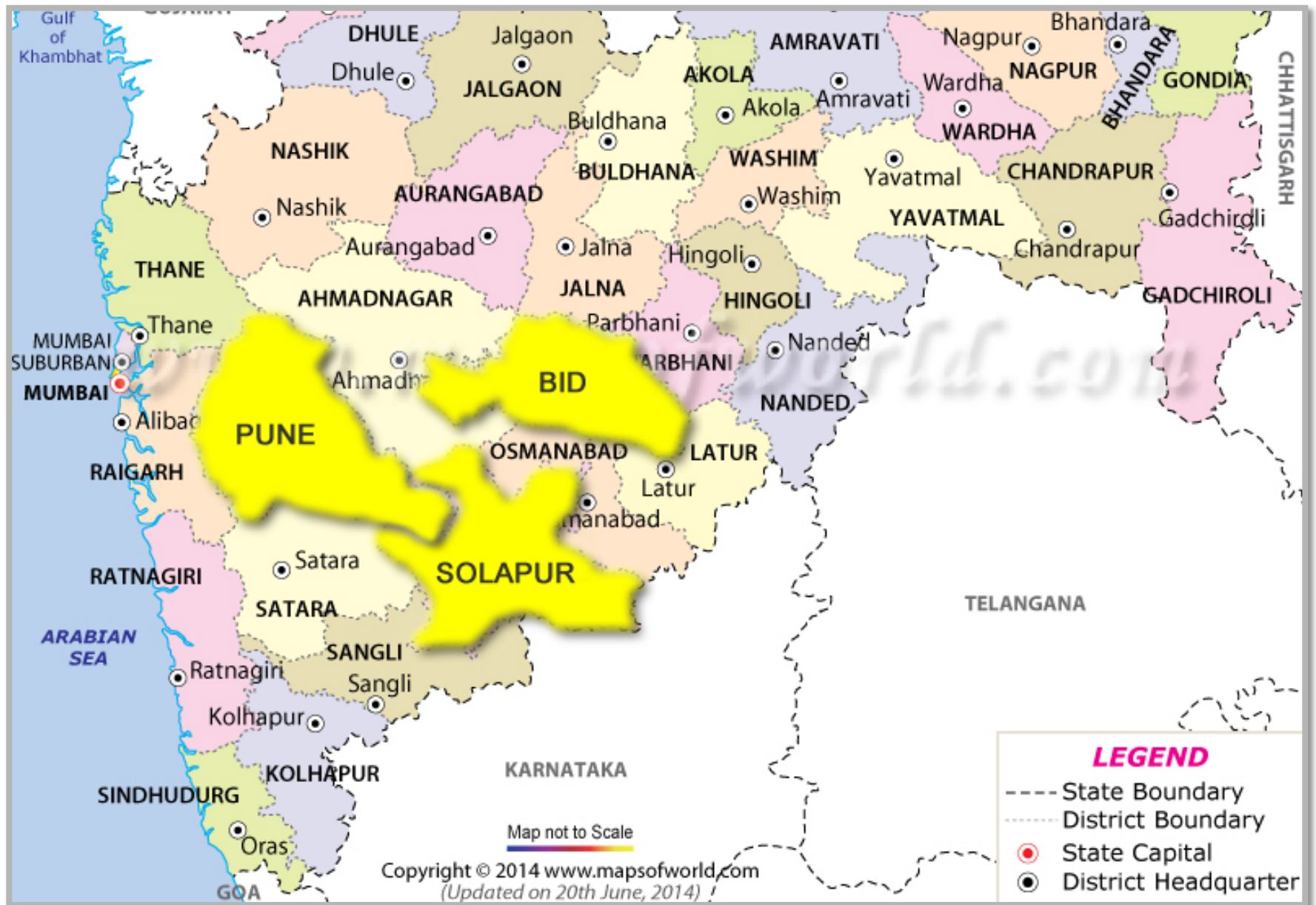
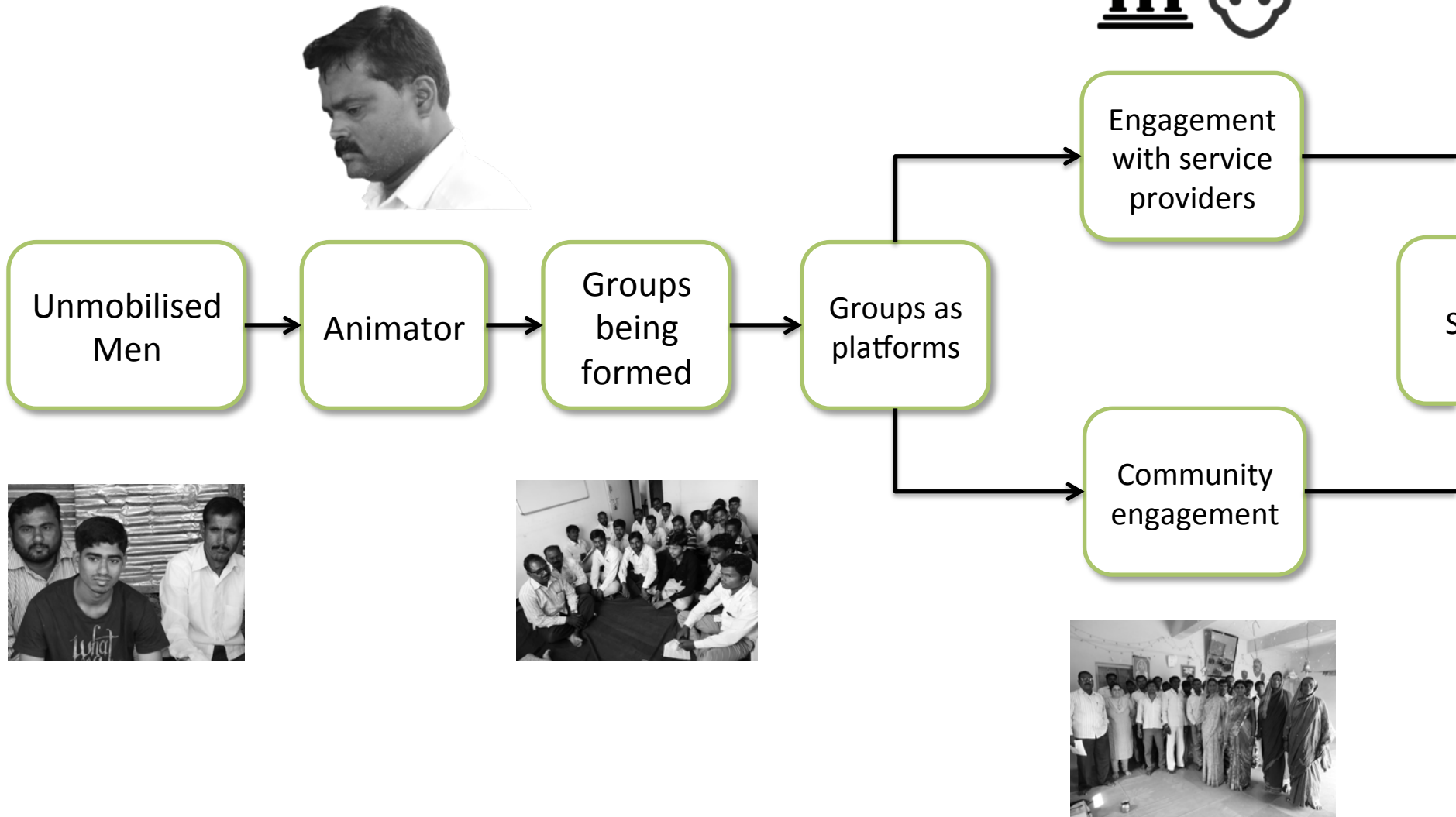


USING QUANTITATIVE ANALYSIS TO TELL STORIES

November 26th 2014





ATTITUDES/ BEHAVIOURS

UNDERSTANDINGS

Spread

Individual
attitudes and
behaviours

Relationship
with wife

Household
relationship

Community
change



“मौन खोडा, हिंसा थांबवा”



महिला हिंसेच्या विरोधात पुरुषांनी कोपाती पावले उचलावीत?
यासारख्या अनेक प्रश्नांची उत्तरे जाणून घेण्यासाठी पुढील टोल फ्री नंबरवर संपर्क करा - 1800 11 2013

FEM
Feminist Empowerment Movement

बापांची शाळा
Fatherhood Campaign, Maharashtra

किमोशर तितुच अभियान
Responsible Fatherhood Campaign

एनडी एन एनएनएन
National Domestic Violence Helpline

Centre for Health and Social Justice

Department of Young Women Hostel No. 2, Avenue 21, G Block, Sector, New Delhi.
Phone: +91-11-26236471, 26219425. Website: www.chsj.org

Supported by : OAK Foundation & UNFPA







ELEVEN IDEAS

1. Multilevel design
2. Measures of Central Tendency
3. Measures of dispersion
4. Statistical significance and statistical power
5. Connections to the theory of change
6. Using the cross-sectional data
7. Using the longitudinal data
8. Connect explicitly to measures of inequities
9. Paying attention to heterogeneities
10. The spatial dimensions of inequities
11. The network dimensions of inequities

WHAT IS THE TYPE OF YOUR ANALYTICAL QUESTION?

- Descriptive
- Exploratory
- Inferential

Districts (3)



**Service
Delivery
Organizations
(5)**



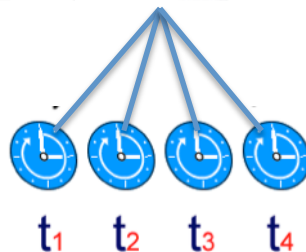
Villages (100)



Individuals (~2000)



**Measurement
over time**



A FEW MEASURES

VILLAGE LEVEL MEASURES

- Percentage upper caste Hindus
- Village headed by a women

INIDIVIDUAL LEVEL MEASURES

- Age
- Caste
- Domestic Chores

HYPOTHESES

- Men will take on increased domestic roles and responsibilities in **VILLAGES** with lower percentage of high caste
- Men who have been through **SJ** will take on increased domestic roles in **VILLAGES** headed by women
- Younger men will take on increased domestic roles
- The program is likely to have greater impacts on Dalits

NOTES:

