

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

CPPPOA 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

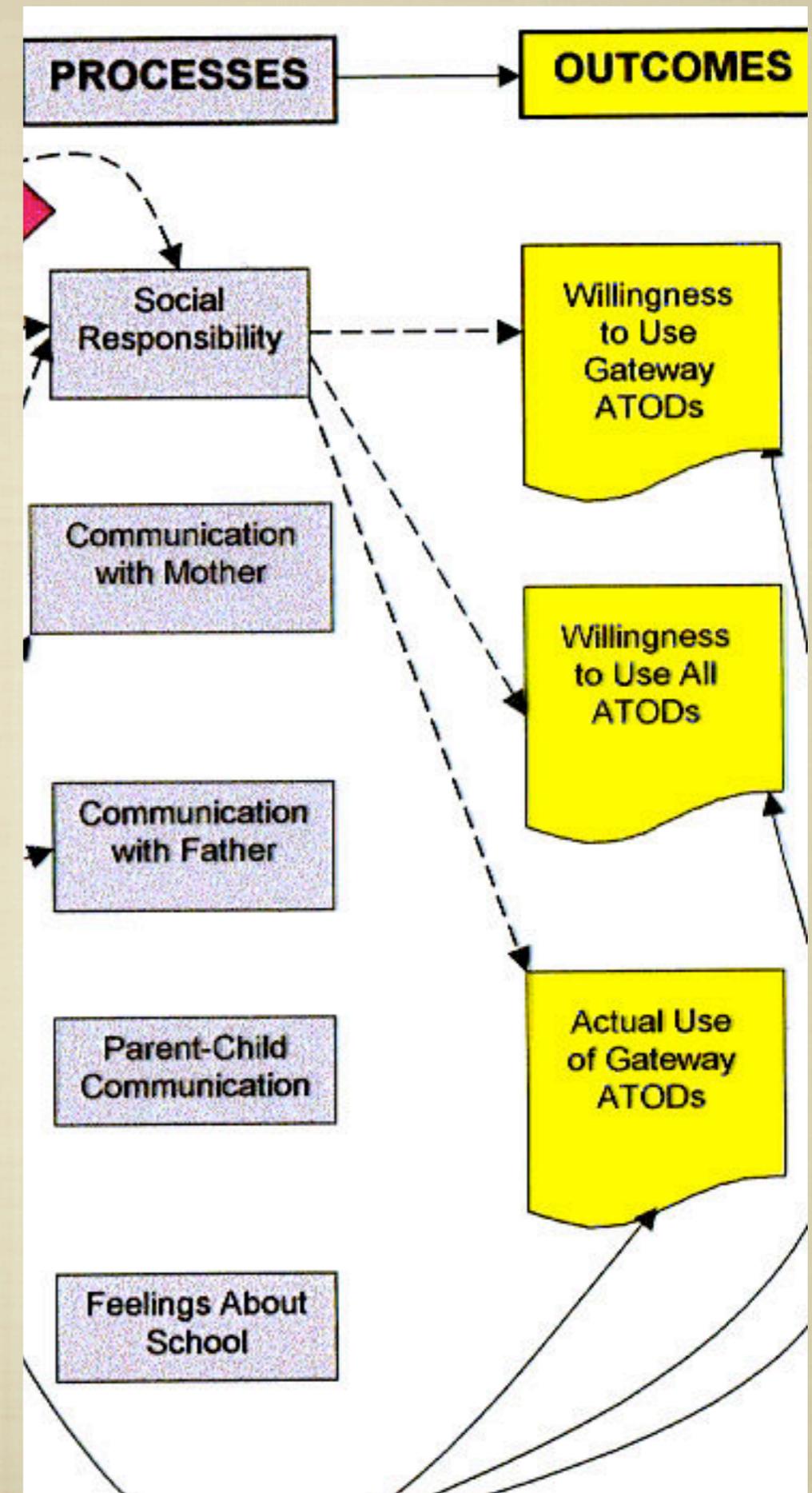
- N = 187 (w/child & mother pre & post)
- Cost → Outcome Analysis (cost → effectiveness)
 - cost of prevention program vs. difference in outcomes between program and control children
- Cost → Procedure → Process → Outcome Analysis
 - path analysis, structural equation modeling
 - sequential multiple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

