



# USING THE RELATIONSHIP GRID TO LINK INDIVIDUALS IN THE CVFS

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# OUTLINE

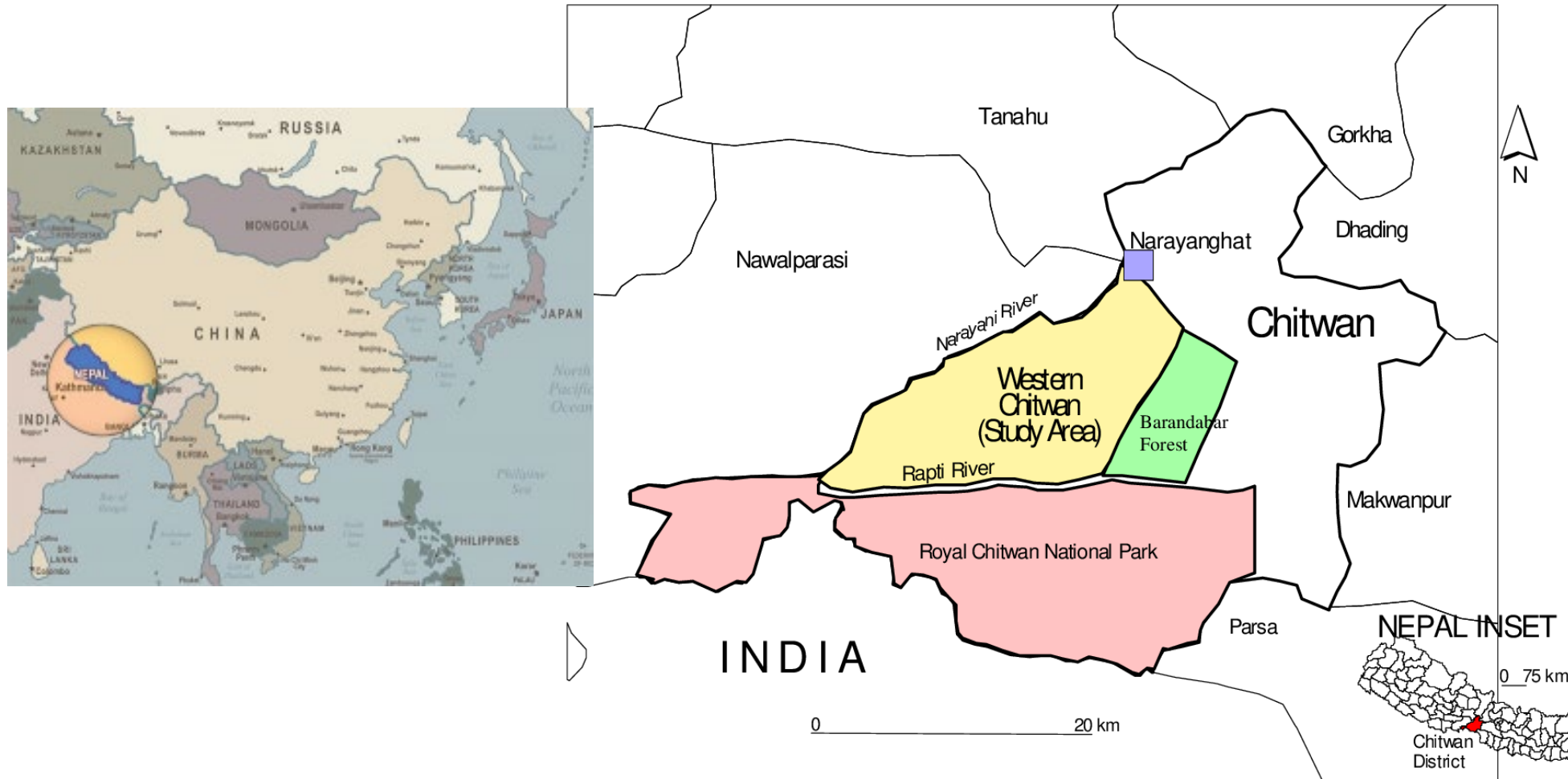
- Overview of the CVFS sampling frame
- CVFS file organization
- Linking individuals with the relationship grid
  - What is the relationship grid?
  - How do I use it?
- Q&A

