

evaluate benefits & other outcomes

evaluate  
effectiveness  
benefits  
& other outcomes

evaluate benefits & other outcomes

# Benefits

- types of benefits
- measurement and monetization strategies

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# types of benefits

- cost-savings
  - reduced use of health services
  - reduce transfer payments (e.g., income assistance)
- income enhancement
  - employment income
  - other, better measures of productivity?

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## convert effectiveness to benefits

- to *monetize* cost-savings benefits
  - measure number of times each service used
  - find cost per service use (from program policies, records, other)
  - multiple service use x cost per service use

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- *monetization* strategies for income
  - actual income, from self-report or records
  - estimated income, given profession or hours worked
  - include value of time volunteered, donated
  - include any enterprise profit!
  - include health, other benefits

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Effectiveness (program- induced change in ...)	Transformation example:	Cost-savings Benefit:
criminal acts	\$_____ per theft, \$_____ per assault	savings to victims, society
drugs not purchased	\$_____ per day of opiate use	money not spent on drugs
criminal justice services	\$_____ per arrest, \$_____ per court day, \$_____ per jail day	reduced criminal justice expenses

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Effectiveness (program- induced change in ... )	Transformation examples:	Cost-savings Benefit:
drug abuse treatment	\$____ per day of treatment	savings to patient, society
disability payments	\$____ per day of disability support	savings in disability support
health services	\$____ per ER visit, \$____ per inpatient day	savings in use of health services

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# examples for health care...

- calculators, lists for cost of illnesses and injuries ... *avoided!*
- [wisqars.cdc.gov:8080/costT/](http://wisqars.cdc.gov:8080/costT/)





## Data & Statistics (WISQARS™): Cost of Injury Reports

[WISQARS Home](#)

Help 

Screen 1 of 3

**Welcome to the Cost of Injury Reports application!** Here you will find cost of injury estimates for fatal or nonfatal injuries classified either by intent and mechanism or by body region and nature of injury. [Learn more >>](#)

**Important Updates:** In addition to allowing user-provided data to be integrated into the cost estimation process, this new version of **Cost of Injury Reports** incorporates three basic changes, effective 04/25/2012:

- Updated unit (per person) work loss cost estimates: These updated unit work loss cost estimates affect total and average work loss cost estimates for both fatal and nonfatal injuries. For further details regarding this update, [click here](#).
- Corrected unit medical cost estimates: These corrected unit medical cost estimates affect total and average medical cost estimates for nonfatal emergency department treated-and-released injuries. Cost estimates for fatal injuries and for nonfatal hospitalized injuries are not affected by this correction. For further details regarding this update, [click here](#).
- Average costs: For reports involving injury deaths classified by body region and/or nature of injury, average costs are now expressed per person (similar to the averages for all other types of injury outcomes and classification schemes). Such averages were previously expressed in terms of apportioned cases. For further details regarding this update, [click here](#).

Select from the report options provided below and on the next two screens. Click on the **blue** title at the top of each section for details. Reports will be generated and returned to you on the screen. You will also have the option to save the data in a spreadsheet or print the results.

### Type of Injury Outcome

What was the Injury Outcome? (select only one radio button):

- ☒ Death
- ☐ Hospitalization
- ☐ ED Treated and Released

### Injury Classification Scheme

How are Injuries to be Classified? (select only one radio button):

- ☒ Intent by Mechanism
- ☐ Body Region by Nature of Injury

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Costs, Benefits, and Cost-Benefit  
of Gender-Sensitive Treatment in Intensive Inpatient Programs  
for Parenting and ~~Nonparenting~~ Substance Abusers

Sarah E. Hornack and Brian T. Yates

American University

# Hornack & Yates

## benefits:

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hoped-for *reductions*  
in:

- health
- criminal justice
- income assistance

hoped-for increases  
in:

- earned income

possibly moderated  
by:

- gender
- parenthood

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Table 3. *Mean Length of Stay (LOS) and Cost of Index Intensive Inpatient Program, by Level of Gender Sensitivity*

