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12th ISCTSC in Portugal (20-25 March 2022)

#146 - Comparison of Respondent's profile of

Computer-Aided Web Interviewing and Computer-assisted personal interviewing: The case of Ile-de-France mobility Surveys

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Introduction

For the current Global Travel Survey for the Paris region we have a very rich sampling database in order to draw the sample.

Our sampling database is from French national Institute of statistic and made with different administrative data such as: tax data (**with demographic information on individuals; household structure and household incomes**) and additional contextual data to enrich the tax information with variables to better describe the addresses where people live.

Experimental description

We took this opportunity to test the administration of this survey by two media first a **Computer-assisted personal interviewing (CAPI)** and second a **Computer-Aided Web Interviewing (CAWI)** in order to study the effect of both media on the **response mechanism**.

	CAPI	CATI
Response Rate	7.3%	7.0%

For both media we compute a logit model to model the response mechanism.

Methodologies and results

Nonresponse mechanism

Effect	DL	CAPI		CAWI	
		Wald Chi-Square	Pr > ChiSq	Wald Chi-Square	Pr > ChiSq
Annual household Income	4	174.2	<.0001	49.0	<.0001
Age band of the household head	4	67.9	<.0001	25.2	<.0001
Occupancy status of the house	1	63.6	<.0001	16.2	<.0001
Household type	5	27.5	<.0001	39.6	<.0001
Department of residence	7	23.2	0.0016	27.7	0.0002
Number of person in the household	4	21.0	0.0003		
Type of housing	1	16.0	<.0001		
Housing surface	4	12.4	0.0146		
Low rental housing	1	11.3	0.0008		
Priority city district (QVP)	1	7.0	0.0082		

A two stages weighting strategies

CAPI Adjustment	CAWI Adjustment
Calibration on Fideli	Calibration on Fideli
<ul style="list-style-type: none"> Annual household Income (5 margins) Age band of the household head (5 margins) Occupancy status of the house (2 margins) Household type (6 margins) Department of residence (8 margins) Number of person in the household (4 margins) Type of housing (2 margins) Housing superficie (5 margins) Low rental housing (2 margins) Priority city district (QVP) (2 margins) 	<ul style="list-style-type: none"> Annual household Income (5 margins) Age band of the household head (5 margins) Occupancy status of the house (2 margins) Household type (6 margins) Department of residence (8 margins) Day of the week (5 margins)
Calibration on Census	Calibration on Census
<ul style="list-style-type: none"> Department of residence (8 margins) Household size (4 margins) Motorization of the household (3 margins) Gender*age band (16 margins) Day of the week (5 margins) 	<ul style="list-style-type: none"> Department of residence (8 margins) Household size (4 margins) Motorization of the household (3 margins) Gender*age band (16 margins) Day of the week (5 margins)

Estimation results

	CAPI	CAWI
Immobility rate	7.8%	11,4%
Daily number of trips	4.16	3.63
Daily number of round trips	1.54	1.34
Daily travel time (mn)	104	96
Daily travelled distance (km)	26.3	20.3

CAWI respondents (including after adjustment):

- ☒ Say they are more immobile (+46%)
- ☒ Underestimate :
 - the number of trips (-13%),
 - the daily travel time (-8%)
 - the distance traveled daily (-23%)

The characteristics of people with the largest CAPI-CATI discrepancies are as follows:

Immobility	<ul style="list-style-type: none"> - Male - 15-24 years old and 35-54 years old - Tuesday respondents - Living in Yvelines - With temporary impairment - Living in a household with one person or 3 persons HH or 4 persons HH
Daily number of trips	<ul style="list-style-type: none"> - 55-64 years old - Tuesday respondents - Living in Val de Marne and Essonne - With temporary impairment
Daily travel time	<ul style="list-style-type: none"> - 15-24 years old - Saturday respondents - Living in Seine-Saint-Denis - With temporary impairment
Daily distance traveled	<ul style="list-style-type: none"> - 05-14 years old - Wednesday respondents - Living in Hauts-de-Seine, Seine-Saint-Denis and Val-de-Marne - With temporary and permanent impairment - Living in a household with one person

Conclusions

Even adjusting the samples with response mechanism and variables of interest, we find large (and significant) discrepancies. The cause may depend on two factors:

- ☒ A non-ignorable non-response => Find other variables (that are link with the interest variables) to weight the surveys
- ☒ Measurement errors => Improve the design in order to interest people to give full answers