



Households and families

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Office for National Statistics

Linking the Longitudinal Study to the 2001 Census

The relationship question




















Name of Person 1	Name of Person 2	Name of Person 3
First name	First name	First name
Surname	Surname	Surname
ENTER NAME OF PERSON 1 ABOVE	Relationship of Person 2 to Person → 1	Relationship of Person 3 to Person → 1 2
	Husband or wife <input type="checkbox"/>	Husband or wife <input type="checkbox"/> <input type="checkbox"/>
	Partner <input type="checkbox"/>	Partner <input type="checkbox"/> <input type="checkbox"/>
	Son or daughter <input type="checkbox"/>	Son or daughter <input type="checkbox"/> <input type="checkbox"/>
	Step-child <input type="checkbox"/>	Step-child <input type="checkbox"/> <input type="checkbox"/>
	Brother or sister <input type="checkbox"/>	Brother or sister <input type="checkbox"/> <input type="checkbox"/>
	Mother or father <input type="checkbox"/>	Mother or father <input type="checkbox"/> <input type="checkbox"/>
	Step-mother or step-father <input type="checkbox"/>	Step-mother or step-father <input type="checkbox"/> <input type="checkbox"/>
	Grandchild <input type="checkbox"/>	Grandchild <input type="checkbox"/> <input type="checkbox"/>
	Grandparent <input type="checkbox"/>	Grandparent <input type="checkbox"/> <input type="checkbox"/>
Other related <input type="checkbox"/>	Other related <input type="checkbox"/> <input type="checkbox"/>	
Unrelated <input type="checkbox"/>	Unrelated <input type="checkbox"/> <input type="checkbox"/>	

Persons up to Person 5 reported all relationships

Subsequent persons reported relationships to Person 1 and the two preceding persons

The relationship matrix

Person number

	1	2	3	4	5	6	7	8
1	-							
2		-				X	X	X
3			-			X	X	X
4				-			X	X
5					-			X
6		X	X			-		
7		X	X	X			-	
8		X	X	X	X			-

- Top corner is fully reported
- Remainder is partially reported

Basic relationship types in 2001 Census

- Smaller set recognised than in 1991
- Does not include aunt/uncle, niece/nephew, cousin or any “in-law”

- Husband / wife
- Partner
- Son / daughter
- Step-child
- Brother / sister
- Parent
- Step-parent
- Grand-child
- Grand-parent
- ‘Other related’

Basic family types

- Ungrouped individuals
- Married couple
- Cohabiting couple, opposite sex
- Cohabiting couple, same sex (male)
- Cohabiting couple, same sex (female)
- Lone parent (male)
- Lone parent (female)

Hazards to accuracy - limits to interpretation (1)

- When things went wrong, what probably happened?
- What are the implications?
 - cannot answer these questions completely, but insight has been gained
- easiest to consider the identified problem areas according to the stage they occurred in the whole process

Hazards to accuracy - limits to interpretation (2)

. Answering the relationship question on the census form

- Accidentally recording the relationship the wrong way round e.g. putting “parent” rather than “child”
- only one relationship was supposed to be recorded - even if two were possible
- there was no provision for “in-law” relationships to be recognised - they were probably recorded as “other related” or “unrelated”
- similarly, the relationships available did not include stepbrother/stepsister - they could have been recorded as either brother/sister or other related
- if one person filled in all the relationships, the result could be different than if each or several household members answered their part.

Hazards to accuracy - limits to interpretation (3)

2. Edit stage

- only a relatively small number of relationships checked

3. Imputation stage

- (details in second half of presentation)

4. Household Composition Algorithm

- some sets of relationships between household members could not be handled by the HCA



Imputation and the Relationship Matrix

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Types of Imputation Flags

The imputation flag for relationships operates at four levels:

- the relationship level (RELnnIMP)
- the individual level (RELPIMP)
- the family level (RELFIMP)
- the household level (RELHIMP)

Relationship Imputation Rates by Household Size

<i>Household size</i>	<i>Total no. households</i>	<i>% Imputed</i>
2	156473	2.9
3	104945	18.1
4	120403	13.8
5	56643	18.7
6+	25492	37.2

Highest and Lowest Imputation Rates by Covariate at Household, Family and Person Level

<i>%</i>	<i>Household</i>	<i>Family</i>	<i>Person</i>
<i>Sex</i>	11.6 m	10.6 m	8.5 m
	10.8 f	9.8 f	8.1 f
<i>Age (yrs)</i>	17.4 (12)	16.7 (12)	14.4 (12)
	3.1 (93)	0.3 (93)	3.1 (93)
<i>Ethnicity</i>	42.4 Bangladeshi	38.9 Bangladeshi	30.1 Bangladeshi
	9.5 White British	8.7 White British	7.0 White British
<i>Marital status</i>	13.8 single	12.3 single	11.2 single
	4.2 widowed	1.9 widowed	3.5 widowed

Highest and Lowest Imputation Rates by Covariate at Household, Family and Person Level

<i>%</i>	<i>Household</i>	<i>Family</i>	<i>Person</i>
<i>Religion</i>	34.4 Pentecostal	38.8 Pentecostal	25.0 Protestant
	2.1 Humanist	2.1 Humanist	1.0 Humanist
<i>Gov Office Region</i>	16.1 London	14.1 London	12.3 London
	8.7 SE & SW	7.8 SE	6.4 SE & SW
<i>County District</i>	28.3 Tower Hamlets LB	25.2 Newham LB	21.2 Newham LB
	3.9 City of London	2.0 City of London	3.6 Fareham

Imputation Increases Unlikely Relationships

- In data with no imputed values, there is 1 family where a male's brother is married to his mother.
- When we include imputed relationships, there are 21 such families.
- Imputation also introduces odd relationships that were not present in unimputed data.

Conclusions

- **For smaller households, the indications are that there were few problems.**
- **Complex and larger households were much more likely to have high rates of imputation, which warrant extra caution.**
- **Important to keep in mind the earlier remarks about the relationship options offered - and that respondents in the same situation could have answered in different ways.**
- **Overall, the introduction of the relationship matrix has been a significant advance and has allowed far more detailed analyses of families and households.**