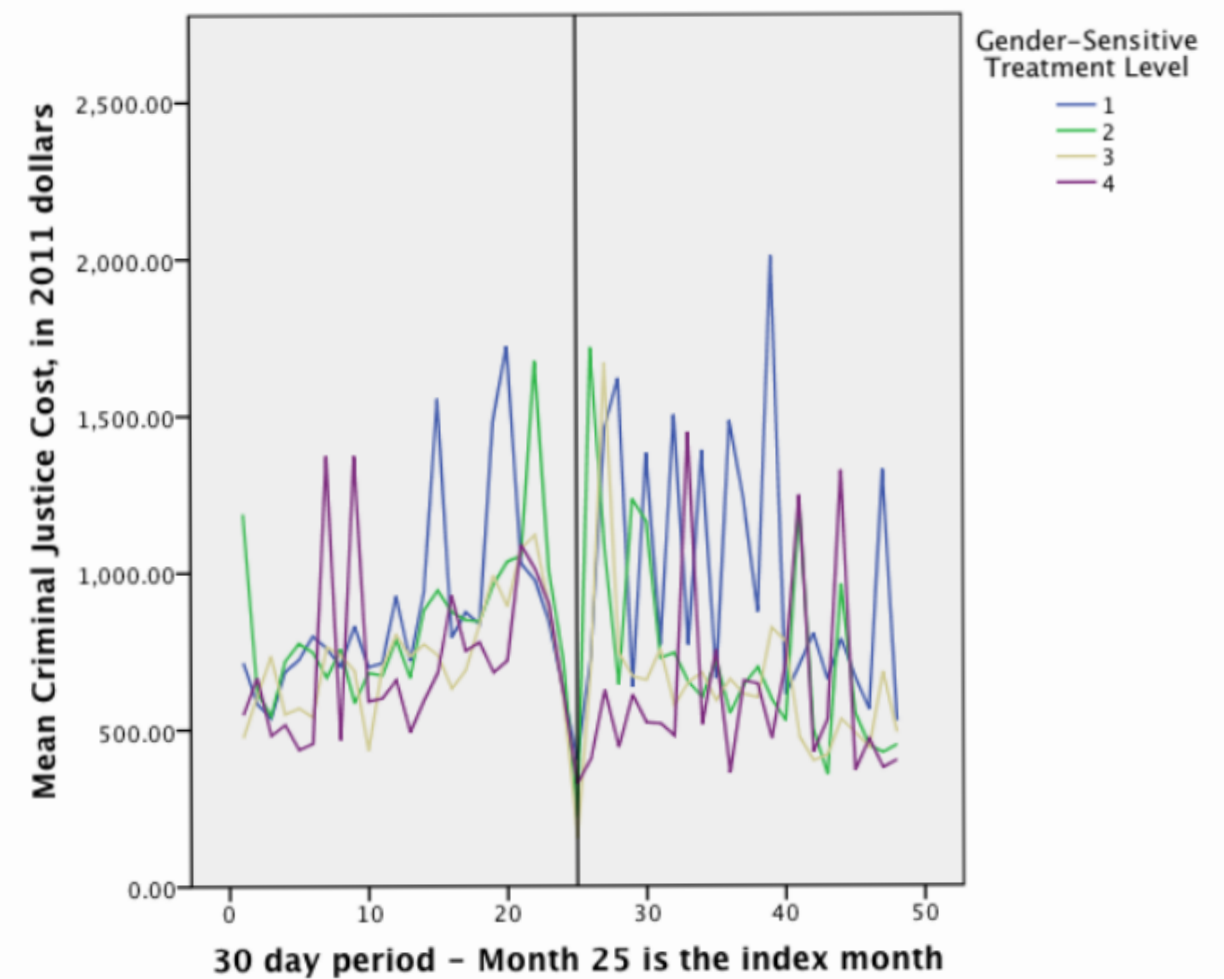
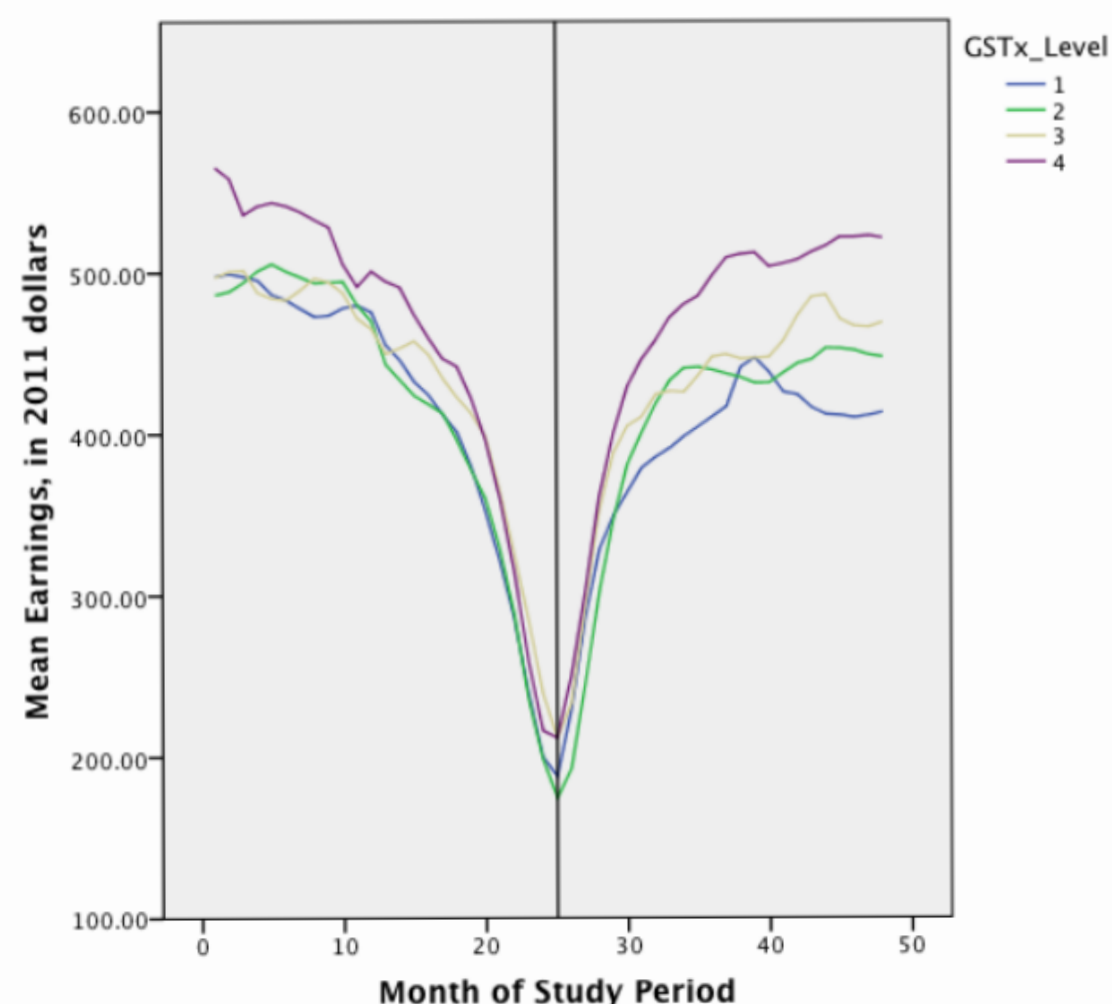
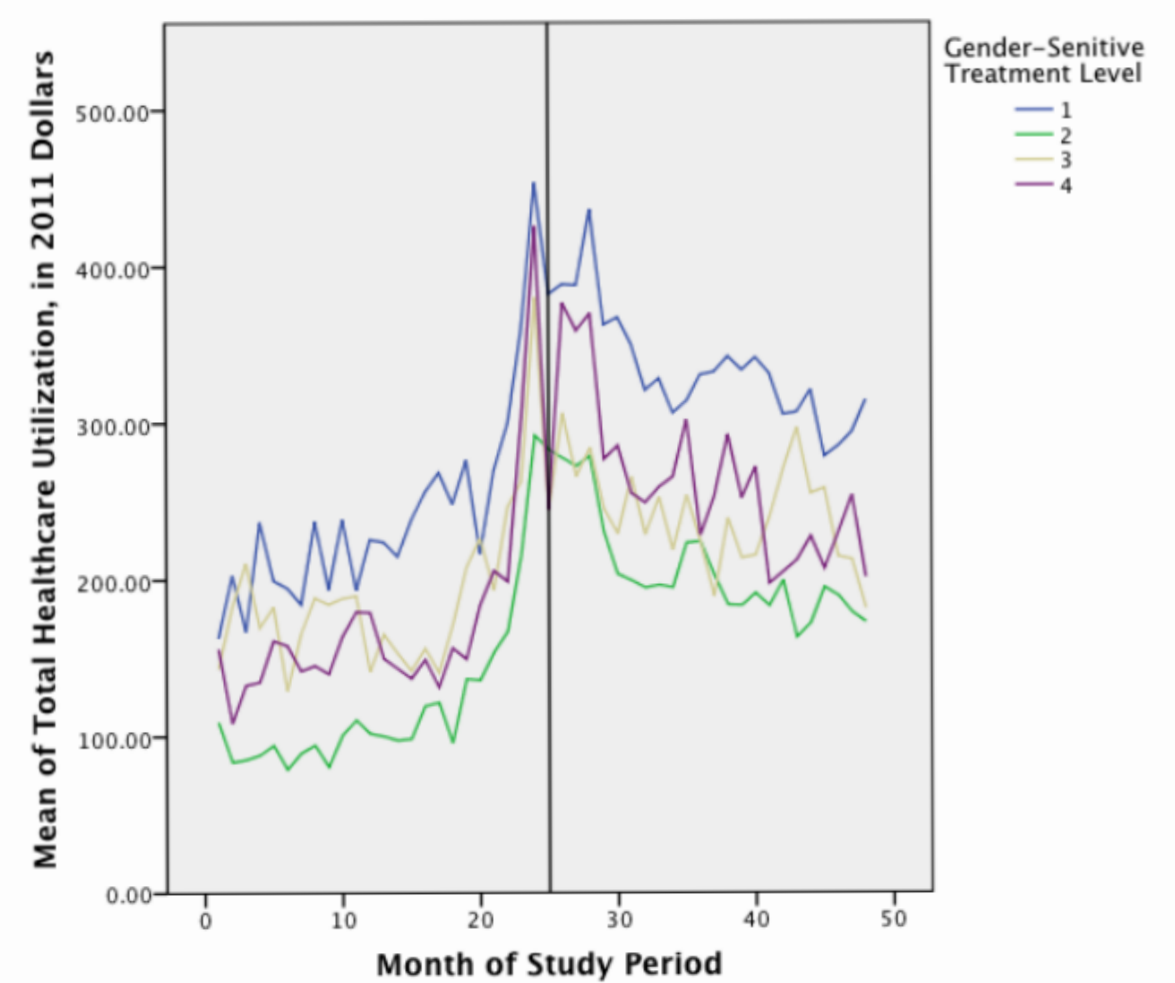
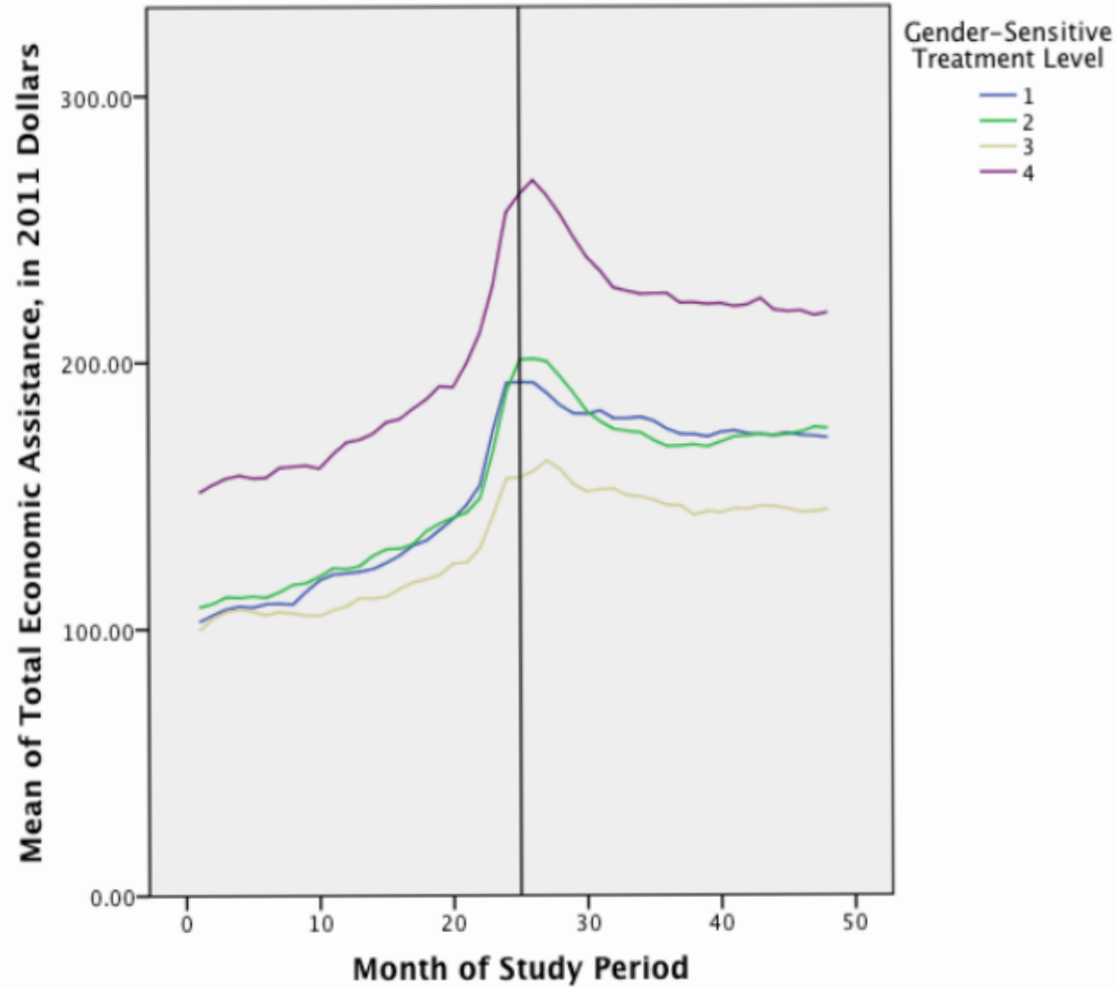
Gender Sensitivity	<i>n</i>	LOS	Mean	Minimum	Maximum	SD
1. Low	4,198	23.9	\$2,222.28	\$92.89	\$ 5,573.40	\$ 836.01
2. Medium Low	5,311	23.3	\$2,167.90	\$92.89	\$14,955.29	\$1,167.25
3. Medium High	2,384	24.7	\$2,293.92	\$92.89	\$ 5,666.29	\$ 893.85
4. High	2,936	18.7	\$1,739.76	\$92.89	\$ 5,573.40	\$ 553.02