# THE CVFS SAMPLING FRAME

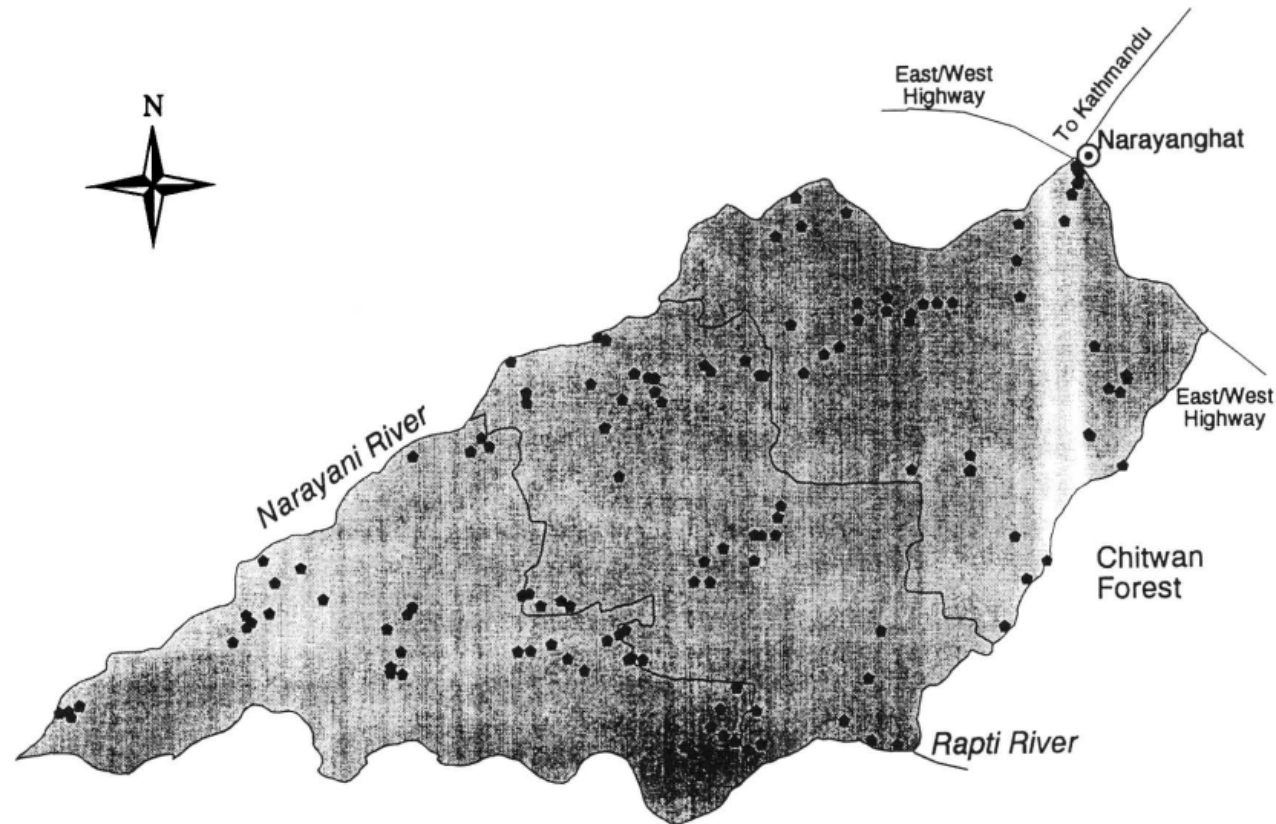
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# THE ORIGINAL CVFS SAMPLING FRAME



# THE ORIGINAL CVFS SAMPLING FRAME



**Royal Chitwan National Park**

**FIGURE 2.** Chitwan Valley study area.

G. P. SHIVAKOTI, W. G. AXINN, P. BHANDARI, AND N. B. CHHETRI

# 1995-1996 SAMPLED NEIGHBORHOODS

- Neighborhood = geographic cluster of 5-15 households when sample drawn
  - All households in each sampled neighborhood included
- 171 neighborhoods in original 1995-1996 sample
- 151 neighborhoods included in sample from 1997 onwards

