions on the Reported Trips: Parents Do Not Know Everything

source: MiD 2002, individuals'/trips' data set, children aged 10-13
figures in percent
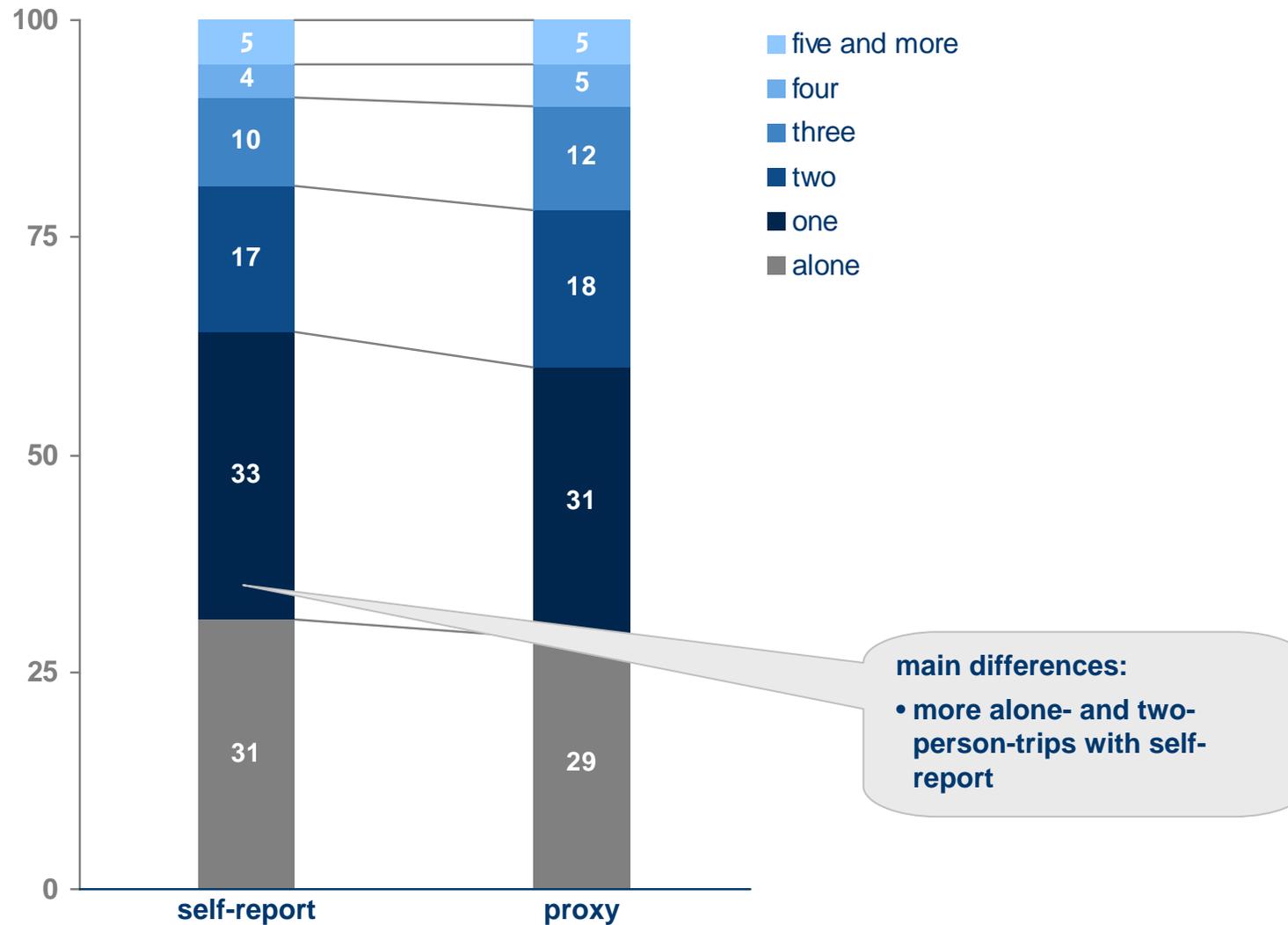
Legend:
- five and more
- four
- three
- two
- one
- alone

self-report:
- five and more: 5
- four: 4
- three: 10
- two: 17
- one: 33
- alone: 31

proxy:
- five and more: 5
- four: 5
- three: 12
- two: 18
- one: 31
- alone: 29

main differences:
- more alone- and two-person-trips with self-report

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means

	children aged 10-13		adults	
	self-report	proxy	self-report	proxy
daily number of trips	3.1	3.2	3.2	2.8
daily duration in min.	73.7	75.4	75.3	74.4
daily route in km	21.7	26.3	51.6	49.2
%-share leisure trips	22.8	23.9	18.0	17.6
%-share trips to school	15.4	16.9	9.9	13.3
%-share trips by foot	27.6	24.6	18.8	15.8
%-share trips by bicycle	15.1	17.3	7.2	5.8
%-share trips by car	24.8	31.8	52.5	55.6
%-share trips by public transport	16.5	15.9	6.3	6.7

Summary

- **Not surprising:**

  Older children are more likely to be interviewed themselves than younger children.

- **But with important differences:**

  This obvious phenomenon intensifies concerning girls and is moreover affected by the level of education. Parents with older children seem to trust more in their children's abilities and are thus more likely to permit self-report.

- **The topic is important - trip reporting is not as easy as it seems to be:**

  On the one hand the information provided by proxy turns out to be higher than the self-reported children's information. On the other hand it is selective: in the proxy situation we find less walking and short trips and less trips without or with only one companion.

- **What is the best – proxy or self-reported?**

  Of course it depends on your topic. If you mix self and proxy interviews you achieve a better coverage. But be aware of the differences and examine your results carefully.

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