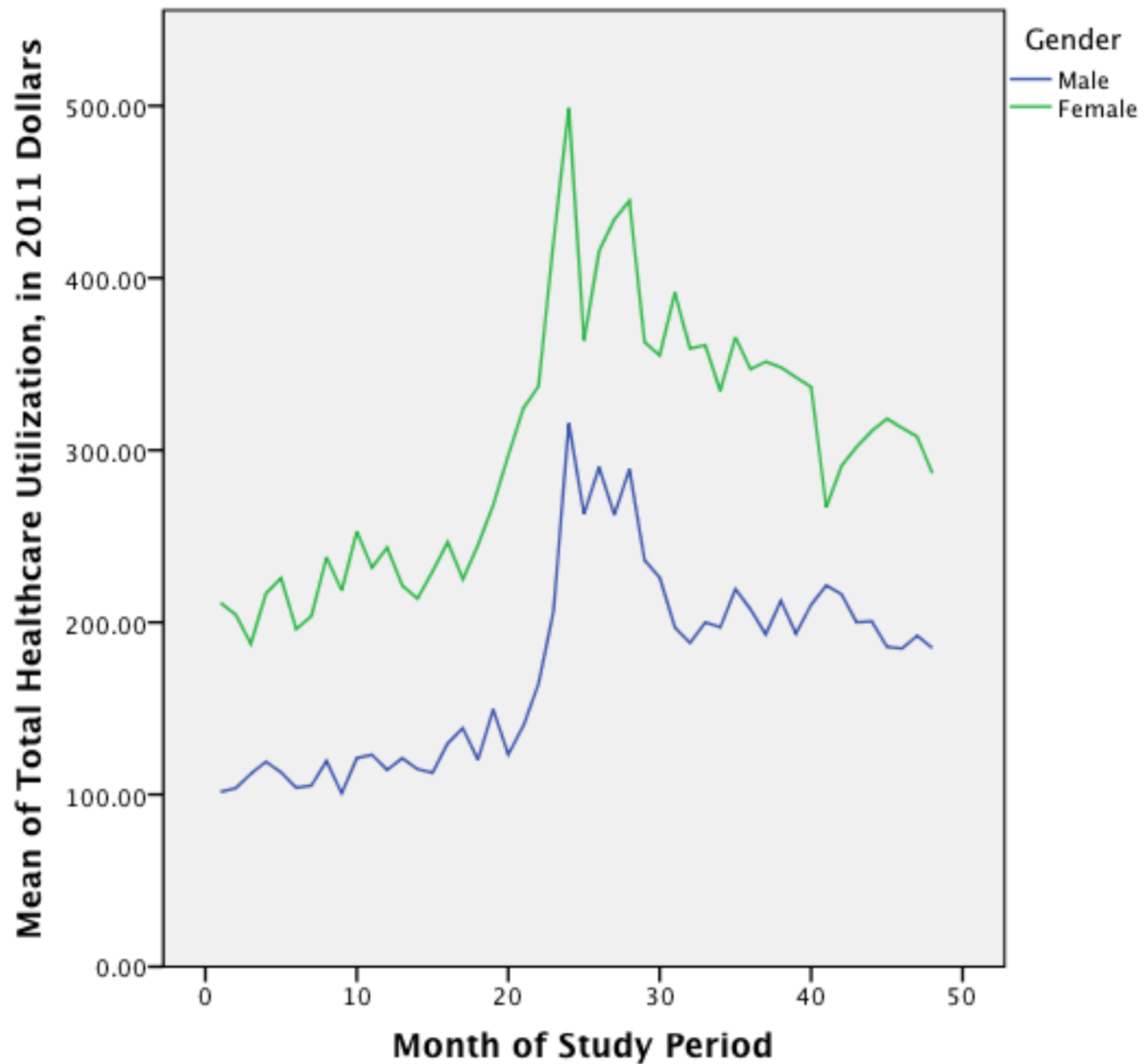
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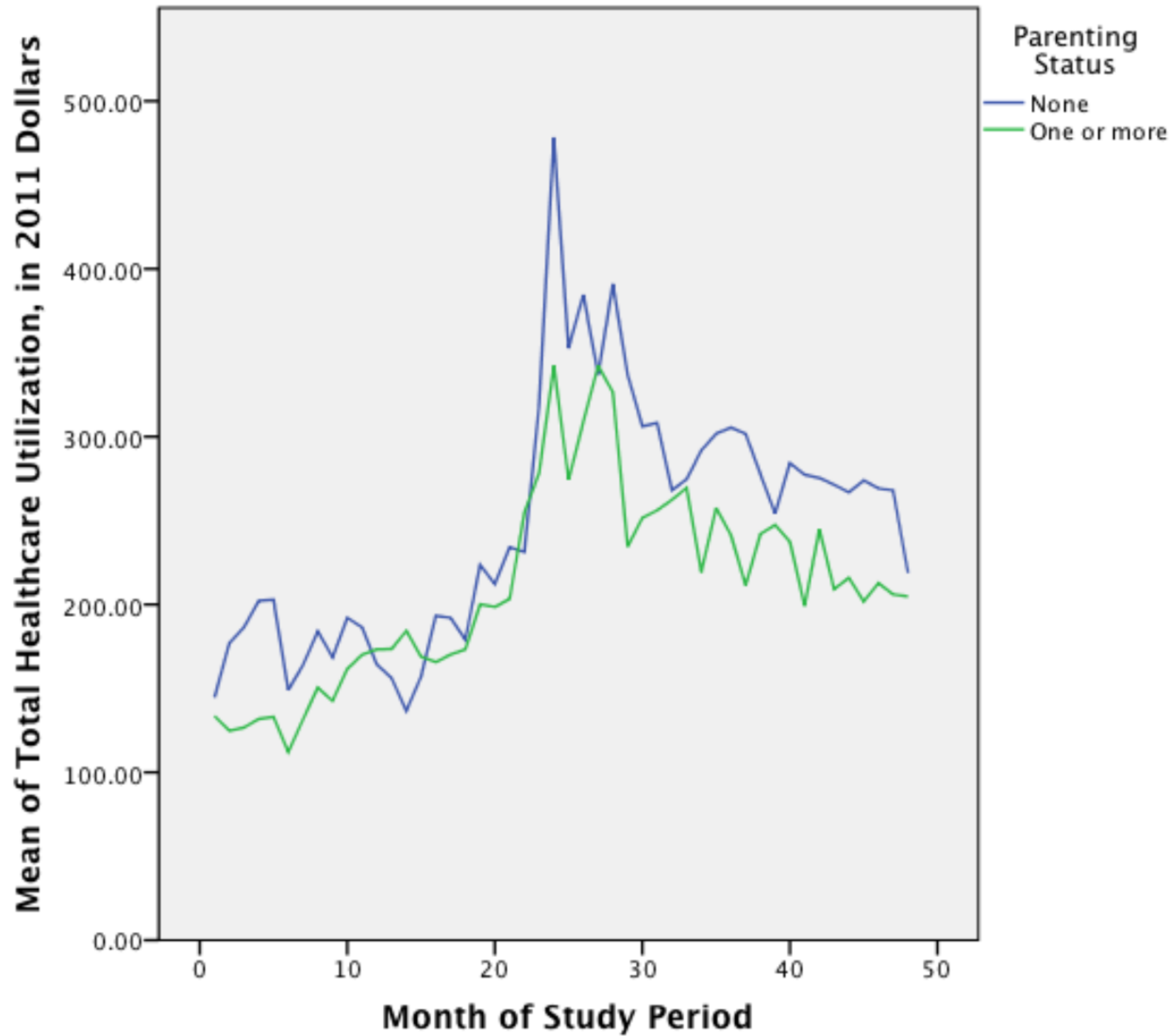
Table 4. *Mean Net Benefit For All Patients Across Service Utilization and Earned Income*