# CHANGES IN NEIGHBORHOODS OVER TIME

- Attrition/growth in number of households; may be  $<5$  or  $>15$
- 2 neighborhoods washed away due to flooding
  - Individuals and households never returned to original neighborhood location
  - Individuals and households from these neighborhoods still included in sample

# 2008- SAMPLE REFRESH

## Household registry:

- All members of households in CVFS neighborhoods (regardless of location)
- All individuals interviewed in 1996
  - Unless whole household moved out of a CVFS neighborhood before 2008

## Individual interviews:

- Children and adults ages 12-34 in CVFS neighborhoods
- If unmarried: their parents
- If married: their spouse
- All individuals ages 35-59 in CVFS neighborhoods
- All individuals interviewed in 1996 (regardless of location in 2008)



# 2016 SAMPLE REFRESH

## Household registry:

- All individuals in HHR from 2008 onwards
- New households in CVFS neighborhoods

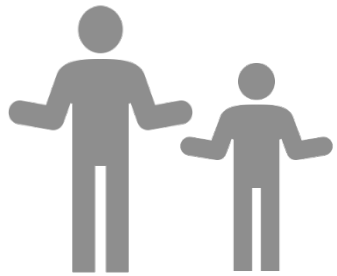
## Individual interviews:

- All individuals ages 15-59 in HHR

# FEATURES OF CVFS SAMPLE

- Individuals linked to households linked to neighborhoods
- Family members/residents in the same household linked to each other
- CVFS follows individuals over time *regardless of location*
- Whole family design

# DATA STRUCTURE



**Individuals**



**Households**



**Neighborhoods**

# HOUSEHOLDS IN CVFS

- Enter the sample through:
  - Moving into a sampled neighborhood
  - Splitting off from an existing household (already enrolled individuals)
- Leave the sample through:
  - Loss to follow up (LTFU)

# INDIVIDUALS IN CVFS

- Enter the sample through:
  - Birth
  - Marriage
  - Joining an existing household
  
- Leave the sample through:
  - Death
  - Loss to follow up

# CVFS FILE ORGANIZATION & LINKAGES

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# INDIVIDUAL-LEVEL FILES

- Household registry
- Individual interviews
- Life history calendars
- Other periodic surveys
  - Child health
  - Mental health
  - Time use
  - Health & well-being among older adults
- Relationship grid

# HOUSEHOLD REGISTRY

- Individual-level file
- Monthly-level measures
- Time-varying current household ID (HHID) and location (place)



# 7 DIGIT : ID STRUCTURES IN CVFS (1996-2007)

Neighborhood

+

Household

+

Individual

3 digits

001-171

2 digits

2 digits

# 9 DIGIT ID STRUCTURES IN CVFS (2008 - )

Neighborhood

+

Household

+

Individual

3 digits

3 digits

3 digits

001-171

0 + 2 digits from  
older ID

0 + 2 digits from  
older ID

# ID CHANGES

- Individual IDs (respid) *never change*
- The ID of the household (hhid) in which an individual currently resides can change depending on the location of the individual
- See Household Registry for household ID of individual in any particular month
  - hhidmonth#, e.g., hhid180

# INDIVIDUALS ACROSS FILES

- Individual to same individual (1:1 merge)
  - Respid (9 digits); 2008 and later
  - Respid or Respid\_old (7 digits); up to 2008
- Individual to another individual in same household
  - Spouses
  - Parents & children
  - Siblings
  - Household members

# OTHER NOTES

- Our top priority is to protect respondents (identity, privacy)
- There will be some inconsistencies and/or missingness over time given inevitable LTFU

# MERGING AND LINKING IN CVFS

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# CVFS RELATIONSHIP GRID

- Provides individual IDs by relationship type to every other individual in a household
  - Includes all members listed for a specific household ID in HHR at a specific time point
  - Do not have to be physically present in household at time of relationship grid to be included

# CVFS RELATIONSHIP GRID

- Relationship types
  - Spouse
  - Parent
  - Child
  - Sibling
  - Grandparent
  - No relationship to other household members



