

# American Evaluation Association meetings 2010

Using  
Cost → Procedure → Process → Outcome  
Analysis (CPPOA) Data  
to Improve Substance Abuse Prevention  
Programs and Portfolios

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# Or, the value of understanding potential causal relationships between...

- Resources
  - what makes programs possible
- Procedures
  - what programs do with consumers
- Processes
  - what programs change in their consumers
- Outcomes
  - what programs achieve with and for consumers



# Take home messages:

- Importance of understanding causes of problems
- Importance of checking on whether “sounds like it should work” results in “wow, it actually does work!”
- Costs can be a guide: sometimes you get what you pay for.



# COA versus CPPOA

- Cost–Outcome Analyses (COA):
  - cost → effectiveness analysis
  - cost → benefit analysis
  - cost → utility analysis
- Cost → Procedure → Process → Outcome Analysis (CPPOA)
  - process → outcome
  - procedure → process
  - resource (cost) → procedure



# CPPOA for Prevention

- Federally funded
- 3-year program for preventing use of ATODs (Alcohol, Tobacco, and Other Drugs)
- Random assignment of teacher-referred 4th grade girls and boys 8 to 11 years old to:
  - Prevention Program
  - OR
  - Measurement Control



# Demographic moderators

- Gender:
  - 45% female
  - 55% male
- Race:
  - 39% Hispanic American
  - 33% White nonHispanic
  - 27% African American, 1% Other
- Age: 8 to 11, mean age: 10 years at pre
- Risk score, based on:
  - poverty, antisocial acts, friends use, parent uses, family alcohol abuse, family problems, mental illness, suicide attempt, abuse history



# Outcomes

- Willingness to Use All ATODs
  - tobacco (smoke & chew), alcohol, marijuana, crack/cocaine
- Willingness to Use Gateway ATODs
  - tobacco (smoke & chew), alcohol, marijuana
- Actual (self-reported) Use of Gateway ATODs



# Processes

- Social Responsibility
- Communication with Mother
- Communication with Father
- Parent-Child Communication
- Feelings About School



# Procedures

- Student Groups
- Field Trips
- Individual Meetings
- Camping Trips
- Home Visits
- Parent Group Meetings



# Resources

- Personnel
- Travel
- Supplies
- Contractual Services
- Client Time
- Other



# Analyses: approaches

- N = 187 (w/child & mother pre & post)
- Cost → Outcome Analysis (cost → effectiveness)
  - cost of prevention program vs. difference in outcomes between program and control children
- Cost → Procedure → Process → Outcome Analysis
  - path analysis, structural equation modeling
  - sequential multiple regressions  
(process→outcome, procedure→process, resources→procedures)