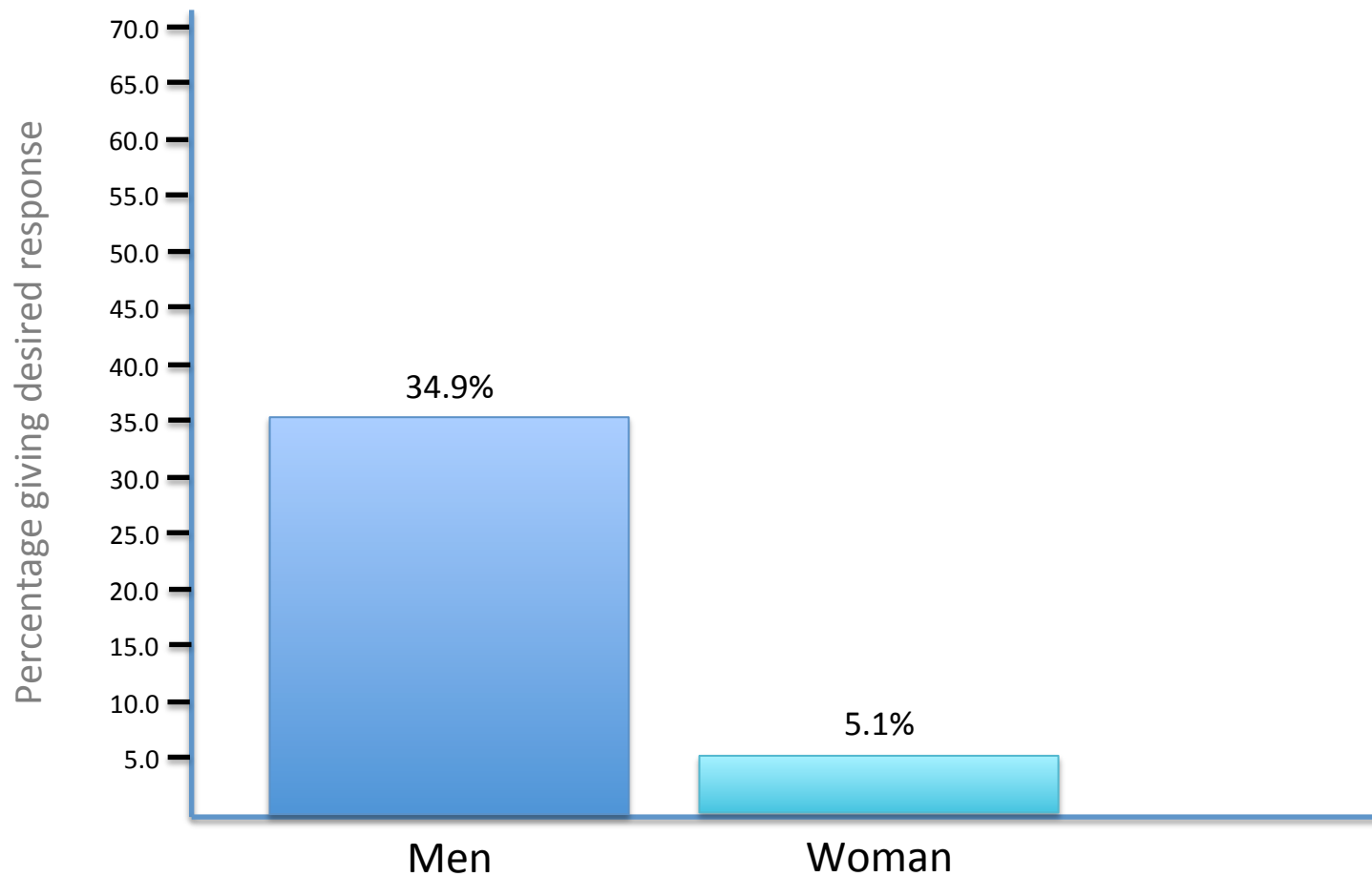
- BOTH QUALITATIVE AND QUANTITATIVE METHODS CAN BE USED TO EXPLORE THE ABOVE RELATIONSHIPS
- CONNECTIONS TO UNDERSTANDING CONTEXTS, MECHANISMS, OUTCOMES

2. MEASURES OF CENTRAL TENDENCY

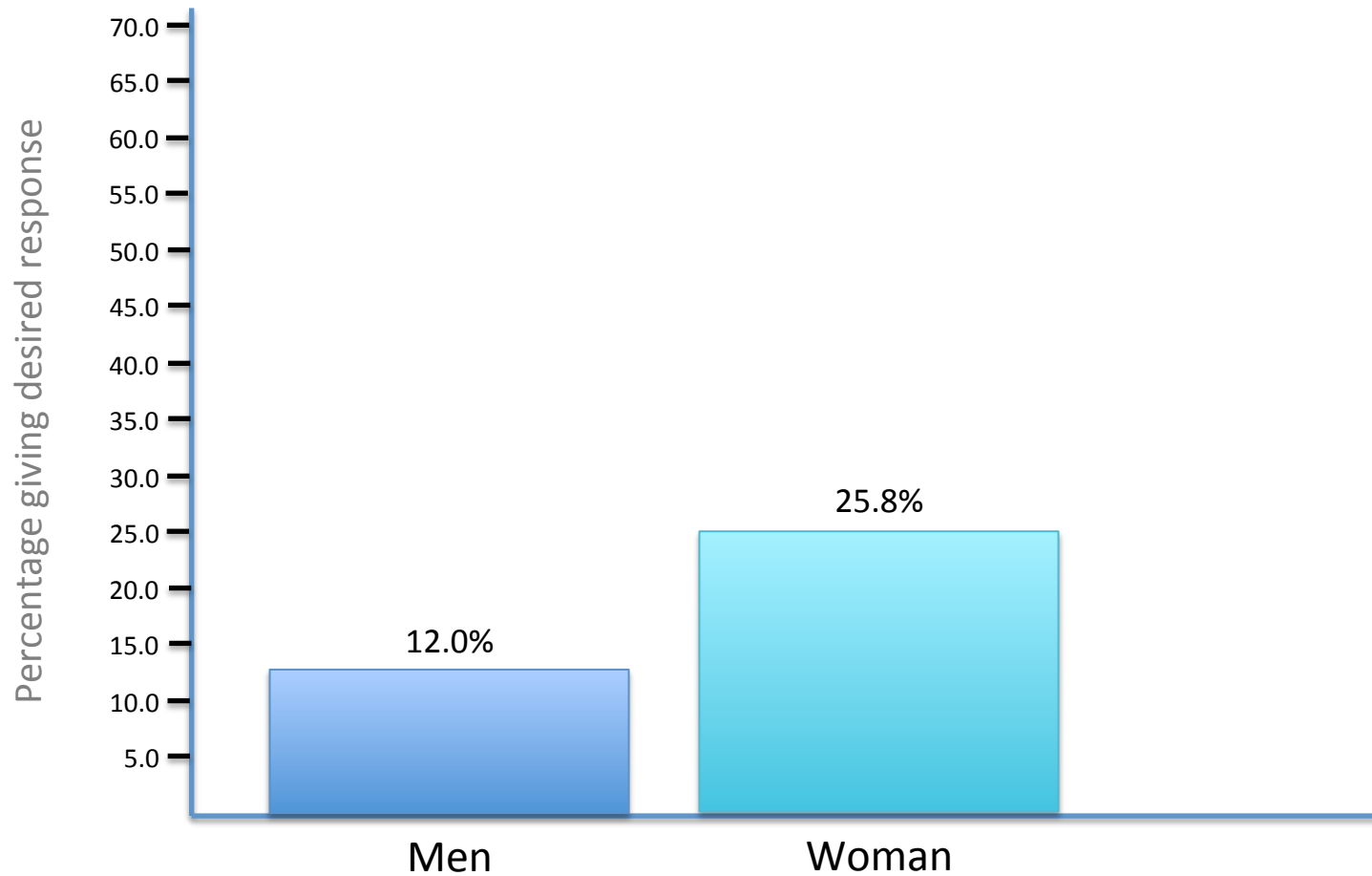
- Mean
- Median
- Mode

How to use these concepts in evaluation?