# OTHER VARIABLES

- Individual's age, gender
- Total N individuals in household
- Total N in household with no spousal, parent, child, or sibling relationship in the household
- Total N individuals in household with no relationship to other members
- Household location in month of relationship grid

# 4 TIME POINTS

- T1 = 1996
- T2 = 2001
- T3 = 2008
- T4 = 2016

# ICPSR: DS-15, DS-16

## Household Relationship Grid, Public-Use - DS15

Date of data collection	Methods	Sample	Retrospective reporting period	Topics	Publications	Codebooks	Questionnaires/ Instruments	Archive	Analysis online
1996	<ul style="list-style-type: none"> <li>Face-to-face interview</li> <li>Structured</li> <li>Professional interviewers</li> <li>Paper and pencil, "Household Census and Relationship Grid" instrument</li> <li>Household census data (DS 3 and DS4) and Household Relationship Grid data (DS15 and DS16) were collected during the same interview</li> </ul>	<ul style="list-style-type: none"> <li>N = 9,868</li> <li>Response rate = 100%</li> <li>All 1,805 households within the 171 Chitwan Valley sample neighborhoods</li> <li>Any household member was allowed to participate, and interviewers encouraged multiple household members to participate</li> <li>Household members include everyone who lived in the household (e.g., family, visitors, workers, etc.) for more than 15 days as recorded in the Household Registry</li> </ul>	Present	For each member of the household, information was collected about their relationships to every other household member (parent, child, sibling, spouse, or other)	<ul style="list-style-type: none"> <li>Barber et al. 1997</li> <li>Axinn et al. 2017</li> <li>Ghimire et al. 2015</li> <li>Jennings. 2014</li> <li>Jennings et al. 2012</li> </ul>	<a href="#">(PDF)</a>	<a href="#">(PDF)</a>	ICPSR 4538	Available

## Household Relationship Grid, Restricted-Use - DS16

Date of data collection	Methods	Sample	Retrospective reporting period	Topics	Publications	Codebooks	Questionnaires/ Instruments	Archive	Analysis online
1996	<ul style="list-style-type: none"> <li>Face-to-face interview</li> <li>Structured</li> <li>Professional interviewers</li> <li>Paper and pencil "Household Census and Relationship Grid" instrument</li> <li>Household Relationship Grid data and Household Census data collected during the same interview</li> </ul>	<ul style="list-style-type: none"> <li>N = 9,868</li> <li>Response rate = 100%</li> <li>All 1,805 households within the 171 Chitwan Valley sample neighborhoods</li> <li>Any household member was allowed to participate, and interviewers encouraged multiple household members to participate</li> <li>Household members include everyone who lived in the household (e.g., family, visitors, workers, etc.) for more than 15 days as recorded in the Household Registry</li> </ul>	Present	For each member of the household, information was collected about their relationships to every other household member (parent, child, sibling, spouse, or other)	<ul style="list-style-type: none"> <li>Barber et al. 1997</li> <li>Axinn et al. 2017</li> <li>Ghimire et al. 2015</li> <li>Jennings. 2014</li> <li>Jennings et al. 2012</li> </ul>	<a href="#">(PDF)</a>	<a href="#">(PDF)</a>	ICPSR 4538	Not available

# CVFS RELATIONSHIP GRID

hhid	subject	Respid	spouse1	spouse2	spouse3	parent1	parent2	child1	child2	child3	child4
212007	1	212007020	212007003					212007011	212007012	212007013	
212007	2	212007003	212007020					212007011	212007012	212007013	
212007	3	212007011				212007003	212007020				
212007	4	212007012				212007003	212007020				
212007	5	212007013				212007003	212007020				
218010	1	218010001	218010012			218010012	218010015	218010003	218010004		
218010	2	218010003				218010012	218010001				
218010	3	218010004				218010012	218010001				
218010	4	218010015	218010016					218010001	218010029	218010019	
218010	5	218010016	218010015					218010001	218010029	218010019	
218010	6	218010007	218010009					218010011	218010013		
218010	7	218010009	218010007			218010016	218010015	218010011	218010013		
218010	8	218010011				218010007	218010009				
218010	9	218010013	218010001					218010003	218010004		