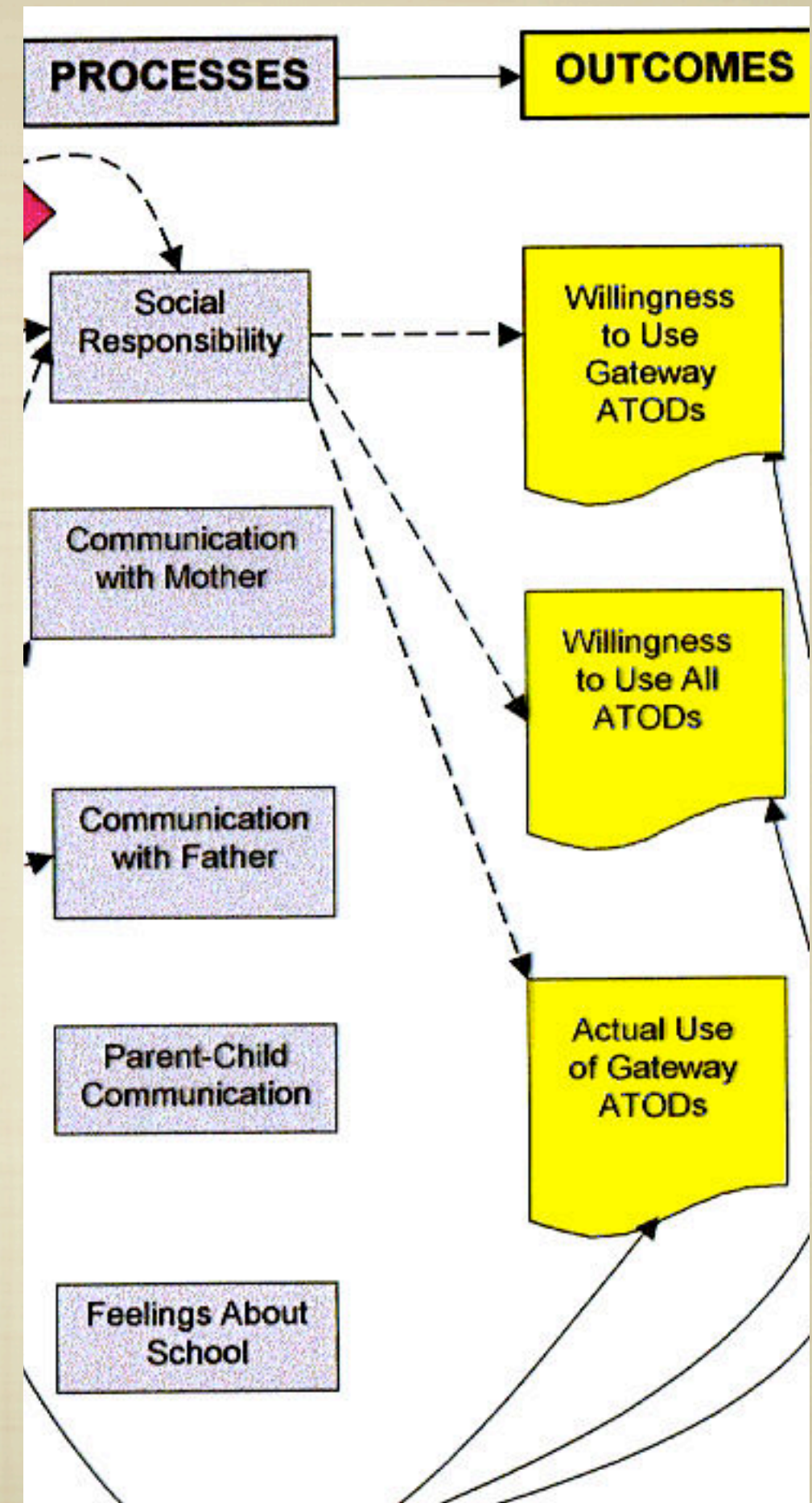
# Resource → Outcome Analysis

- Prevention program significantly increased:
  - Willingness to Use Gateway ATODs
  - Willingness to Use all ATODs
  - Actual Use of Gateway ATODs