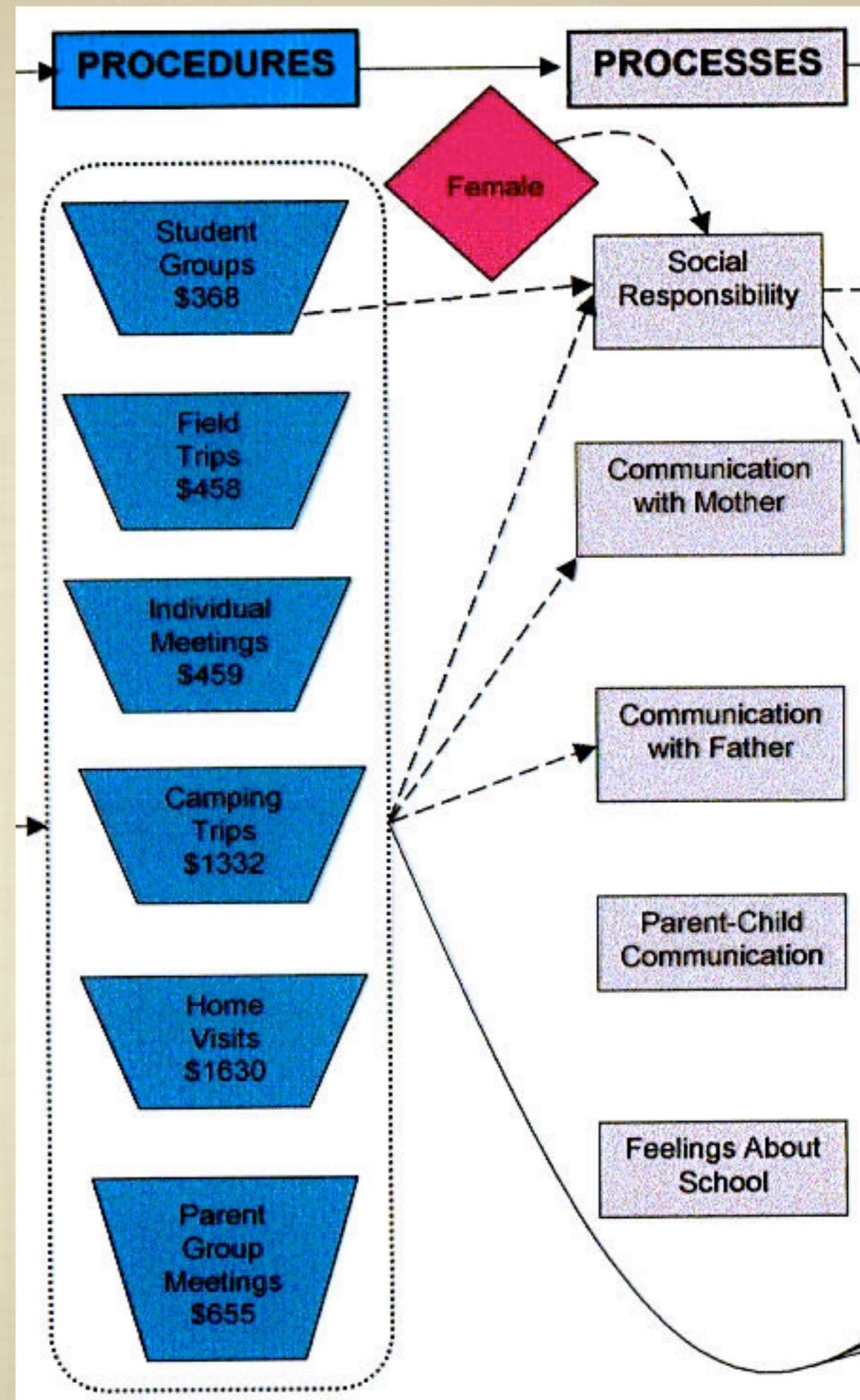
Process → Outcome Analysis

- ↓ 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

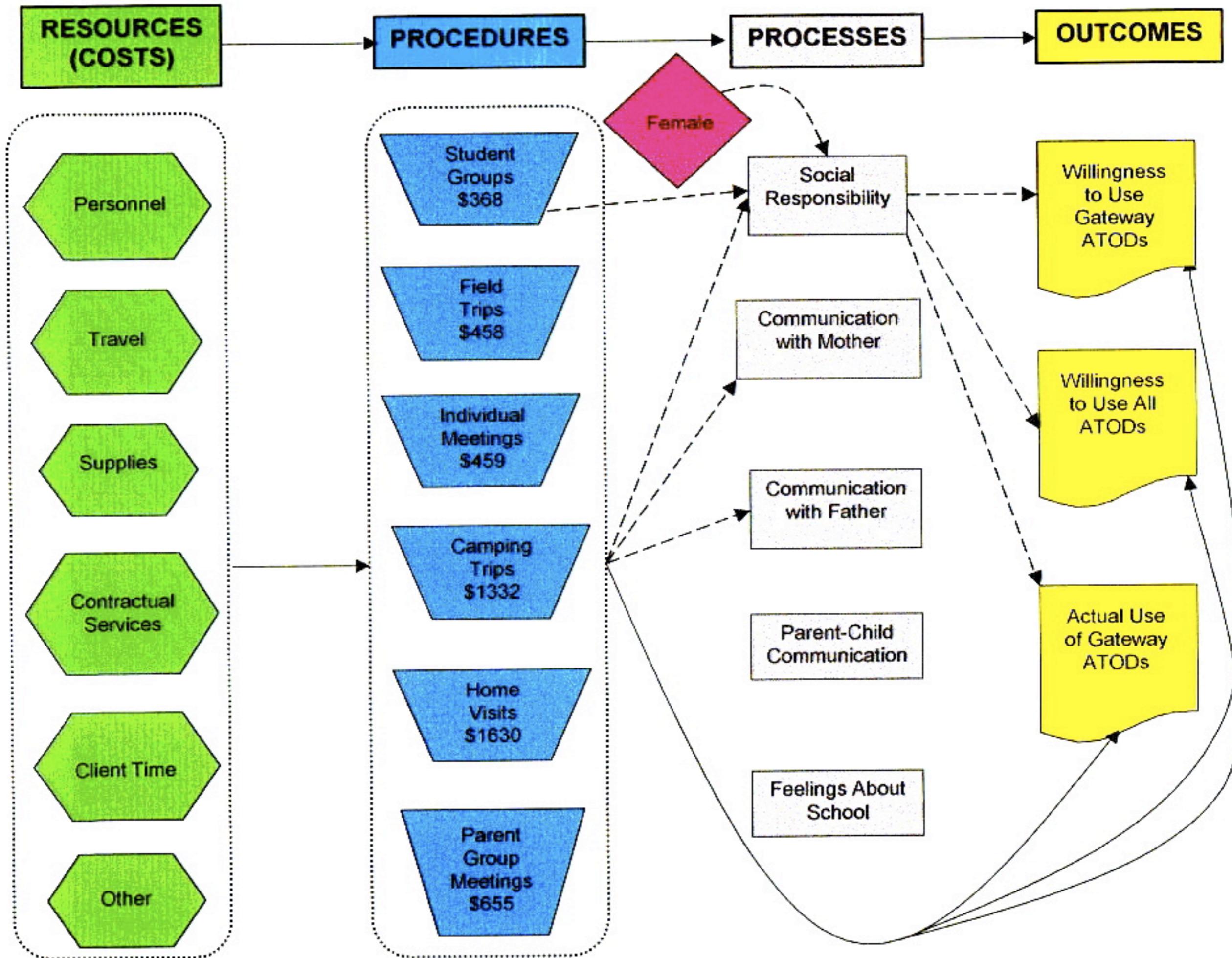
Procedures