*Domains, n = 14, 595*

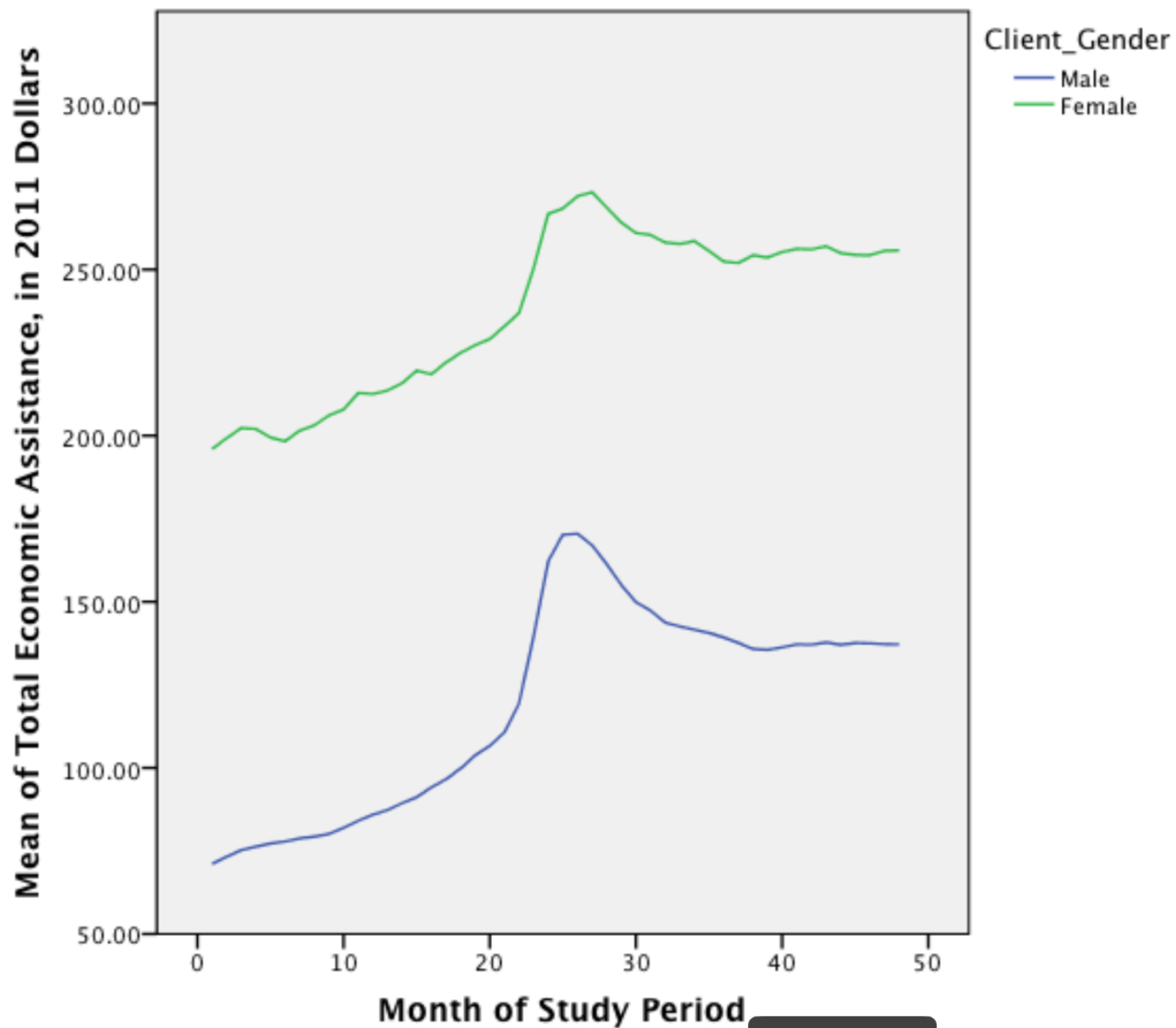
Benefit Domain	Mean	SD
Healthcare Utilization	-\$ 4,028.04	\$ 17,220.97
Criminal Justice	-\$ 1,196.72	\$ 161,290.60
Economic Assistance	-\$ 3,166.23	\$ 4,728.32
Earned Income	-\$ 2,395.53	\$ 17,313.09