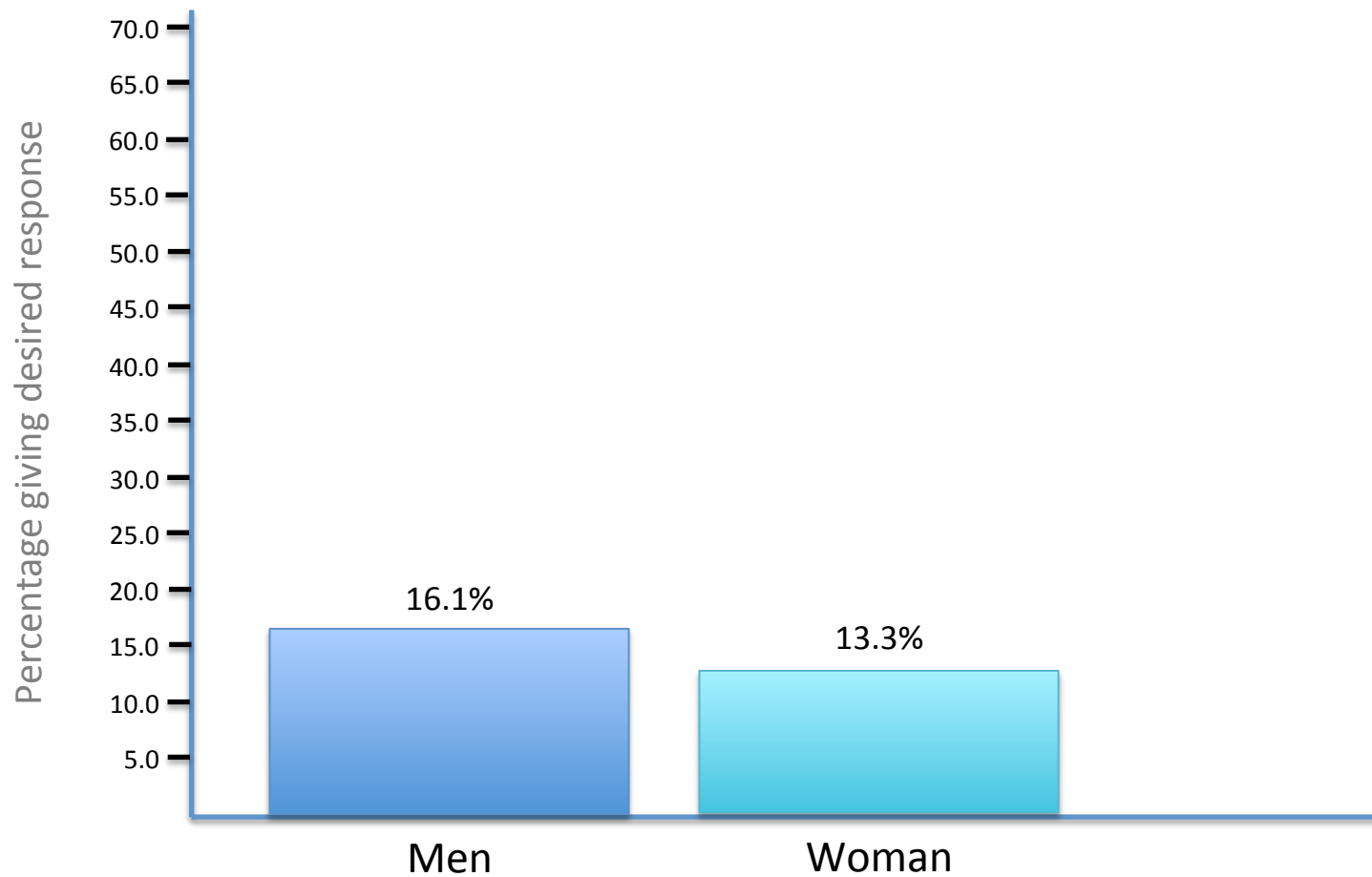
MEN OFTEN CHANGING CHILDREN'S CLOTHES AFTER URINATES/DEFECATES



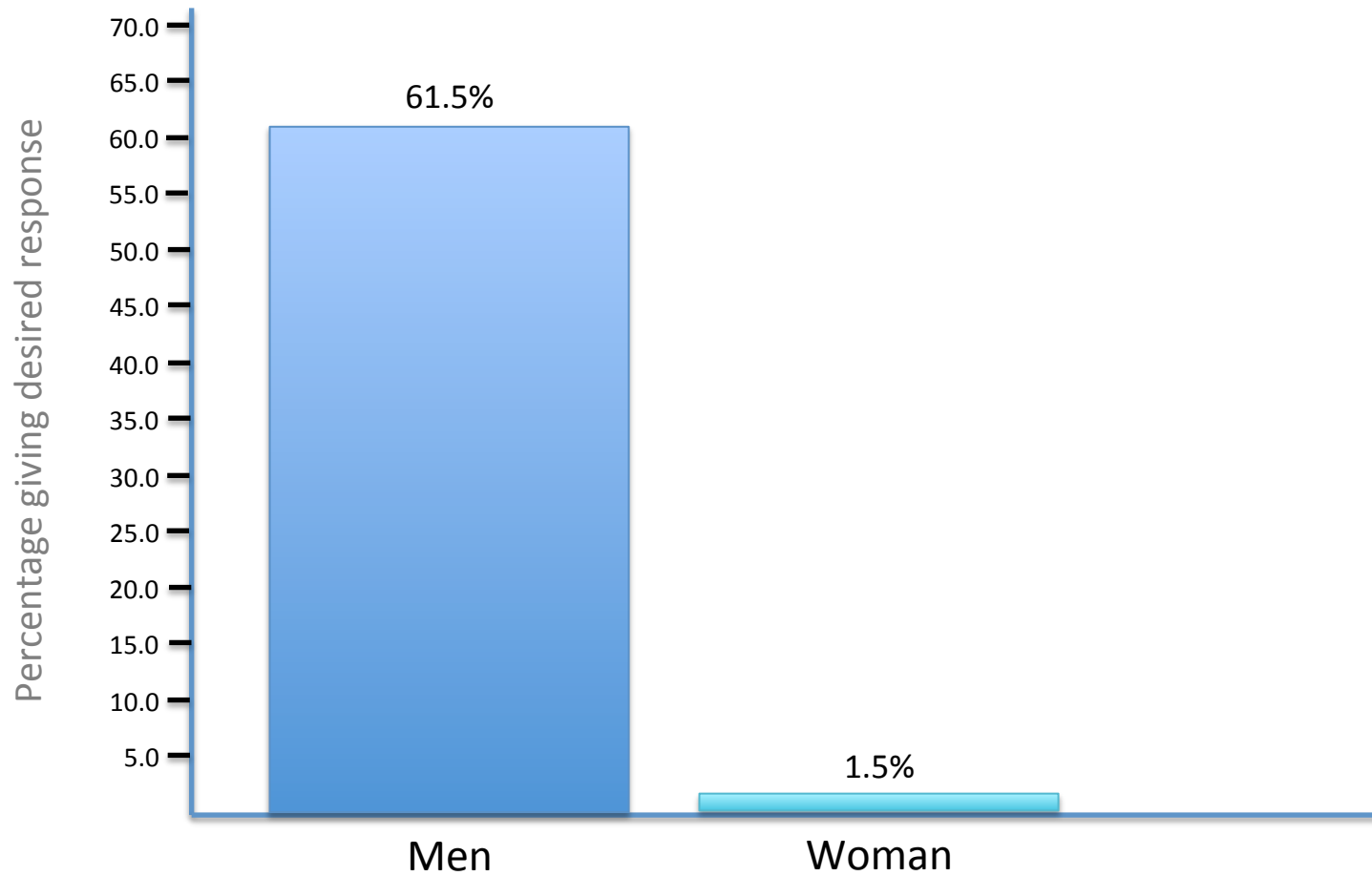
MEN OFTEN PLAYS WITH CHILDREN



MEN OFTEN ACCOMPANY CHILDREN TO IMMUNISATION



MEN OFTEN FEED CHILDREN



3. MEASURES OF DISPERSION

Std. deviation

Why is this concept useful for evaluation?

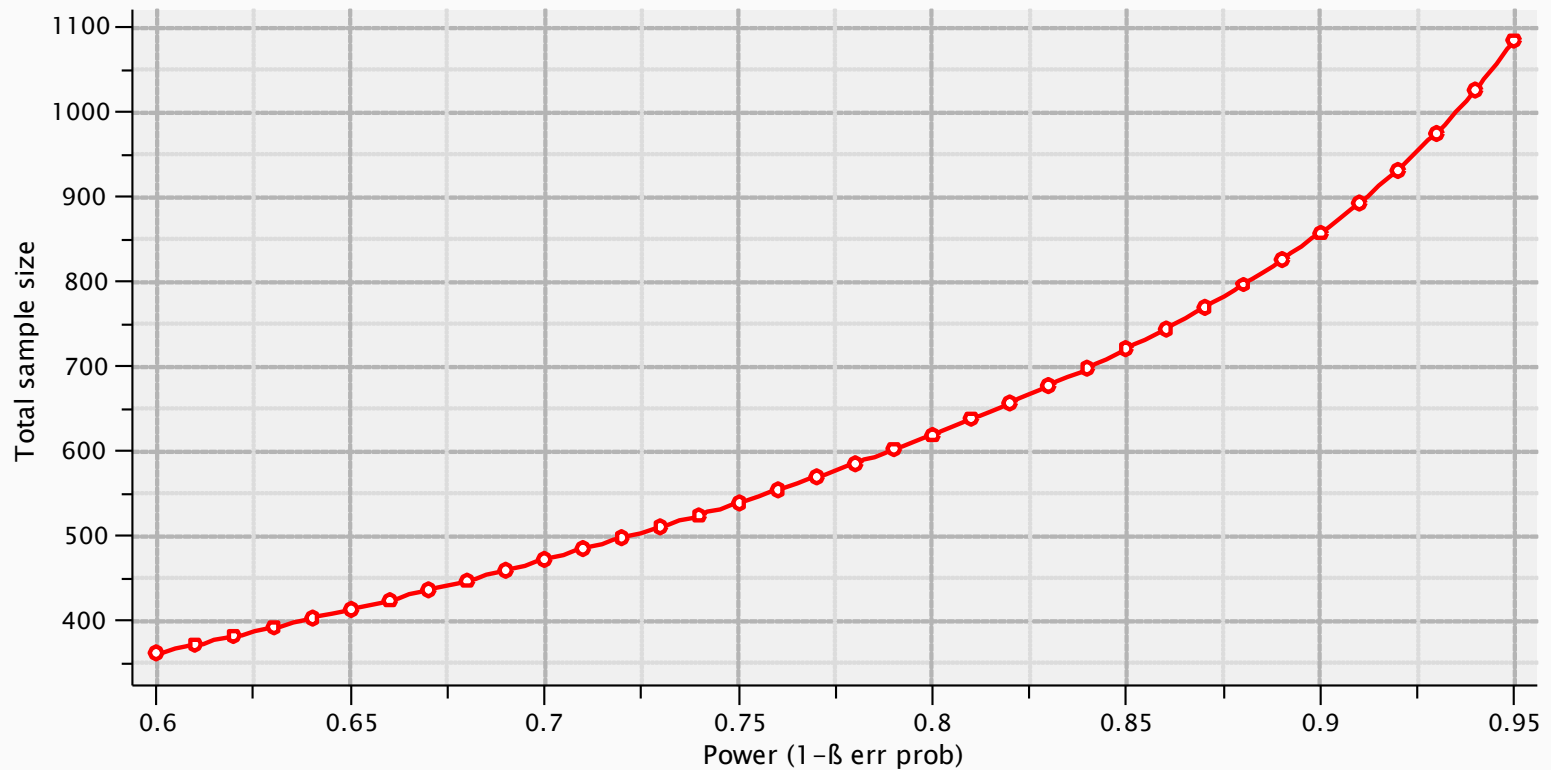
4. STATISTICAL SIGNIFICANCE AND STATISTICAL POWER

- Samples and populations
- The role of chance
- Statistical power
- Application to Program Evaluation

EFFECT SIZE = 0.2

t tests - Means: Difference between two independent means (two groups)

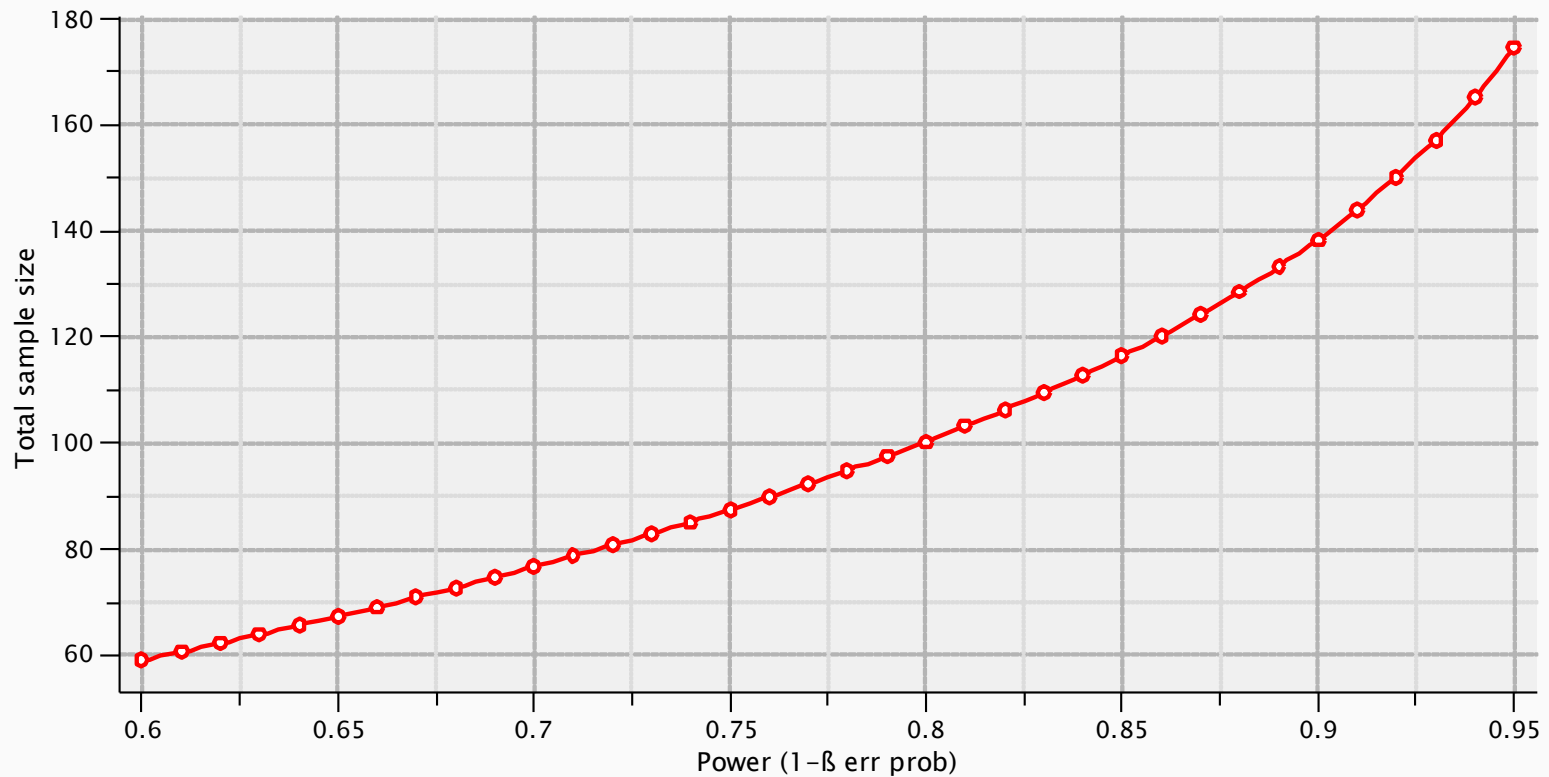
Tail(s) = One, Allocation ratio $N_2/N_1 = 1$, α err prob = 0.05, Effect size $d = 0.2$