# Process → Outcome Analysis

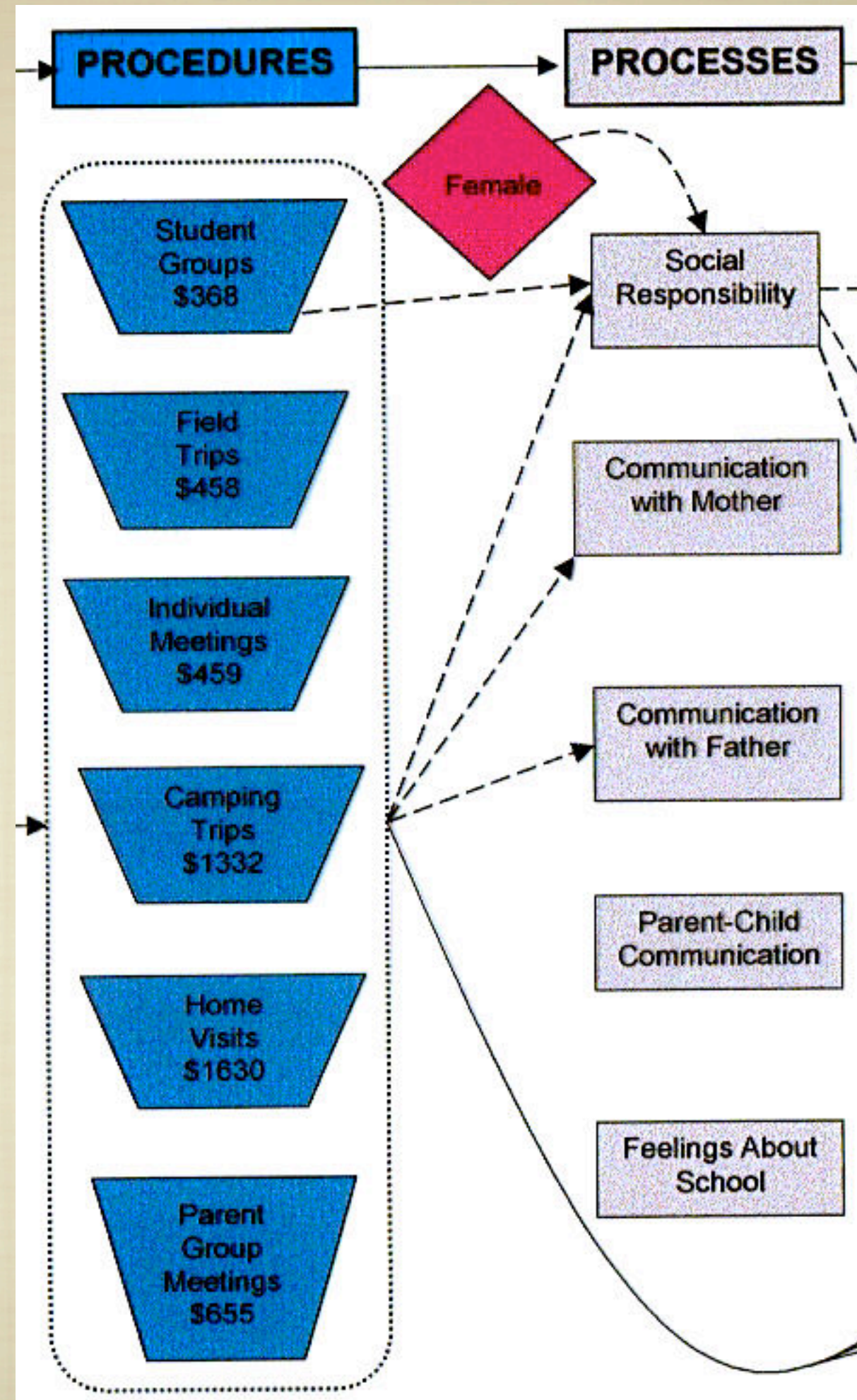
- ↓ Social Responsibility →
- ↑ Willingness to Use Gateway ATODs
- ↑ Willingness to Use All ATODs
- ↑ Actual Use of Gateway ATODs





# Procedure → Process Analysis

- ↑ participation in Student Groups →
- ↓ Social Responsibility (especially for girls)
- ↑ Overall program participation →
- ↓ Social Responsibility
- ↓ Communication with Mother
- ↓ Communication with Father





# Resource→Procedure Analysis

## Procedures

		Procedures			
		Groups	Trips	...	Other
Resources	Staff				
	Space				
	Materials				
	...				
	Other				