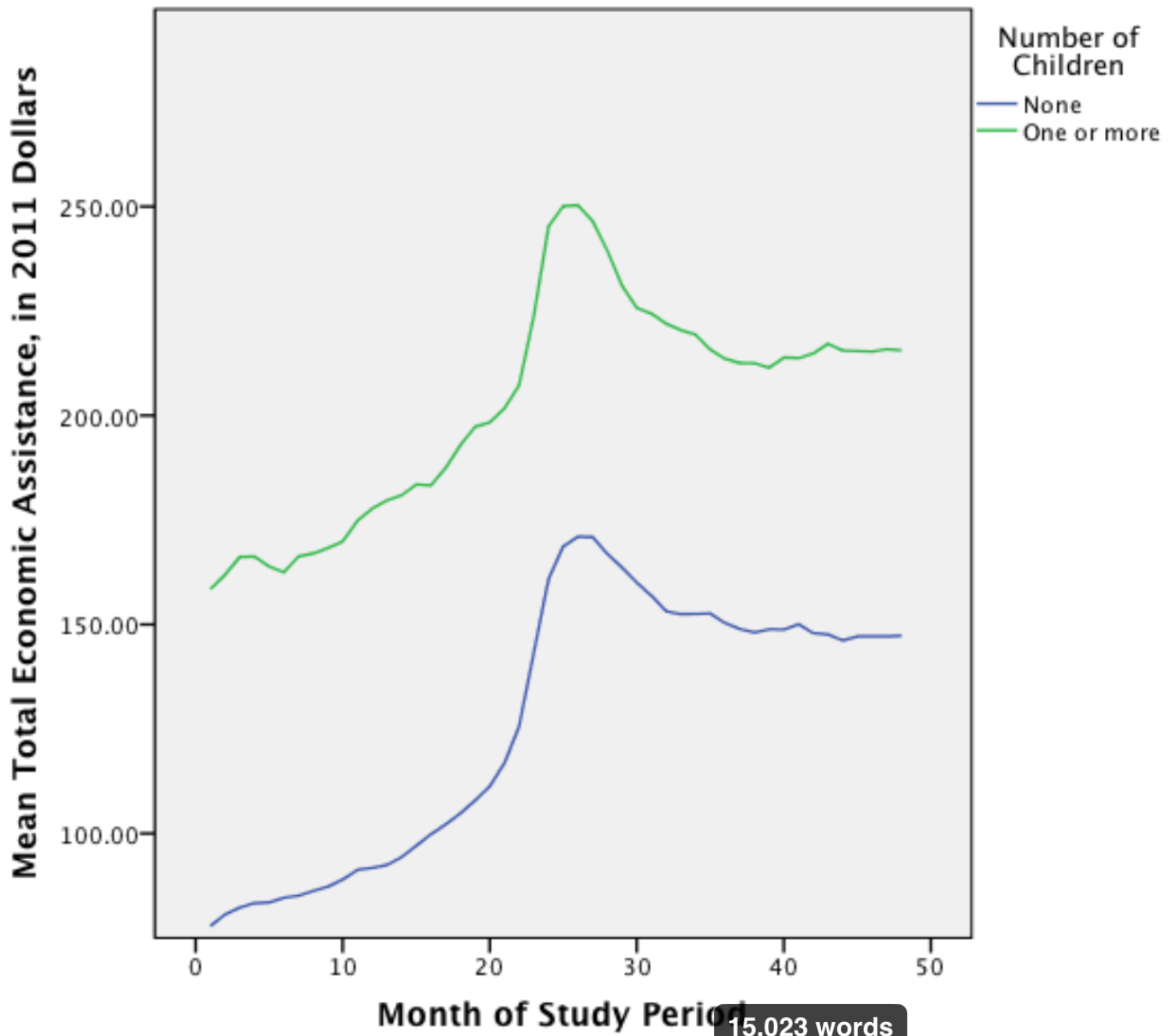


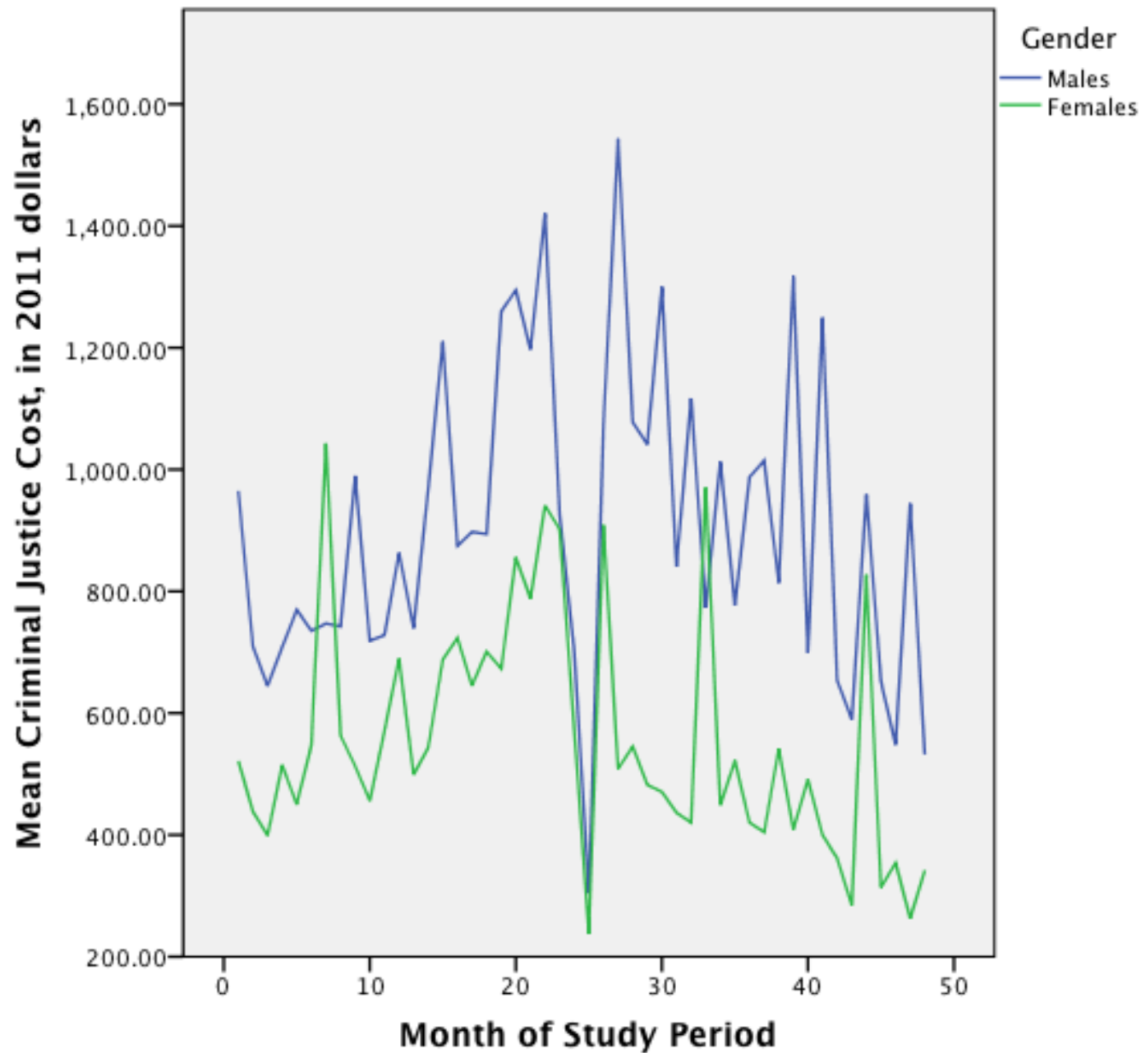


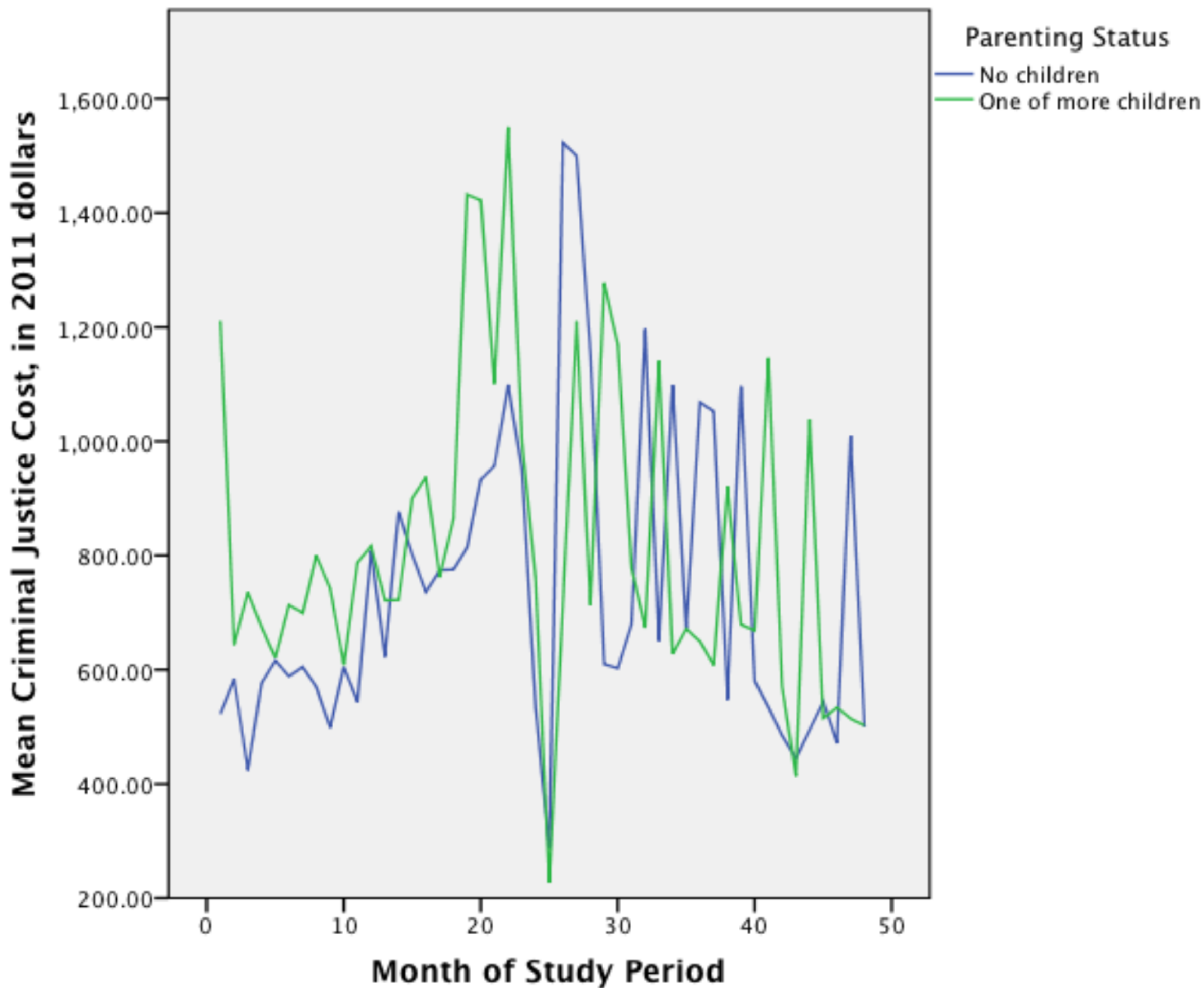


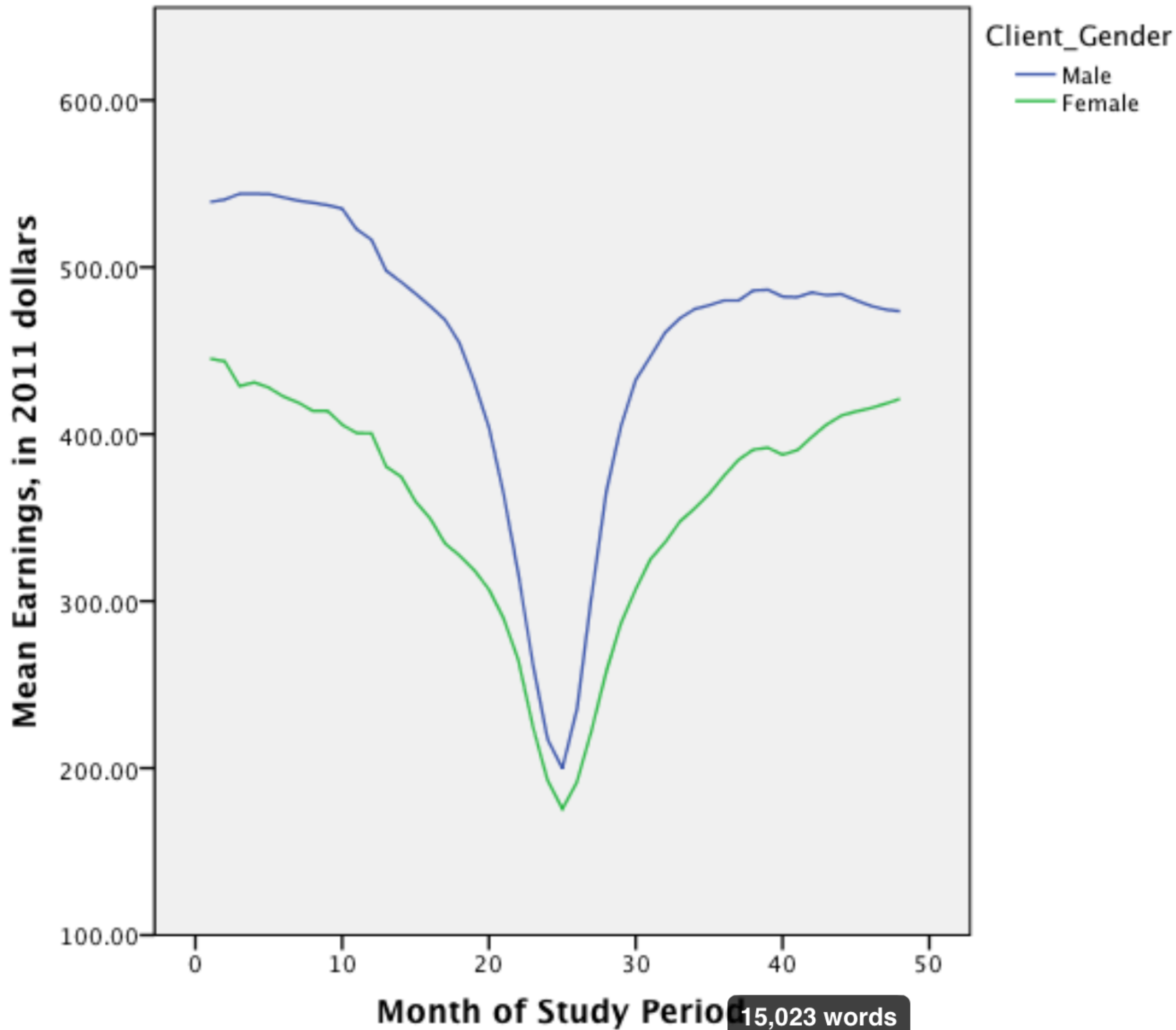


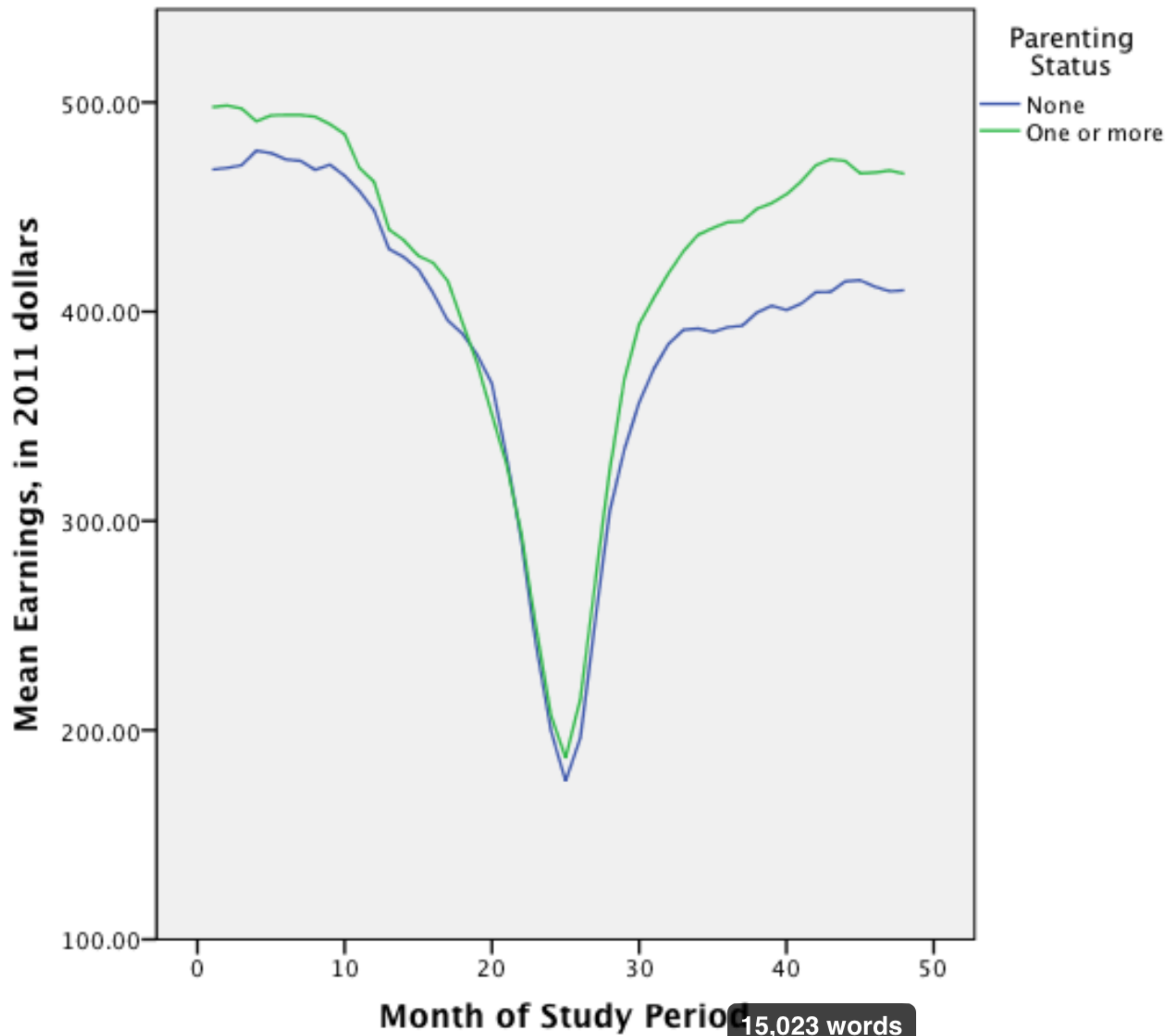
15,023 words



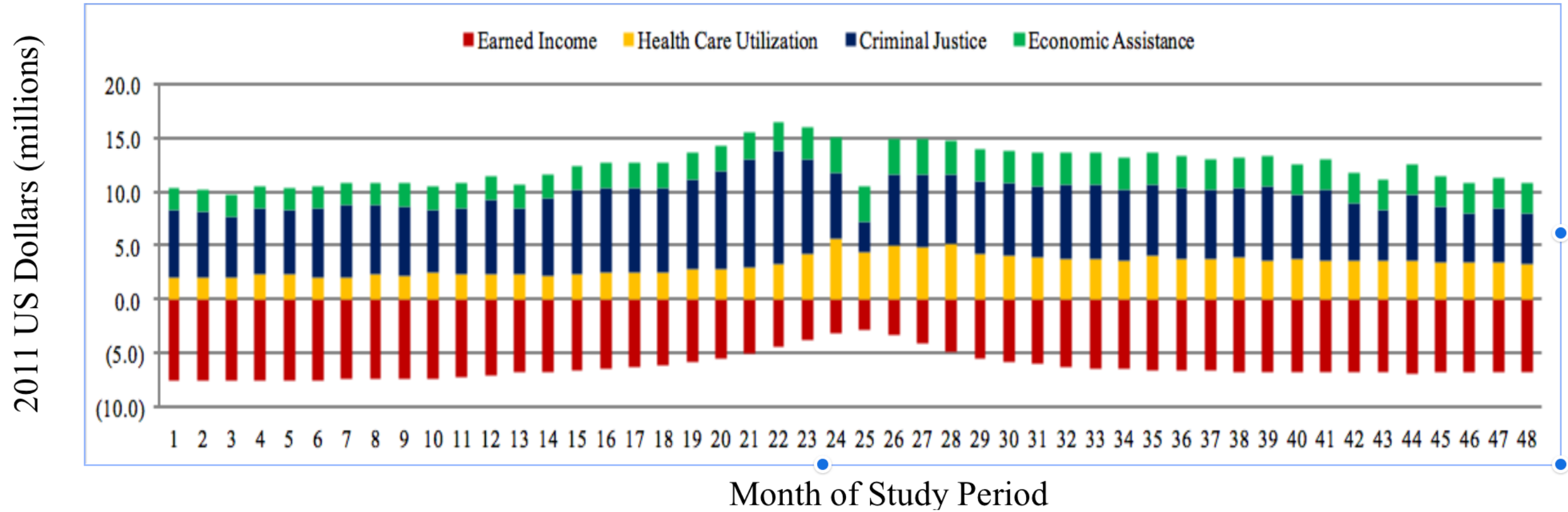








# evaluate benefits & other outcomes



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assessing effectiveness



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# effectiveness

- this is what evaluators excel at (measuring)!
- from the same perspective as costs
- at the same level of specificity as costs
- But what to do with multiple outcomes?
- But how to compare the effectiveness of different programs?

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# When outcomes are multiple ...

- Common in human services, and in most organizations:
- examine their mission statements!

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## OBSERVATION SHEET

[illegible]



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# operational definitions for effectiveness

meetings and instrument testing. For example: “Complaining/Bitching/Crying to Adults” was defined as

... occurring in the absence of (i.e., at least 5 minutes after) any denial of child-initiated requests. *6N* [the behavior] is the critical, verbal expression of dissatisfaction with the present state of affairs. Crying, denoted by tears, and whimpering, are also members of the *6N* category. *6N* behaviors are usually preceded by “Why . . .?” as in “Why are we having spinach again?” “I hate Learning House” and “I feel like a dead horse” are also examples of *6N* behaviors. *6N* is never recorded during family meetings, when complaints and constructive criticism of Learning House and its clients and staff are openly solicited. Minor “tattling,” e.g., “I saw Johnny spill the cat’s milk,” also is a *6N* response.



# composite indicators

## Importance Weightings

Staff discussion made it clear that some of the twenty behaviors were more important to normalize than others. Staff and researchers decided that the relative importance of each behavior could be surveyed, transformed into a number, and incorporated into an overall outcome index that would be made by combining data from all effectiveness variables. The six staff members were asked to independently rate the relative importance of each variable using ten-point scales:

(one of the behaviors) is

.....

much <i>more</i>	much <i>less</i>
important	important

than other behaviors.

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# importance weightings from ratings:

<sup>2</sup> Mathematically expressed, the importance weightings were computed

$$W_b = \frac{\sum_{i=1}^m [r_{i,b} / (\sum_{b=1}^n r_{i,b} / n)]}{m}$$

where  $m$  is the total number of staff members who supplied ratings,  $n$  is the total number of effectiveness variables, and  $r_{i,b}$  is the rating of importance given by staff member  $i$  for effectiveness variable  $b$ .