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

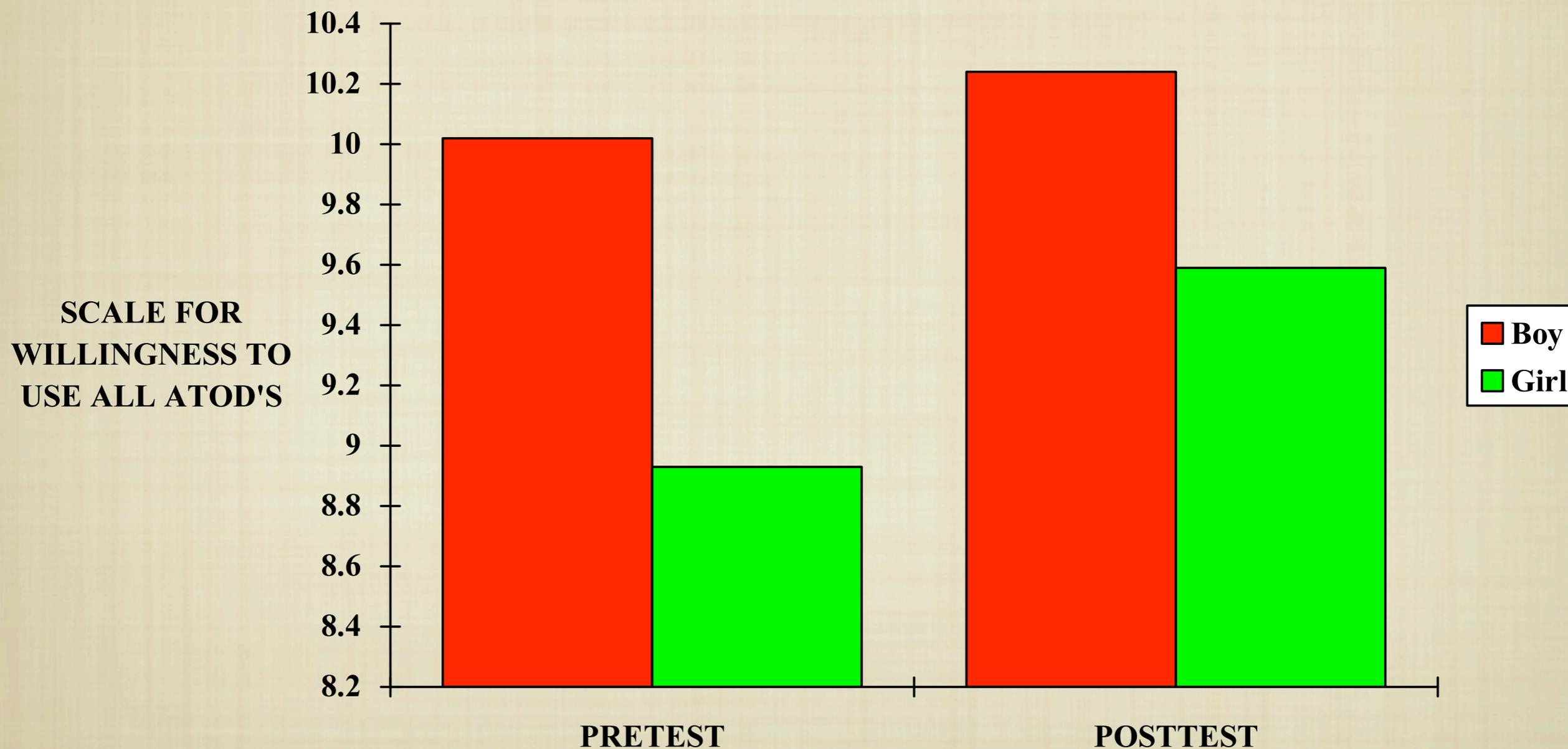
Total Costs of Procedures

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