EFFECT SIZE = 0.5

t tests - Means: Difference between two independent means (two groups)

Tail(s) = One, Allocation ratio $N2/N1 = 1$, α err prob = 0.05, Effect size $d = 0.5$



5. CONNECT WITH THE THEORY OF CHANGE

SPREAD	INDIVIDUAL ATTITUDES AND BEHAVIORS	RELATIONSHIP WITH WIFE	HOUSEHOLD RELATIONSHIP	COMMUNITY CHANGE
Network measures of influence	Gender sensitive attitudes towards women	Household chores, participation in parenting	Participation in chores	Stopping discriminatory practices like child marriage, celebrating birth of girl child, dowry, large wedding expenses.
	Recognition of women's rights	Taking responsibility for contraceptive use	Better communication with female family members	Change in gender discriminatory religious and cultural practices
	Awareness of violence that they have been inflicting	Consent for sexual relationship with spouse	Reducing control over female family members	
			Taking a stand against dowry in ones' own marriage	

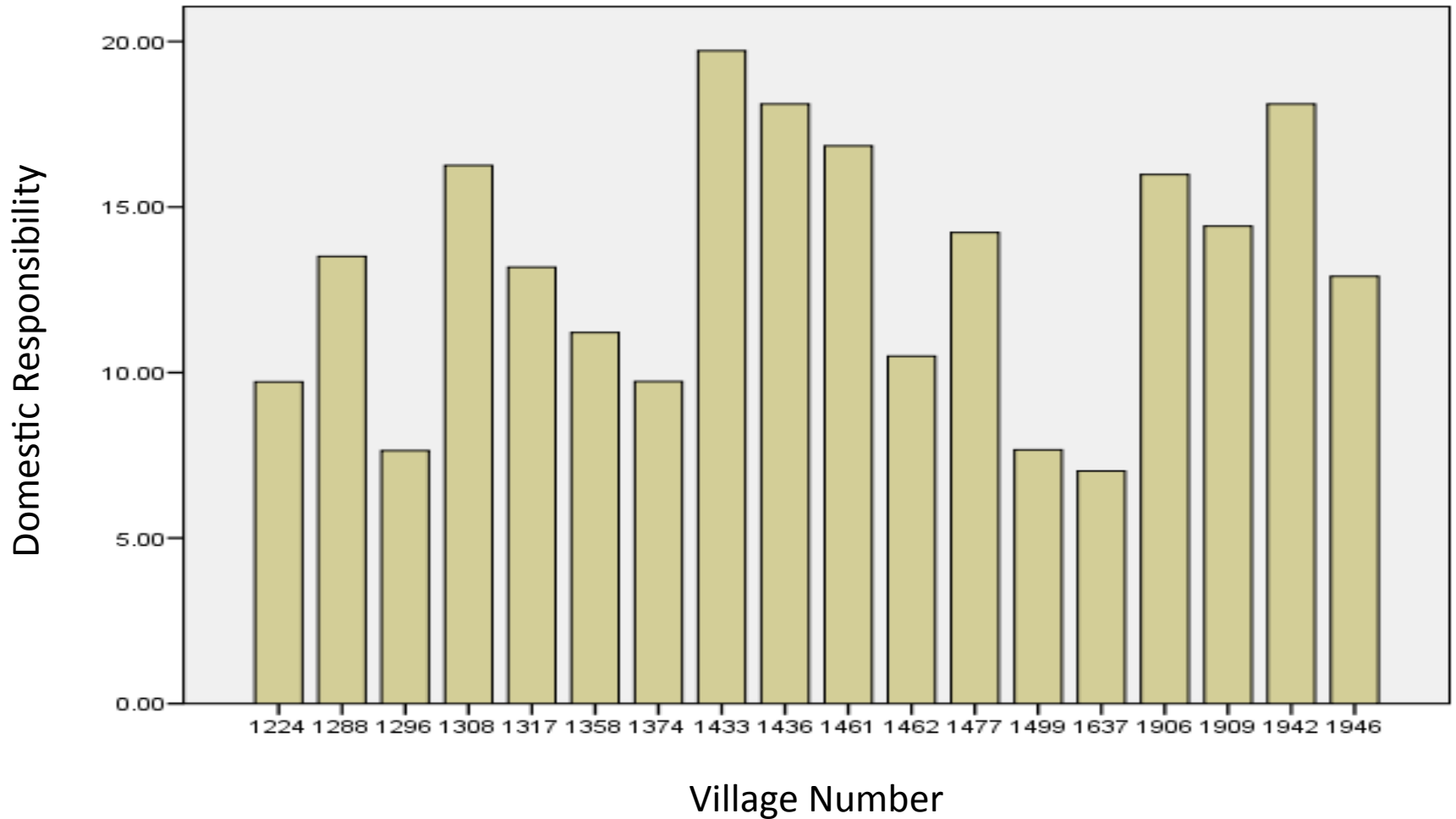
BOTH QUANTITATIVE AND QUALITATIVE MEASURES FOR:

- OUTCOMES
- PROCESS
- CONTEXTS

.....AND ACROSS MULTIPLE LEVELS

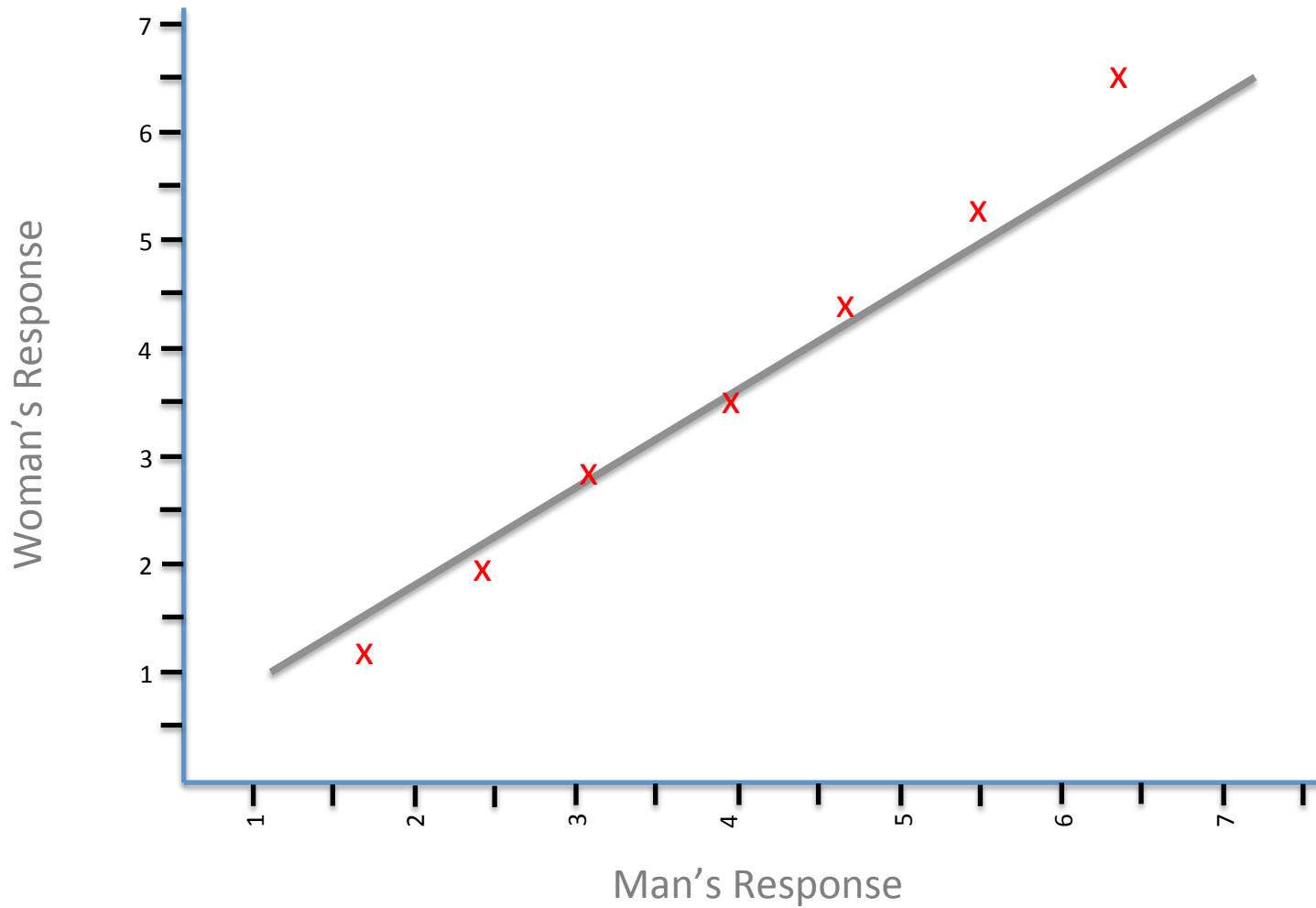
6. CONNECT TO THE DESIGN: **CROSS-SECTIONAL**