# MERGING WITH THE CVFS RELATIONSHIP GRID

hhid	subject	Respid	spouse1	spouse2	spouse3	parent1	parent2	child1	child2	child3	child4
212007	1	212007020	212007003					212007011	212007012	212007013	
212007	2	212007003	212007020					212007011	212007012	212007013	
212007	3	212007011				212007003	212007020				
212007	4	212007012				212007003	212007020				
212007	5	212007013				212007003	212007020				
218010	1	218010001	218010012			218010012	218010015	218010003	218010004		
218010	2	218010003				218010012	218010001				
218010	3	218010004				218010012	218010001				
218010	4	218010015	218010016					218010001	218010029	218010019	
218010	5	218010016	218010015					218010001	218010029	218010019	
218010	6	218010007	218010009					218010011	218010013		
218010	7	218010009	218010007			218010016	218010015	218010011	218010013		
218010	8	218010011				218010007	218010009				
218010	9	218010013	218010001					218010003	218010004		

# MERGING WITH THE CVFS RELATIONSHIP GRID

hhid	subject	Respid	spouse1	spouse2	spouse3	parent1	parent2
212007	1	212007020	212007003				
212007	2	212007003	212007020				
212007	3	212007011				212007003	212007020
212007	4	212007012				212007003	212007020
212007	5	212007013				212007003	212007020
218010	1	218010001	218010012			218010012	218010015
218010	2	218010003				218010012	218010001
218010	3	218010004				218010012	218010001
218010	4	218010015	218010016				
218010	5	218010016	218010015				
218010	6	218010007	218010009				
218010	7	218010009	218010007			218010016	218010015
218010	8	218010011				218010007	218010009
218010	9	218010013	218010001				

Respid	Age	gender	var1
212007020	45	1	1
212007003	41	2	1
212007011	13	2	0
212007012	11	2	0
212007013	8	1	0
218010001	57	1	1
218010003	63	1	0
218010004	13	1	1
218010015	77	2	0
218010016	78	1	1
218010007	31	1	1
218010009	31	2	1
218010011	24	2	1
218010013	16	1	0

# MERGING WITH THE CVFS RELATIONSHIP GRID

hhid	subject	Respid	Age	gender	var1	spouse1	spouse2	spouse3	parent1	parent2
212007	1	212007020	45	1	1	212007003				
212007	2	212007003	41	2	1	212007020				
212007	3	212007011	13	2	0				212007003	212007020
212007	4	212007012	11	2	0				212007003	212007020
212007	5	212007013	8	1	0				212007003	212007020
218010	1	218010001	57	1	1	218010012			218010012	218010015
218010	2	218010003	63	1	0				218010012	218010001
218010	3	218010004	13	1	1				218010012	218010001
218010	4	218010015	77	2	0	218010016				
218010	5	218010016	78	1	1	218010015				
218010	6	218010007	31	1	1	218010009				
218010	7	218010009	31	2	1	218010007			218010016	218010015
218010	8	218010011	24	2	1				218010007	218010009
218010	9	218010013	16	1	0	218010001				

# MERGING WITH THE CVFS RELATIONSHIP GRID

hhid	subject	Respid	spouse1	Age	gender	var1
212007	1	212007020	212007003	45	1	1
212007	2	212007003	212007020	41	2	1
212007	3	212007011		13	2	0
212007	4	212007012		11	2	0
212007	5	212007013		8	1	0
218010	1	218010001	218010012	57	1	1
218010	2	218010003		63	1	0
218010	3	218010004		13	1	1
218010	4	218010015	218010016	77	2	0
218010	5	218010016	218010015	78	1	1
218010	6	218010007	218010009	31	1	1
218010	7	218010009	218010007	31	2	1
218010	8	218010011		24	2	1
218010	9	218010013	218010001	16	1	0

spouse1	Age	gender	var1
212007020	45	1	1
212007003	41	2	1
212007011	13	2	0
212007012	11	2	0
212007013	8	1	0
218010001	57	1	1
218010003	63	1	0
218010004	13	1	1
218010015	77	2	0
218010016	78	1	1
218010007	31	1	1
218010009	31	2	1
218010011	24	2	1
218010013	16	1	0