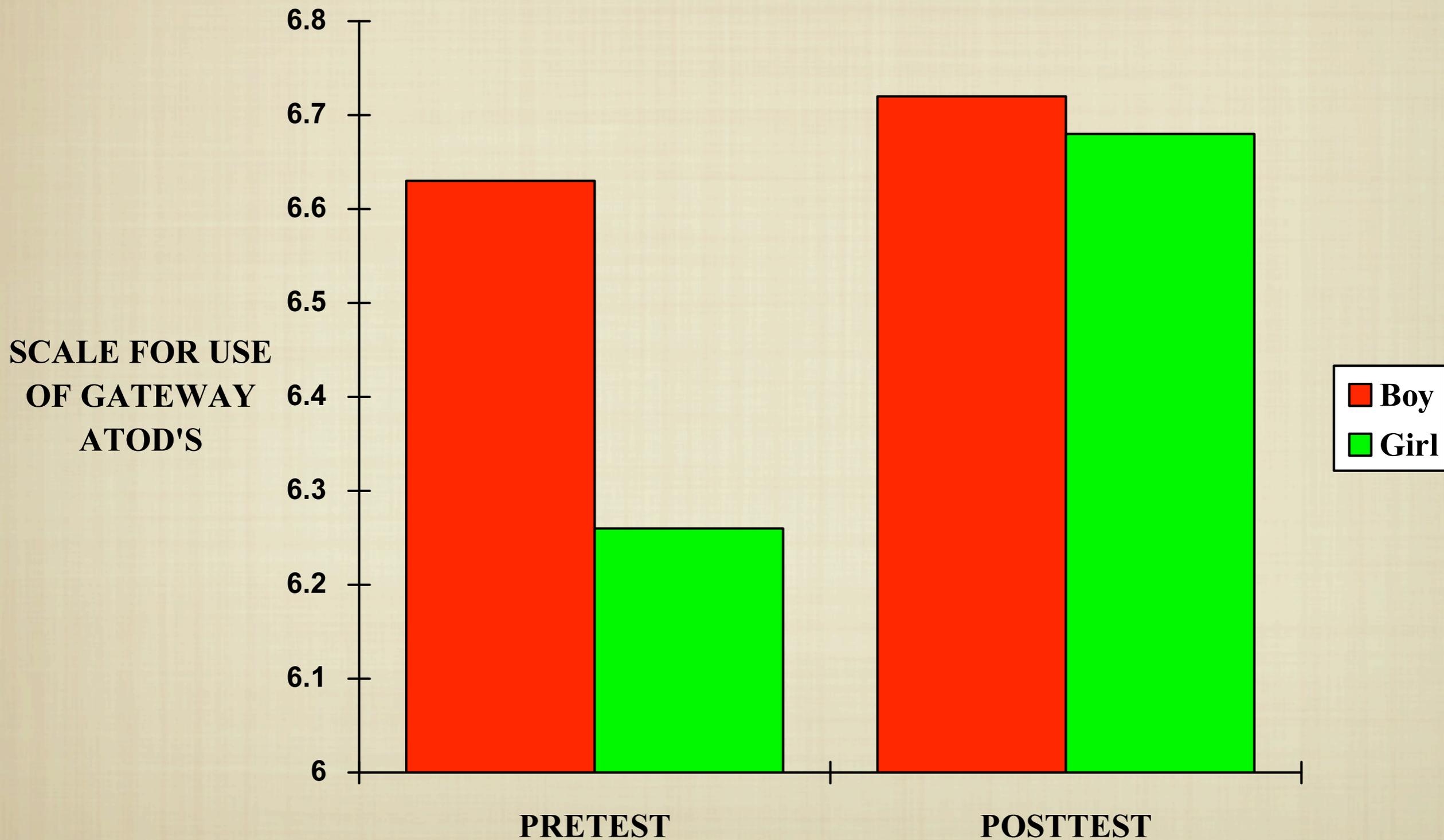
- Student Groups: \$368 per child
- Field Trips: \$459 per child
- Individual Meetings: \$459 per child
- Camping Trips: \$1,332 per child
- Home Visits: \$1,630 per child
- Parent Group Meetings: \$655 per child



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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