DOMESTIC RESPONSIBILITY

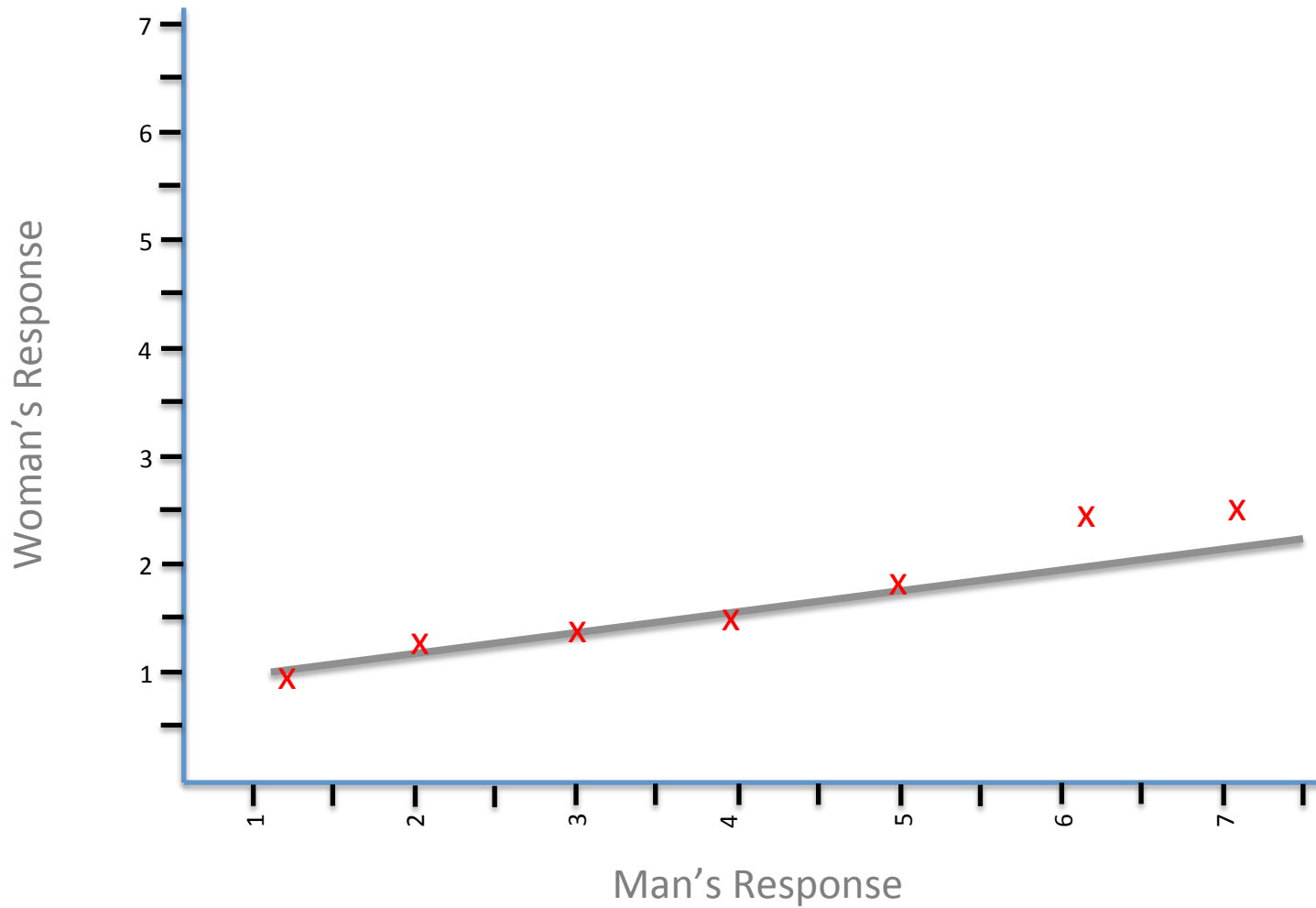


- MEN'S RESPONSES IN **SJ** VILLAGES ABOUT THEIR ACTIONS WILL BE CLOSER TO THE WOMEN'S RESPONSES (AS COMPARED TO RESPONSES IN WOMEN'S RESPONSES)
- NOTE THIS CAN BE VERIFIED BY BOTH QUALITATIVE AND QUANTITATIVE METHODS

SJ SITES (x)



NON SJ SITES (x)

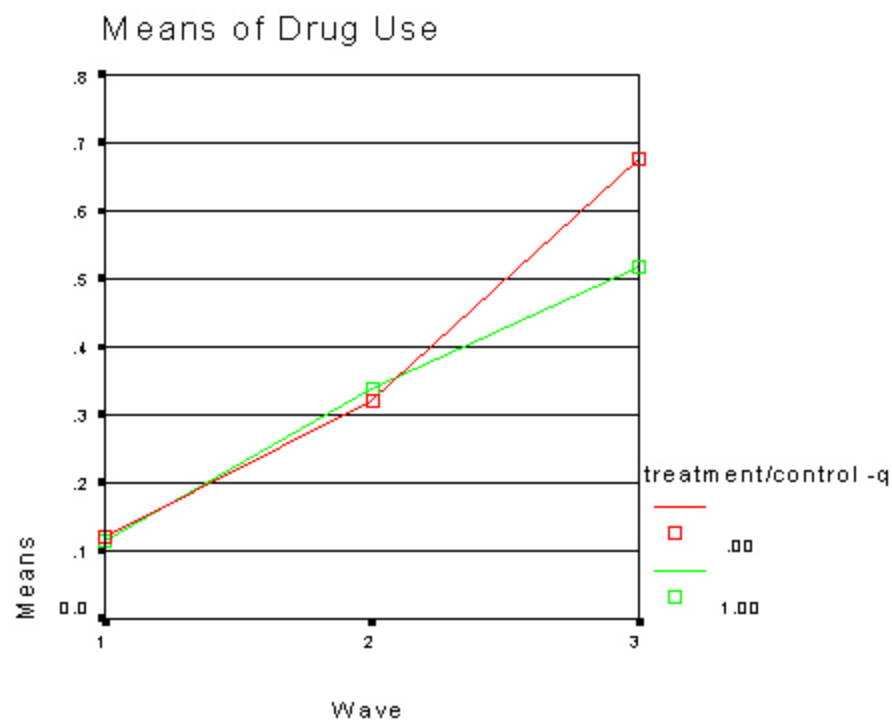


7. CONNECT TO THE DESIGN:

LONGITUDINAL

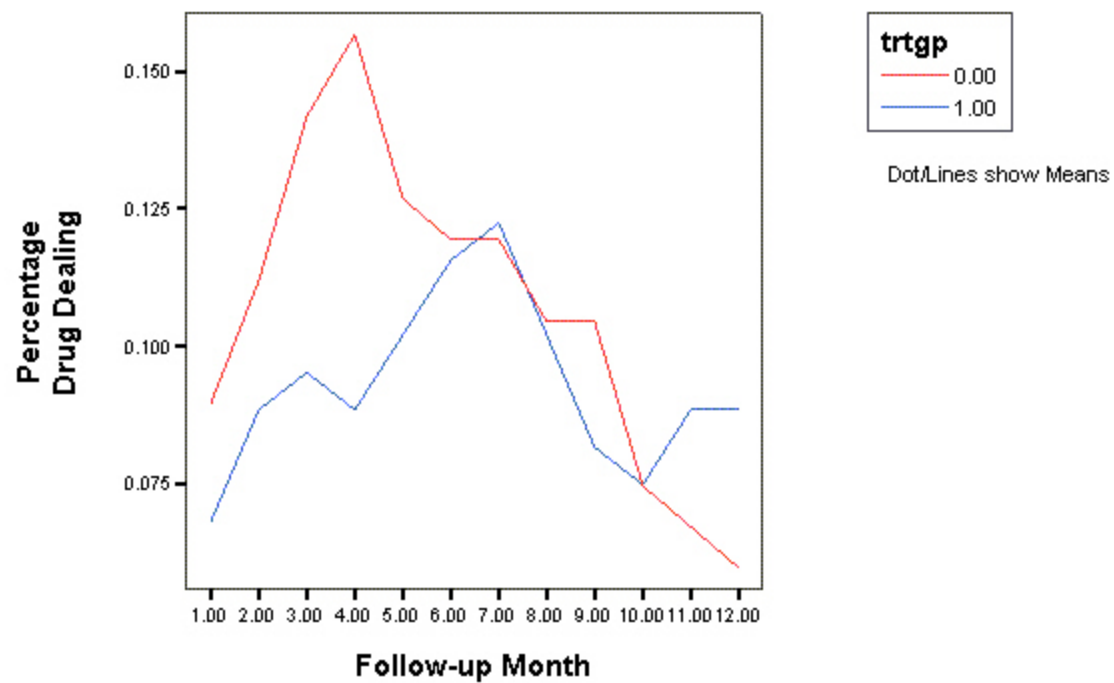
EXAMPLES OF EXPERIMENTAL DESIGN

DRUG USE BY GROUP



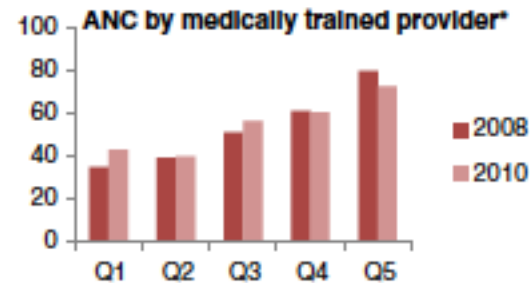
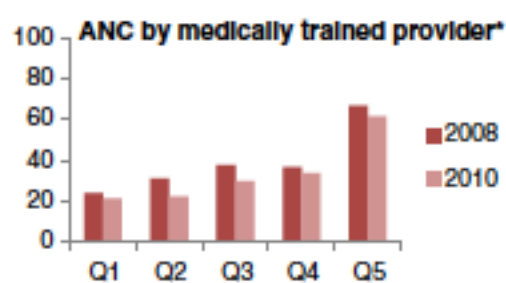
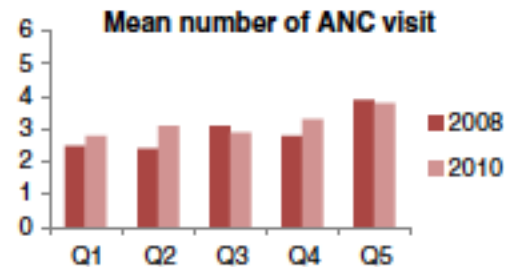
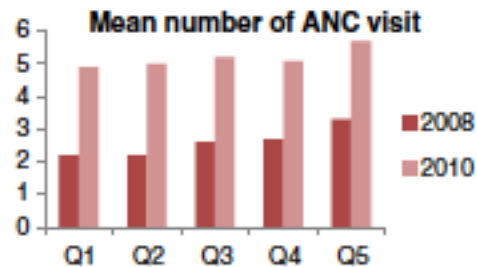
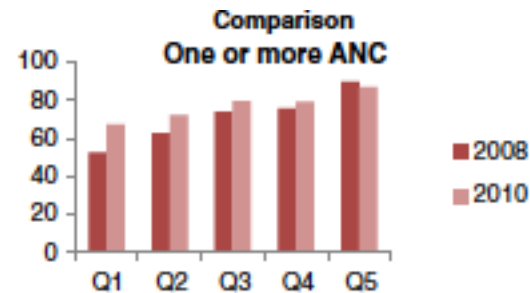
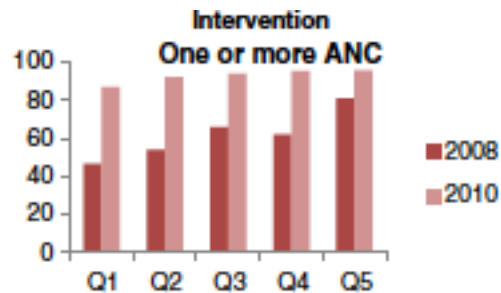
EXAMPLE:
LONGITUDINAL EVALUATIONS
OPPORTUNITY TO SUCCEED PROGRAM