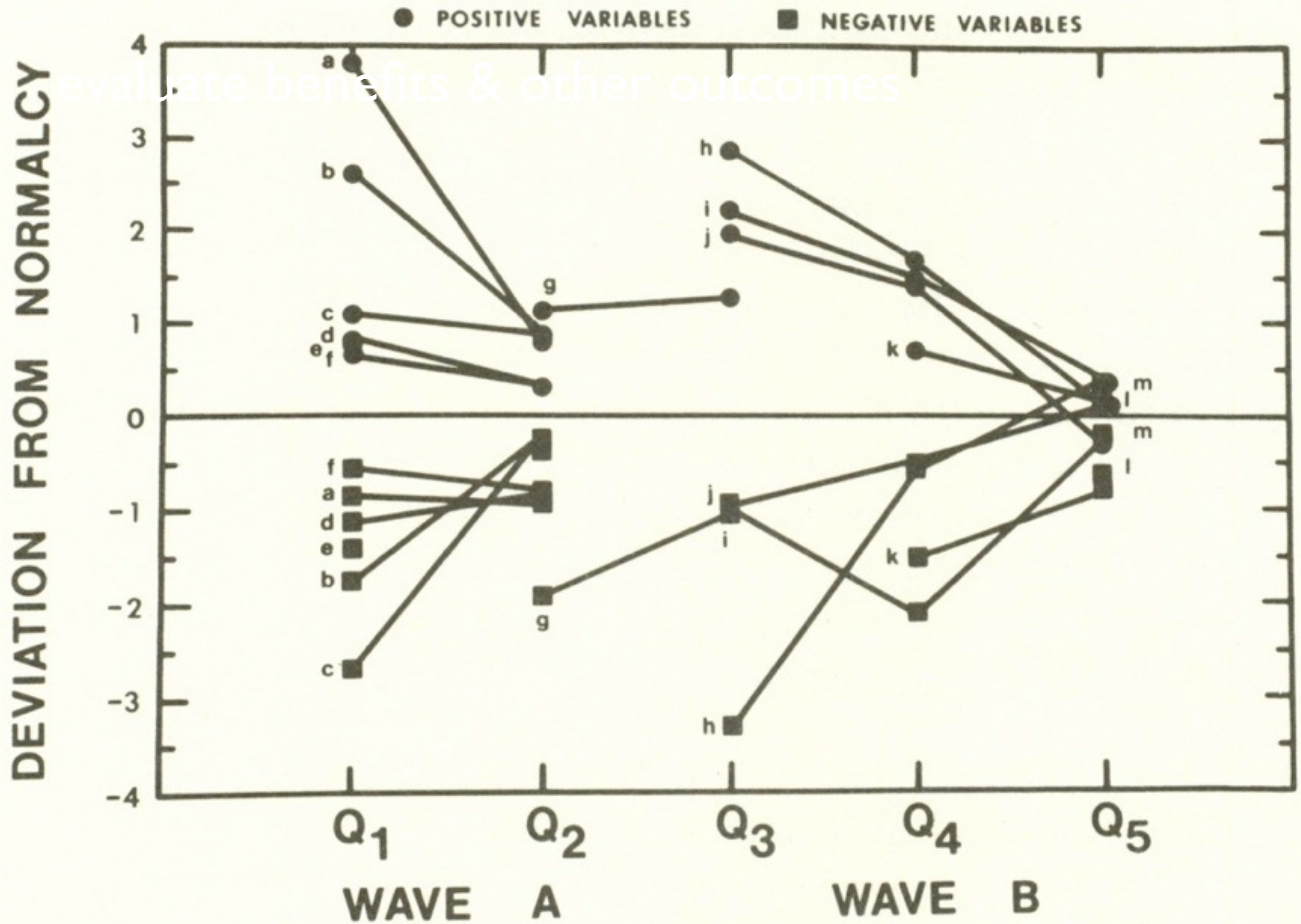


Figure 3. Mean effectiveness for positive and negative effectiveness variables for each child in two successive groups. Lower case letters indicate specific children. From Yates, Haven, and Thoresen (1979).

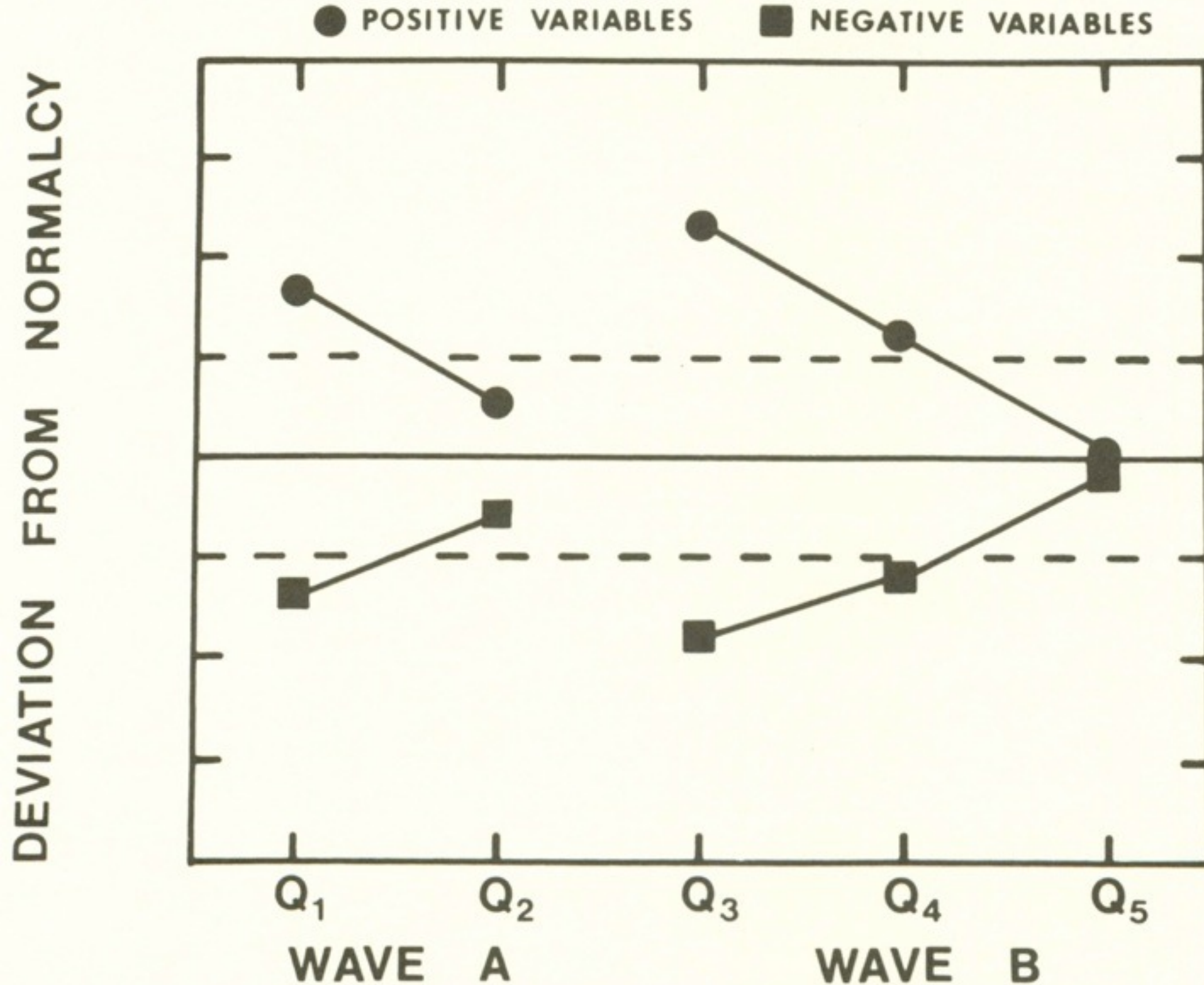


Figure 4. Average effectiveness score for positive and negative effectiveness variables of children who spent two or more quarters in a group (dash lines indicate one standard deviation from normative behavior frequencies). From Yates, Haven, and Thoresen (1979).



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comparing benefits,  
effectiveness

- How do you compare  
apples and oranges?  
... as fruit!

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# Estimating health utilities and quality adjusted life years in seasonal affective disorder research

Freed, M. C., Rohan, K. J., & Yates, B. T. (2007).  
*Journal of Affective Disorders, 100*, 83-89

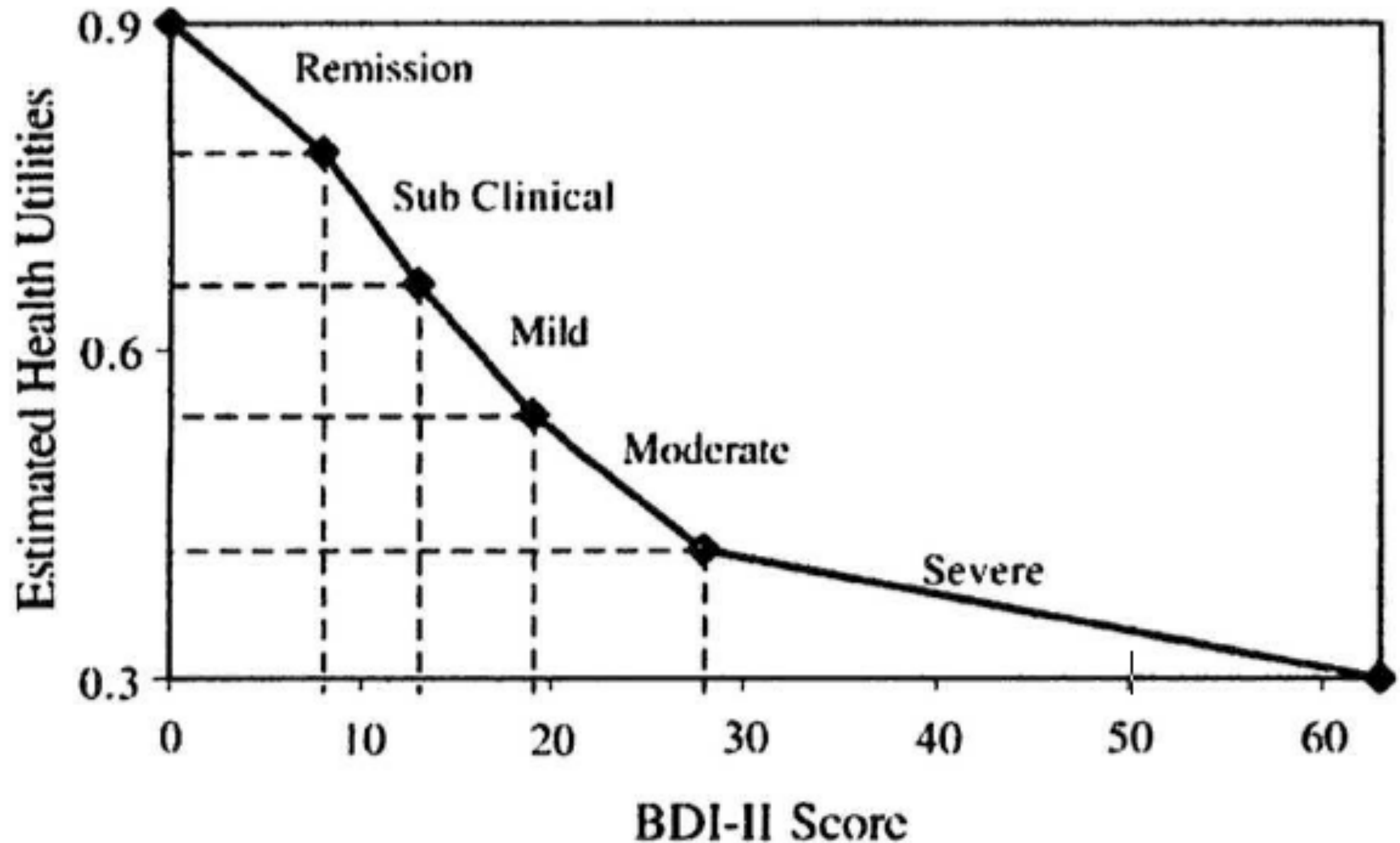
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# Quality Adjusted Life Year (QALY)