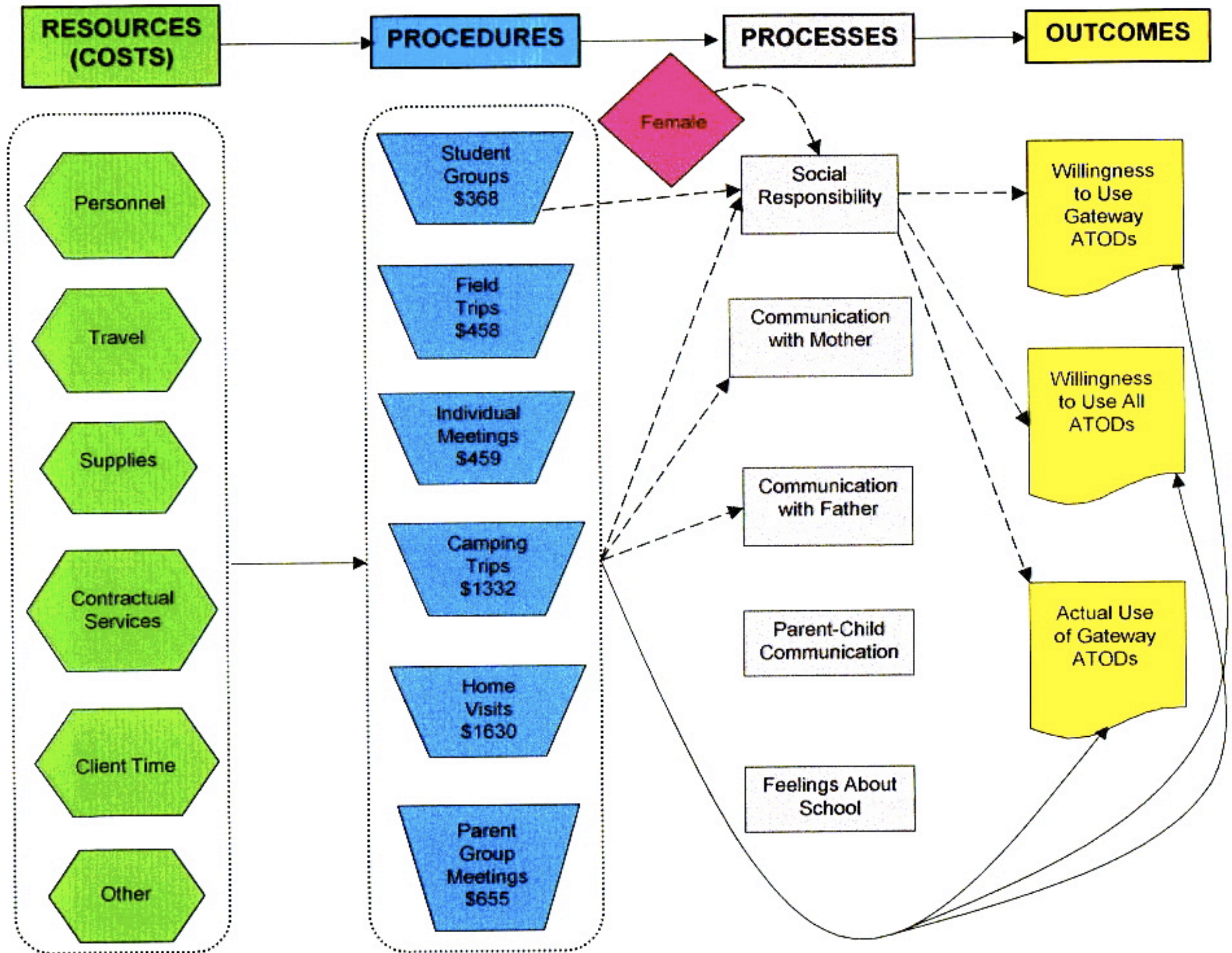


# Total Costs of Procedures

(excludes volunteered & donates resources)  
[1989 \$US]