DRUG DEALING



8. BE EXPLICIT ABOUT MEASURES OF INEQUITIES

UTILIZATION RATE BY WEALTH QUINTILES



UTILIZATION RATE (%) OF MATERNAL SERVICE

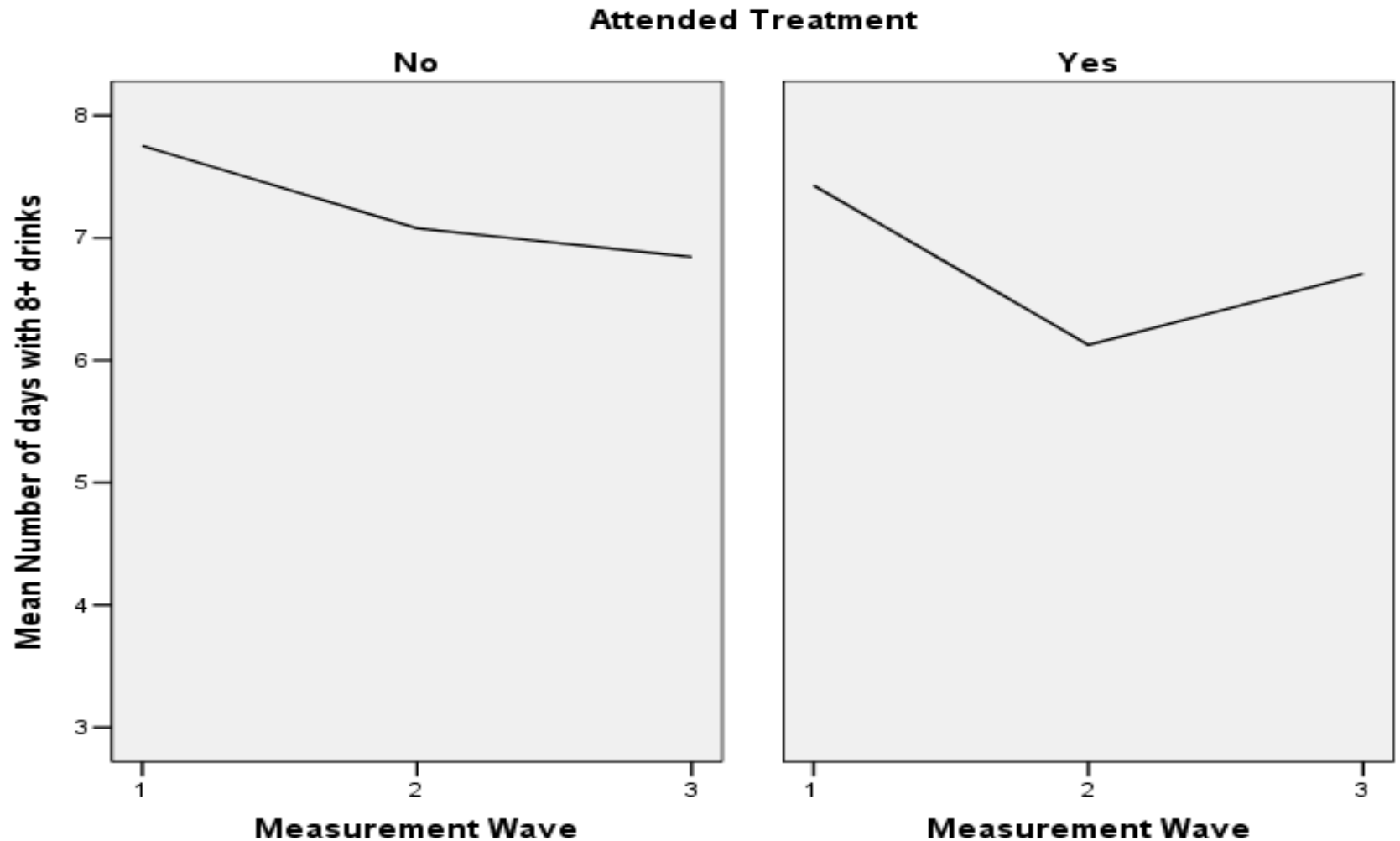
	Baseline (2008)		Second survey (2010)		Pre Difference	Post Difference	Impact	
	Intervention	Comparison	Intervention	Comparison			DiD ¹	DiD ²
One or more ANC	61.7	71	93.2	76.5	-9.3	16.7	26*	18.0*
Mean number of ANC visit	2.7	3	7.3	5.2	-0.3	2.1	2.4*	2.3*
4+ ANC	14.8	22.2	68.6	24.5	-7.4	44.1	51.5*	31*
ANC by medically trained provider**	38.5	53.6	34	54	-15.1	-20	-4.9*	-1.1*
ANC by trained provider***	58.5	63.2	91.4	59.5	-4.7	31.9	36.6*	30.6
Home delivery								
by untrained attendant	66.9	56.9	40.2	44.1	10	-3.9	-13.9*	-10*
by trained attendant	20.7	26	41	33.1	-5.3	7.9	13.2*	9.6*

CONCENTRATION INDEX FOR MATERNAL HEALTH INDICATOR OVER TIME

		Three years exposure to intervention				Comparison			
		Rich poor ratio*	CI	95% confidence interval		Rich poor ratio*	CI	95% confidence interval	
Any ANC	2008	1.6	0.098	0.076	0.120	1.5	0.103	0.079	0.127
	2010	1.4	0.017	0.007	0.027	1	0.05	0.026	0.074

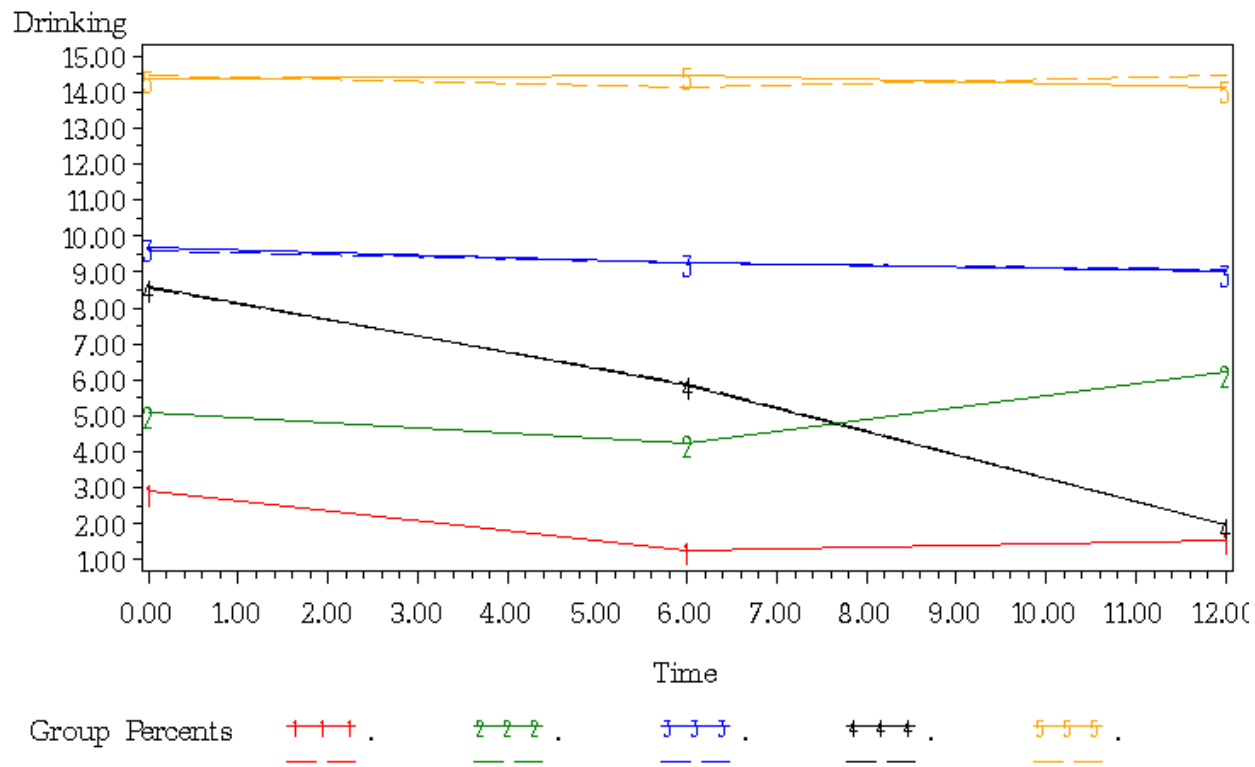
9. THINKING OF INEQUITIES AS A HETEROGENEOUS PROCESS