- define QALY
  - 1.00 QALY = 1 year in perfect health
  - 0.00 QALY = death

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# translate effectiveness into QALY



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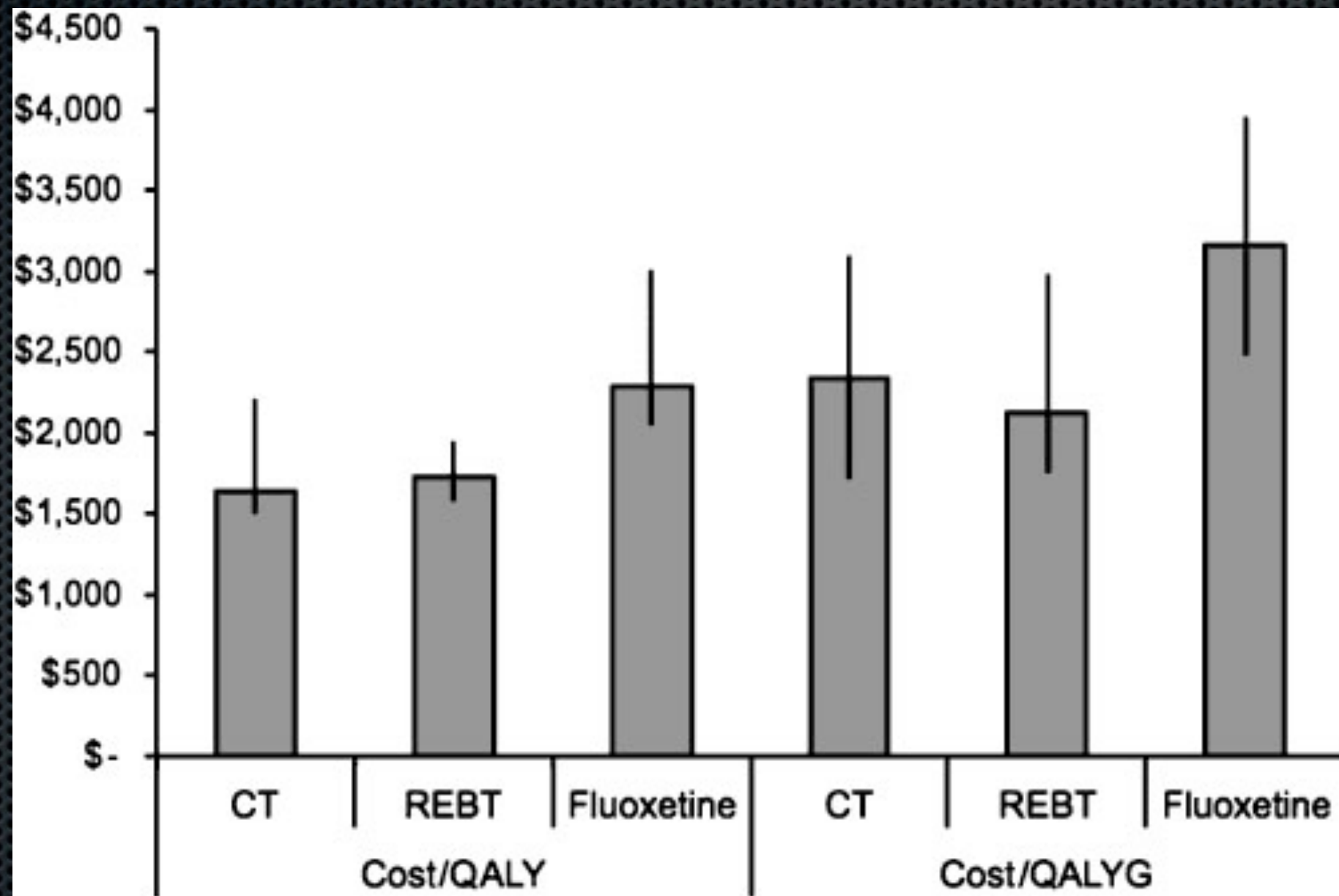
compare: Quality Adjusted  
Life Year Gained (QALYG)

- QALY Gained compared
  - no treatment: 0.3 QALY
  - Program: 0.7 QALY
  - $\text{QALY}_G$  for Program =  $0.7 - 0.3 = 0.4$



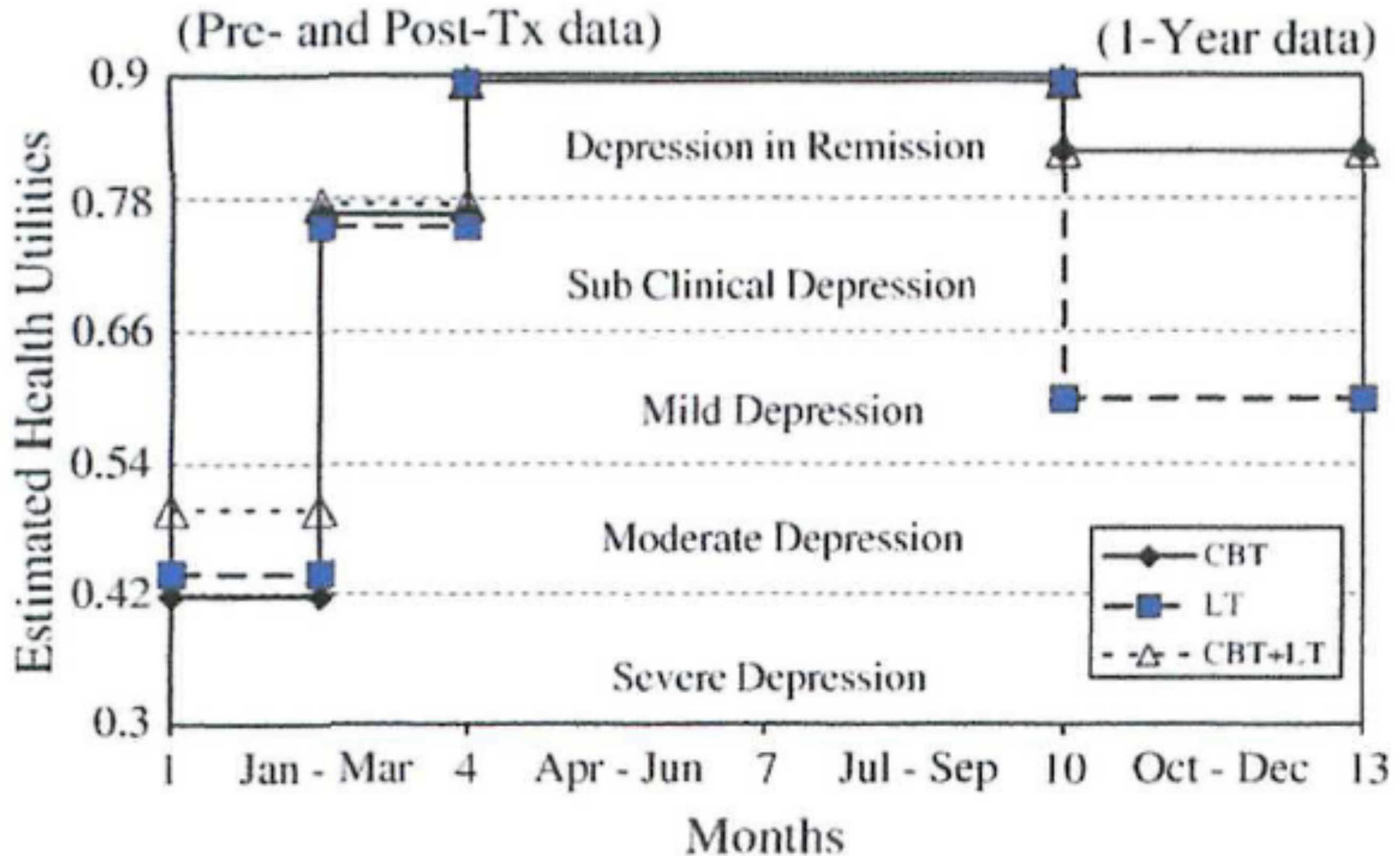
combine cost and outcome info

# Costs per QALY & QALY Gained





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questions, answers