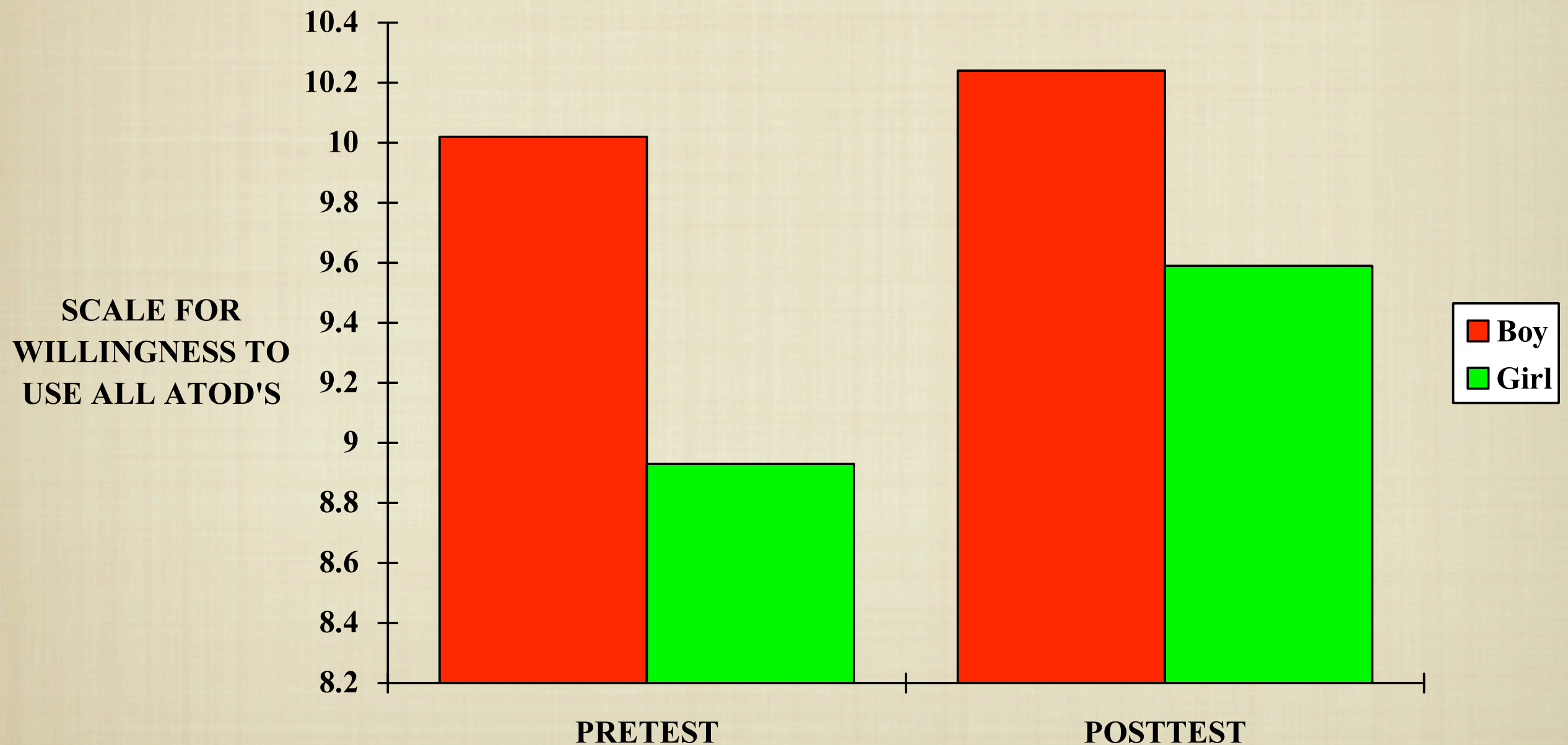
- Student Groups: \$368 per child
- Field Trips: \$459 per child
- Individual Meetings: \$459 per child
- Camping Trips: \$1,332 per child
- Home Visits: \$1,630 per child
- Parent Group Meetings: \$655 per child