THE TESTING FRAMEWORK

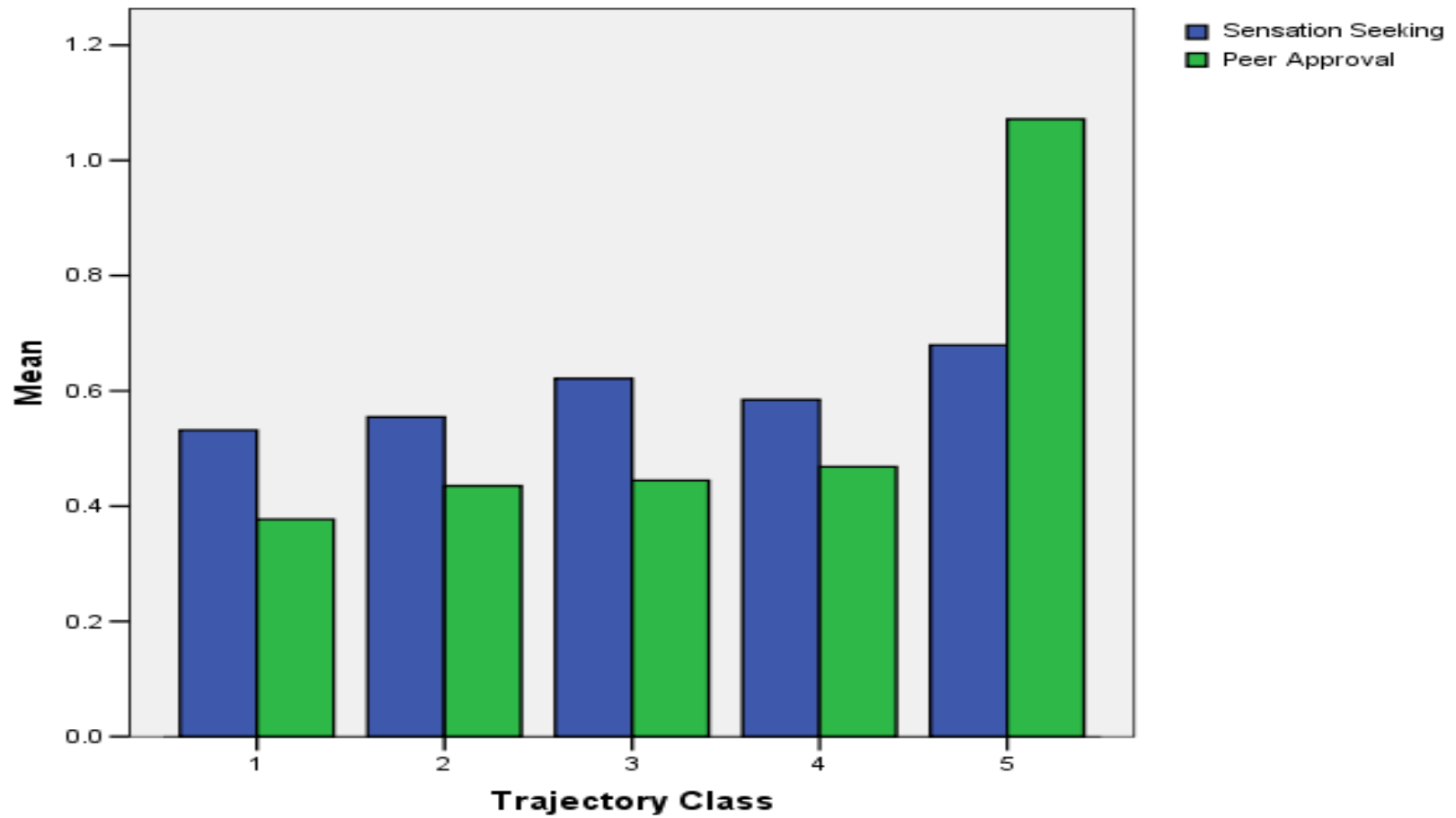


TRAJECTORY CLASSES

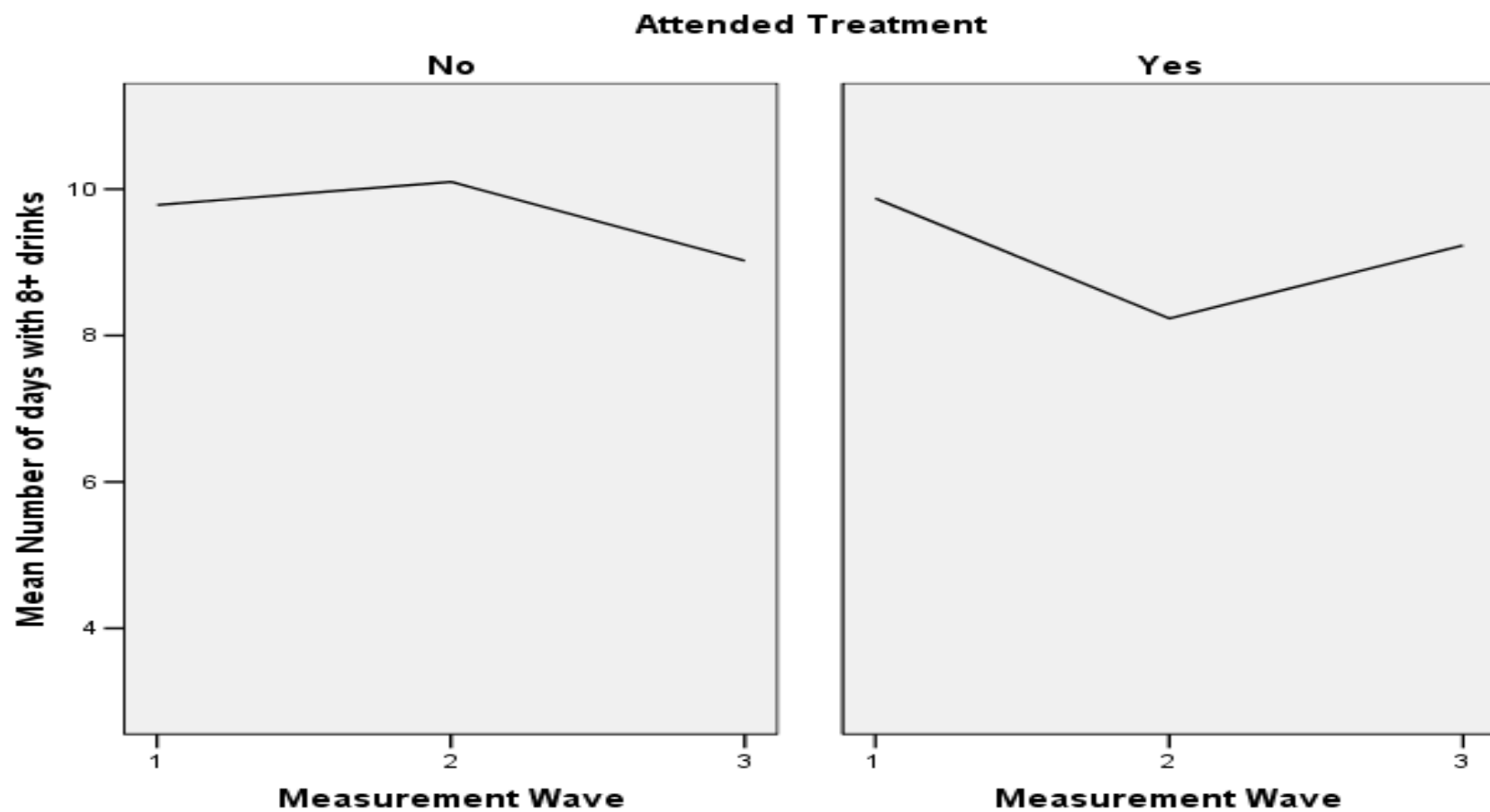
Drinking vs. Time
Four Groups – Censored Normal Model



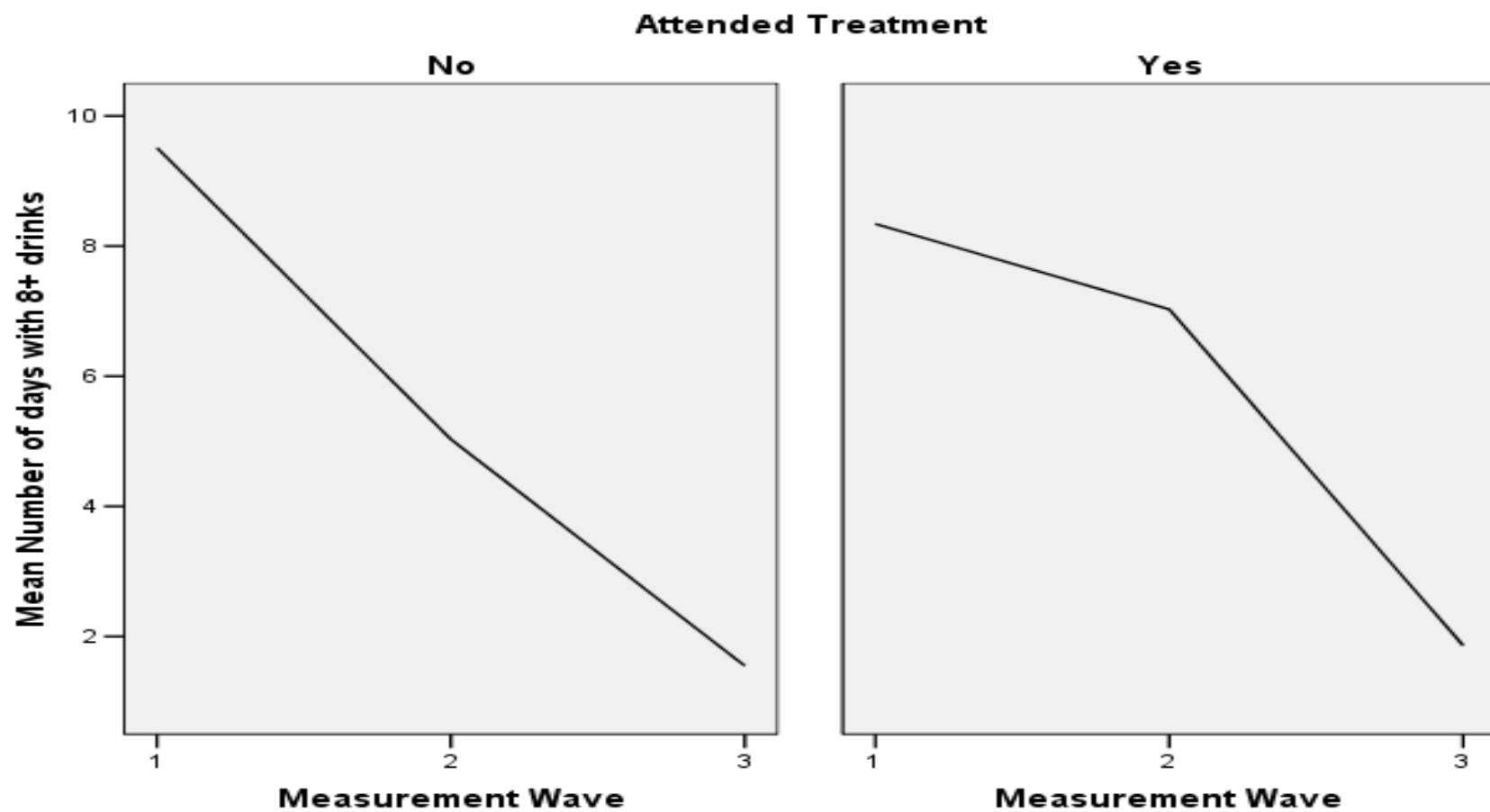
Possible explanations: Sensation Seeking and Peer Approval