# MERGING WITH THE CVFS RELATIONSHIP GRID

hhid	subject	Respid	spouseID	Age	gender	var1
212007	1	212007020	212007003	45	1	1
212007	2	212007003	212007020	41	2	1
212007	3	212007011		13	2	0
212007	4	212007012		11	2	0
212007	5	212007013		8	1	0
218010	1	218010001	218010012	57	1	1
218010	2	218010003		63	1	0
218010	3	218010004		13	1	1
218010	4	218010015	218010016	77	2	0
218010	5	218010016	218010015	78	1	1
218010	6	218010007	218010009	31	1	1
218010	7	218010009	218010007	31	2	1
218010	8	218010011		24	2	1
218010	9	218010013	218010001	16	1	0

spouseID	Age	gender	var1
212007020	45	1	1
212007003	41	2	1
212007011	13	2	0
212007012	11	2	0
212007013	8	1	0
218010001	57	1	1
218010003	63	1	0
218010004	13	1	1
218010015	77	2	0
218010016	78	1	1
218010007	31	1	1
218010009	31	2	1
218010011	24	2	1
218010013	16	1	0

# PARENT-CHILD MERGES

hhid	subject	Respid	spouse1	spouse2	spouse3	parent1	parent2	child1	child2	child3	child4
212007	1	212007020	212007003					212007011	212007012	212007013	
212007	2	212007003	212007020					212007011	212007012	212007013	
212007	3	212007011				212007003	212007020				
212007	4	212007012				212007003	212007020				
212007	5	212007013				212007003	212007020				
218010	1	218010001	218010012			218010012	218010015	218010003	218010004		
218010	2	218010003				218010012	218010001				
218010	3	218010004				218010012	218010001				
218010	4	218010015	218010016					218010001	218010029	218010019	
218010	5	218010016	218010015					218010001	218010029	218010019	
218010	6	218010007	218010009					218010011	218010013		
218010	7	218010009	218010007			218010016	218010015	218010011	218010013		
218010	8	218010011				218010007	218010009				
218010	9	218010013	218010001					218010003	218010004		

# PARENT-CHILD MERGES

hhid	subject	Respid	spouse1	spouse2	spouse3	parent1	parent2	child1	child2	child3	child4
212007	1	212007020	212007003					212007011	212007012	212007013	
212007	2	212007003	212007020					212007011	212007012	212007013	
212007	3	212007011				212007003	212007020				
212007	4	212007012				212007003	212007020				
212007	5	212007013				212007003	212007020				
218010	1	218010001	218010012			218010012	218010015	218010003	218010004		
218010	2	218010003				218010012	218010001				
218010	3	218010004				218010012	218010001				
218010	4	218010015	218010016					218010001	218010029	218010019	
218010	5	218010016	218010015					218010001	218010029	218010019	
218010	6	218010007	218010009					218010011	218010013		
218010	7	218010009	218010007			218010016	218010015	218010011	218010013		
218010	8	218010011				218010007	218010009				
218010	9	218010013	218010001					218010003	218010004		

# PARENT-CHILD MERGES

hhid	subject	Respid	spouse1	spouse2	spouse3	parent1	parent2	child1	child2	gendrp1	gendrp2
212007	1	212007020	212007003					212007011	212007012		
212007	2	212007003	212007020					212007011	212007012		
212007	3	212007011				212007003	212007020			1	2
212007	4	212007012				212007003	212007020			1	2
212007	5	212007013				212007003	212007020			1	2
218010	1	218010001	218010012			218010012	218010015	218010003	218010004	2	1
218010	2	218010003				218010012	218010001			2	1
218010	3	218010004				218010012	218010001			2	1
218010	4	218010015	218010016					218010001	218010029		
218010	5	218010016	218010015					218010001	218010029		
218010	6	218010007	218010009					218010011	218010013		
218010	7	218010009	218010007			218010016	218010015	218010011	218010013	2	1
218010	8	218010011				218010007	218010009			1	2
218010	9	218010013	218010001					218010003	218010004		