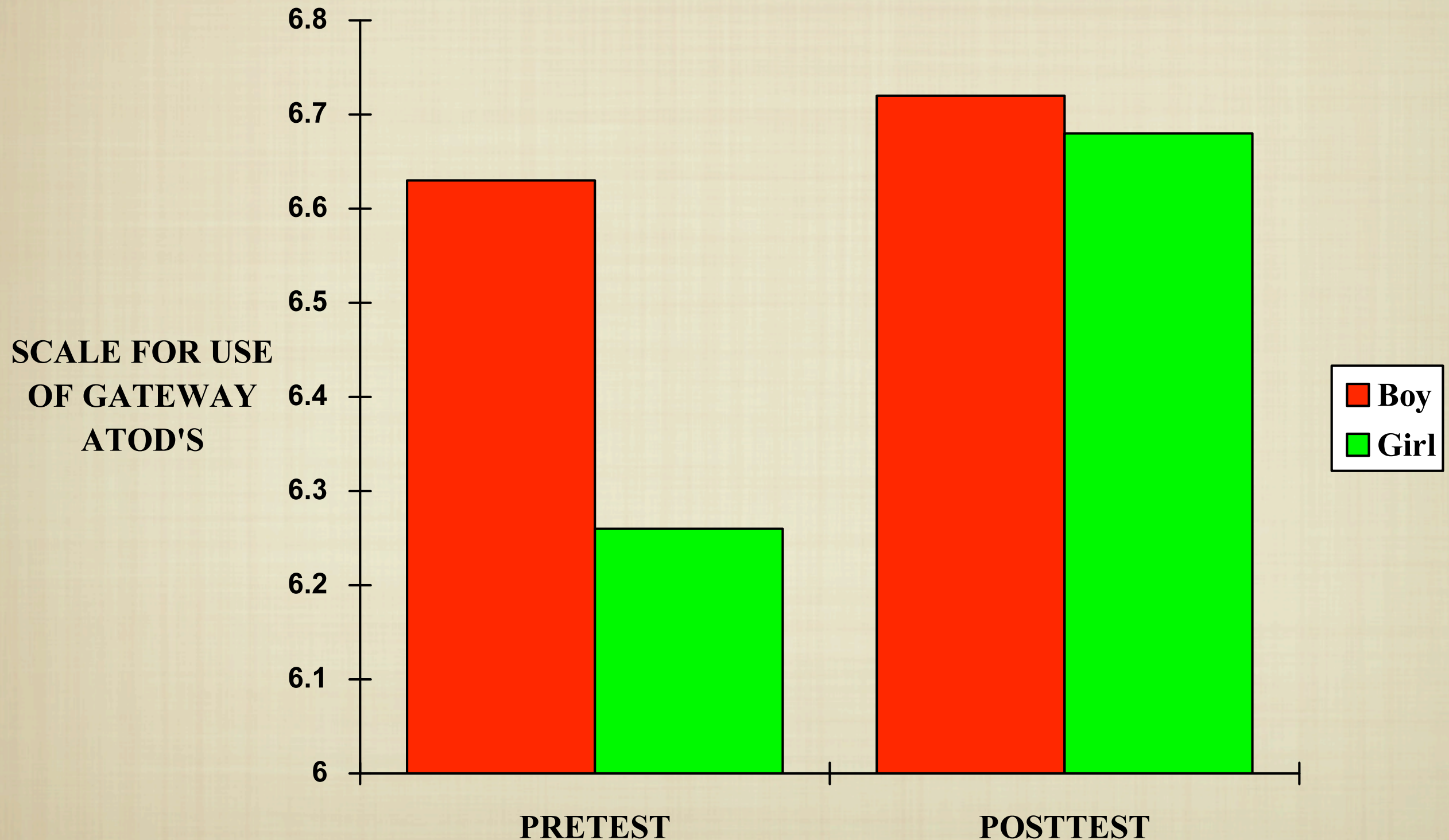


# Willingness to Use gateway ATODs by gender





# Use of gateway ATODs by gender





# The value of understanding relationships between variables...

- You are more likely to be able to:
  - know what is contributing to outcomes, including
    - identifying causes of iatrogenic outcomes



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