Group 3

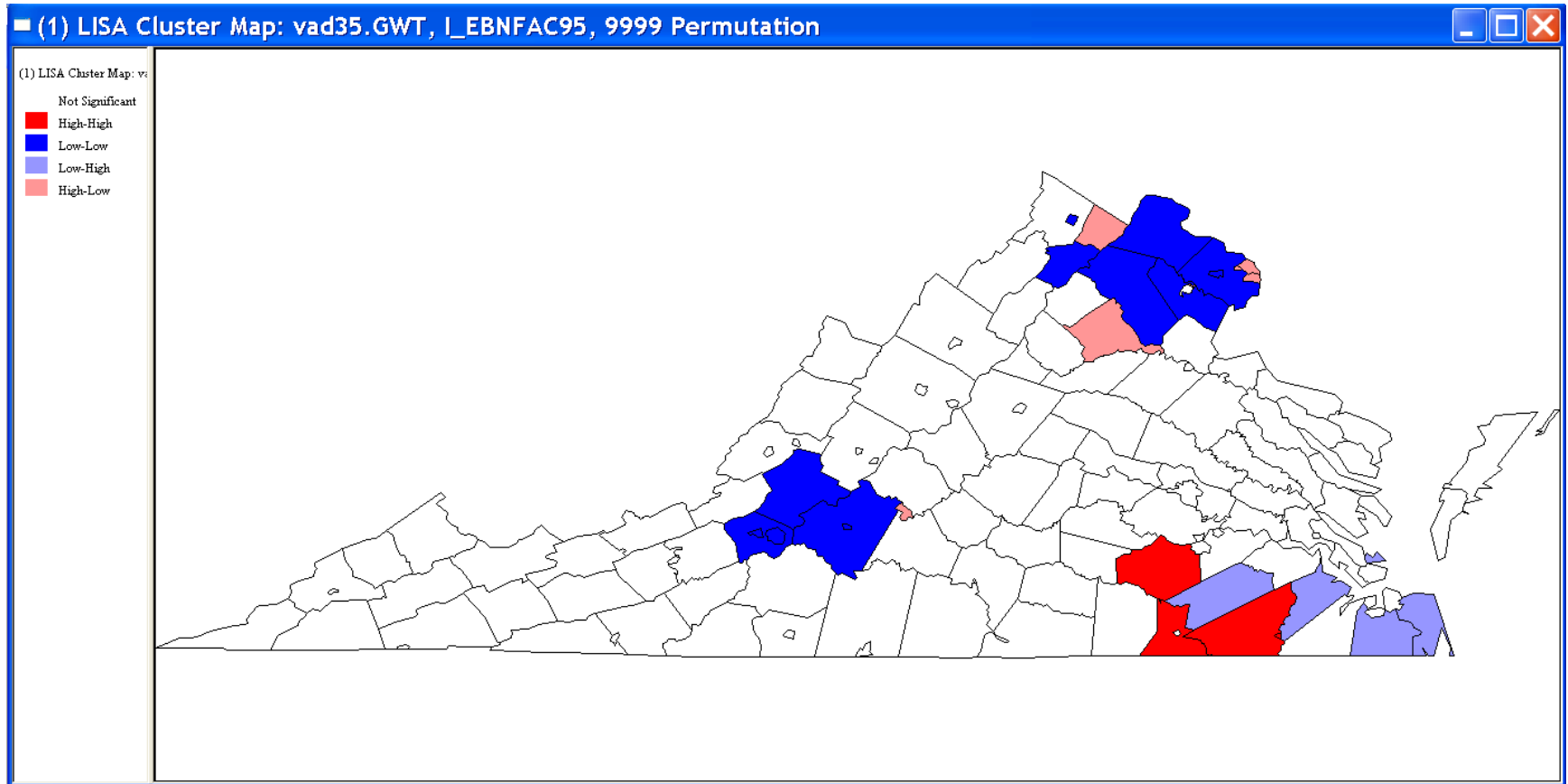


Group 4

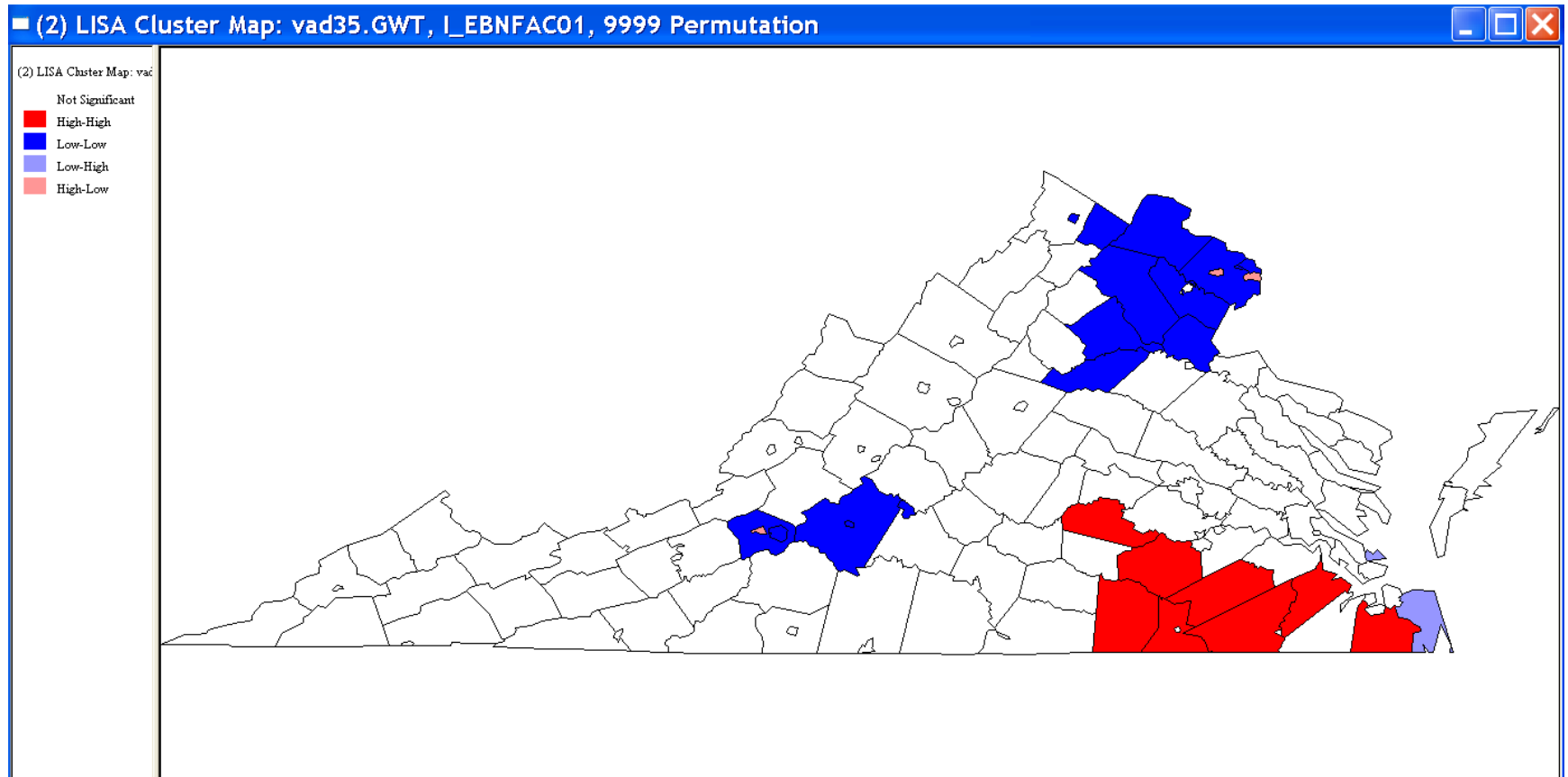


10. SPATIAL DIMENSION OF INEQUITIES

CHILDREN'S RISK: 1995

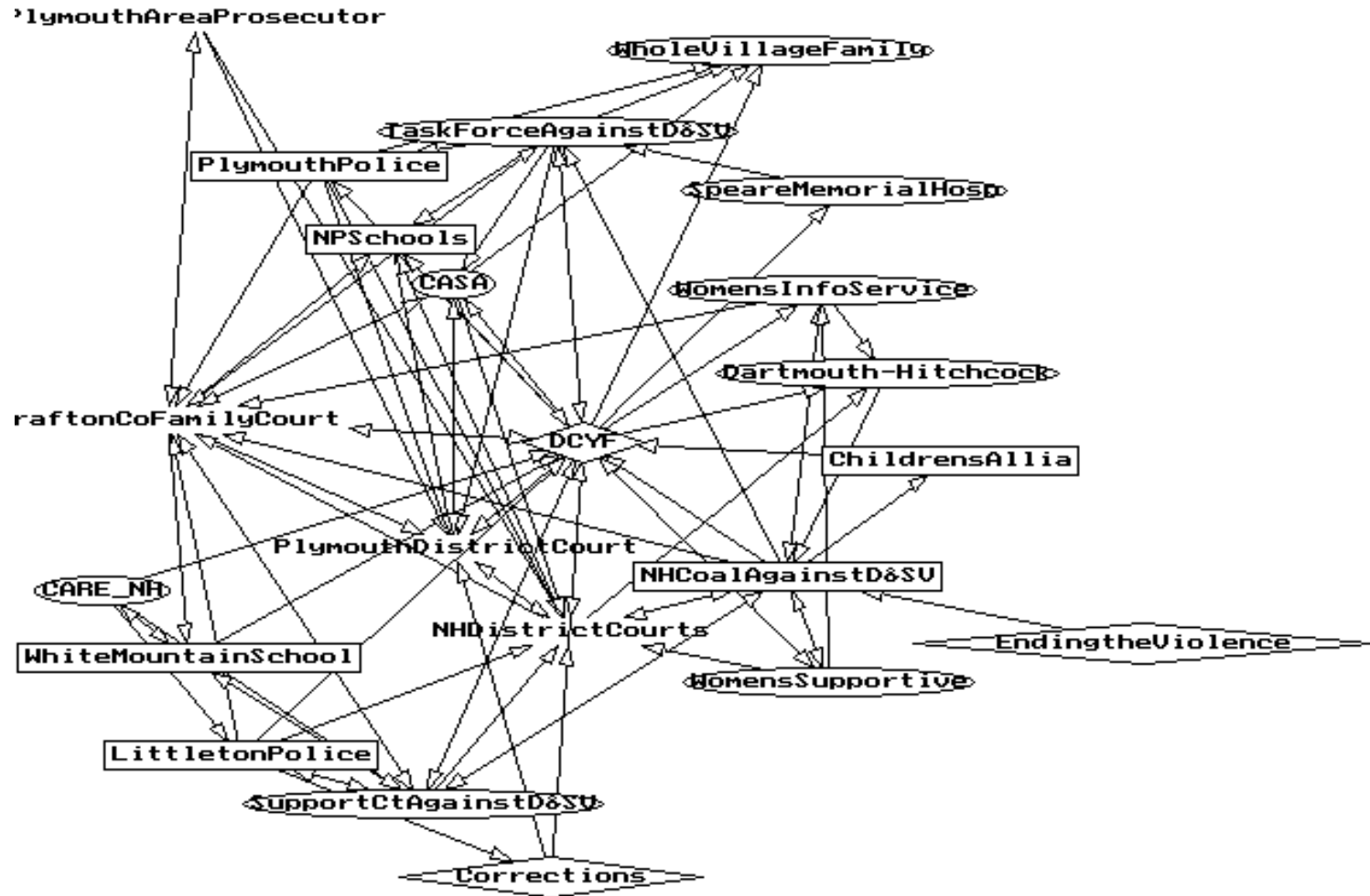


CHILDREN'S RISK: 2001



11. NETWORK DIMENSIONS OF INEQUITIES

FREQUENT COMMUNICATION NETWORKS



CHANGES IN KEY NETWORK MEASURES IN SITE C BETWEEN THE PLANNING AND IMPLEMENTATION PHASES

	Planning Phase		Implementation Phase	
	Mean	Std. Dev	Mean	Std. Dev.
Any Interaction	0.89	0.31	0.78	0.42
Frequency of Interaction	2.15	1.08	1.82	1.28
Any Conflict	0.18	0.38	0.14	0.35
Frequency of Problems	0.68	0.89	0.32	0.64
Overall Give and Take	3.03	0.69	3.03	0.60
Numbers of Pairs of Relationships	72		72	

DEGREE MEASURES FOR ORGANIZATIONS IN SITE K DURING THE IMPLEMENTATION
PHASE

Organization	Outdegree	Indegree	Normed Outdegree	Normed Indegree	Ratio
Organizations That Were Also Interviewed During the Planning Phase					
Division of Children Services	7	8	50.0	57.1	0.87
Substance Abuse Council	7	4	50.0	28.6	1.75
Family & Elderly Services	4	6	28.6	42.9	0.67
Unified Schools	0	7	0.0	50.0	-
Department of Human Services	9	7	64.3	50.0	1.29
Prevention Services 1	1	6	7.1	42.9	0.16
Prevention Services 2	9	4	64.3	28.6	2.25
Human Development Services	9	8	64.3	57.1	1.13
Youth Council	2	3	14.3	21.4	0.67
Not-for-Profit Funding Agency	1	3	7.1	21.4	0.33
Public Defender's Office	2	0	14.3	0.0	-
Church Denomination 2	0	0	0.0	0.0	-
Parent's Association	3	2	21.4	14.3	1.50
Organizations That Were Only Interviewed During the Implementation Phase					
Dept. of Public Health	6	2	42.9	14.3	3.00
University 2 Extension	1	1	7.1	7.1	1.00