# PARENT-CHILD MERGES

hhid	subject	Respid	spouse1	spouse2	spouse3	parent1	parent2	child1	child2	fatherID	motherID
212007	1	212007020	212007003					212007011	212007012		
212007	2	212007003	212007020					212007011	212007012		
212007	3	212007011				212007003	212007020			212007003	212007020
212007	4	212007012				212007003	212007020			212007003	212007020
212007	5	212007013				212007003	212007020			212007003	212007020
218010	1	218010001	218010012			218010012	218010015	218010003	218010004	218010015	218010012
218010	2	218010003				218010012	218010001			218010001	218010012
218010	3	218010004				218010012	218010001			218010001	218010012
218010	4	218010015	218010016					218010001	218010029		
218010	5	218010016	218010015					218010001	218010029		
218010	6	218010007	218010009					218010011	218010013		
218010	7	218010009	218010007			218010016	218010015	218010011	218010013	218010015	218010016
218010	8	218010011				218010007	218010009			218010007	218010009
218010	9	218010013	218010001					218010003	218010004		

# PARENT-CHILD MERGES

hhid	subject	Respid	spouse1	spouse2	spouse3	parent1	parent2	child1	child2	child3	Gender
212007	1	212007020	212007003					212007011	212007012	212007013	1
212007	2	212007003	212007020					212007011	212007012	212007013	2
212007	3	212007011				212007003	212007020				1
212007	4	212007012				212007003	212007020				2
212007	5	212007013				212007003	212007020				2
218010	1	218010001	218010012			218010012	218010015	218010003	218010004		1
218010	2	218010003				218010012	218010001				2
218010	3	218010004				218010012	218010001				2
218010	4	218010015	218010016					218010001	218010029	218010019	2
218010	5	218010016	218010015					218010001	218010029	218010019	1
218010	6	218010007	218010009					218010011	218010013		2
218010	7	218010009	218010007			218010016	218010015	218010011	218010013		1
218010	8	218010011				218010007	218010009				1
218010	9	218010013	218010001					218010003	218010004		1

# PARENT-CHILD MERGES

hhid	subject	Respid	spouse1	spouse2	spouse3	parent1	parent2	child1	child2	child3	Gender
212007	1	212007020	212007003					212007011	212007012	212007013	1
212007	2	212007003	212007020					212007011	212007012	212007013	2
212007	3	212007011				212007003	212007020				1
212007	4	212007012				212007003	212007020				2
212007	5	212007013				212007003	212007020				2
218010	1	218010001	218010012			218010012	218010015	218010003	218010004		1
218010	2	218010003				218010012	218010001				2
218010	3	218010004				218010012	218010001				2
218010	4	218010015	218010016					218010001	218010029	218010019	2
218010	5	218010016	218010015					218010001	218010029	218010019	1
218010	6	218010007	218010009					218010011	218010013		2
218010	7	218010009	218010007			218010016	218010015	218010011	218010013		1
218010	8	218010011				218010007	218010009				1
218010	9	218010013	218010001					218010003	218010004		1

# SIBLING MERGES

hhid	subject	Respid	spouse1	spouse2	spouse3	parent1	parent2	sib1	sib2	sib3	sib4
212007	1	212007020	212007003					212007011	212007012	212007013	
212007	2	212007003	212007020					212007011	212007012	212007013	
212007	3	212007011				212007003	212007020				
212007	4	212007012				212007003	212007020				
212007	5	212007013				212007003	212007020				
218010	1	218010001	218010012			218010012	21801001	218010003	218010004		
218010	2	218010003				218010012	218010001				
218010	3	218010004				218010012	218010001				
218010	4	218010015	218010016					218010001	218010029	218010019	
218010	5	218010016	218010015					218010001	218010029	218010019	
218010	6	218010007	218010009					218010011	218010013		
218010	7	218010009	218010007			218010016	218010015	218010011	218010013		
218010	8	218010011				218010007	218010009				
218010	9	218010013	218010001					218010003	218010004		



# POSSIBILITIES FOR INTERGENERATIONAL, SIBLING DESIGNS

- Spouses/couples
- Parent-child
- Parent-child triads
- Grandparent-grandchildren
- Grandparent-parent-grandchild
- Siblings

# CVFS PAPERS: SPOUSES/COUPLES

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# Q&A

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