

What Has It Gotten Us? Examining Incentives Over Time in a Cross-sectional Study

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This paper is intended to promote the exchange of ideas among researchers and policy makers. The views expressed in it are part of ongoing research and analysis and do not necessarily reflect the position of the U.S. Department of Education.

Purpose of the Session

- Background
- Monetary Incentive Experiments
 - NPSAS:2000
 - NPSAS: 2004
 - NPSAS:2008
 - NPSAS:2012
- Future directions

National Postsecondary Student Aid Study (NPSAS)

- Purpose: Examine how students and their families pay for college.
 - Nationally representative sample of undergraduate and graduate students attending postsecondary institutions.

Thus, we can...

Examine the characteristics of students enrolled in all levels of postsecondary education.

National Postsecondary Student Aid Study (NPSAS)

- Legislatively mandated data collection to make sense of the federal government's \$100B per year investment in financing students' postsecondary educations
- Heavily used by policymakers, analysts, and researchers to understand programs like the Pell Grant and the Stafford Loan

NPSAS Sampling Design

- **Sampling occurs in two stages:**
 - ✓ Sample institutions - about 1/3 of all Title IV eligible postsecondary
 - ✓ Sample students within institutions, totaling about 138,000 students for NPSAS:08
- **Respondent data are weighted to represent national estimates**
 - 21 million undergraduate and 3 million graduate students enrolled in about than 6,800 institutions.

NPSAS Data Sources

- Self-reported, web and telephone interview
- Institutionally-reported data
- Other administrative data sources
 - Central Processing System (FAFSA)
 - National Student Loan Data System (Federal Loans, Pell Grants)
 - National Student Clearinghouse
 - SAT/ACT Data
 - Integrated Postsecondary Education Data System (IPEDS)

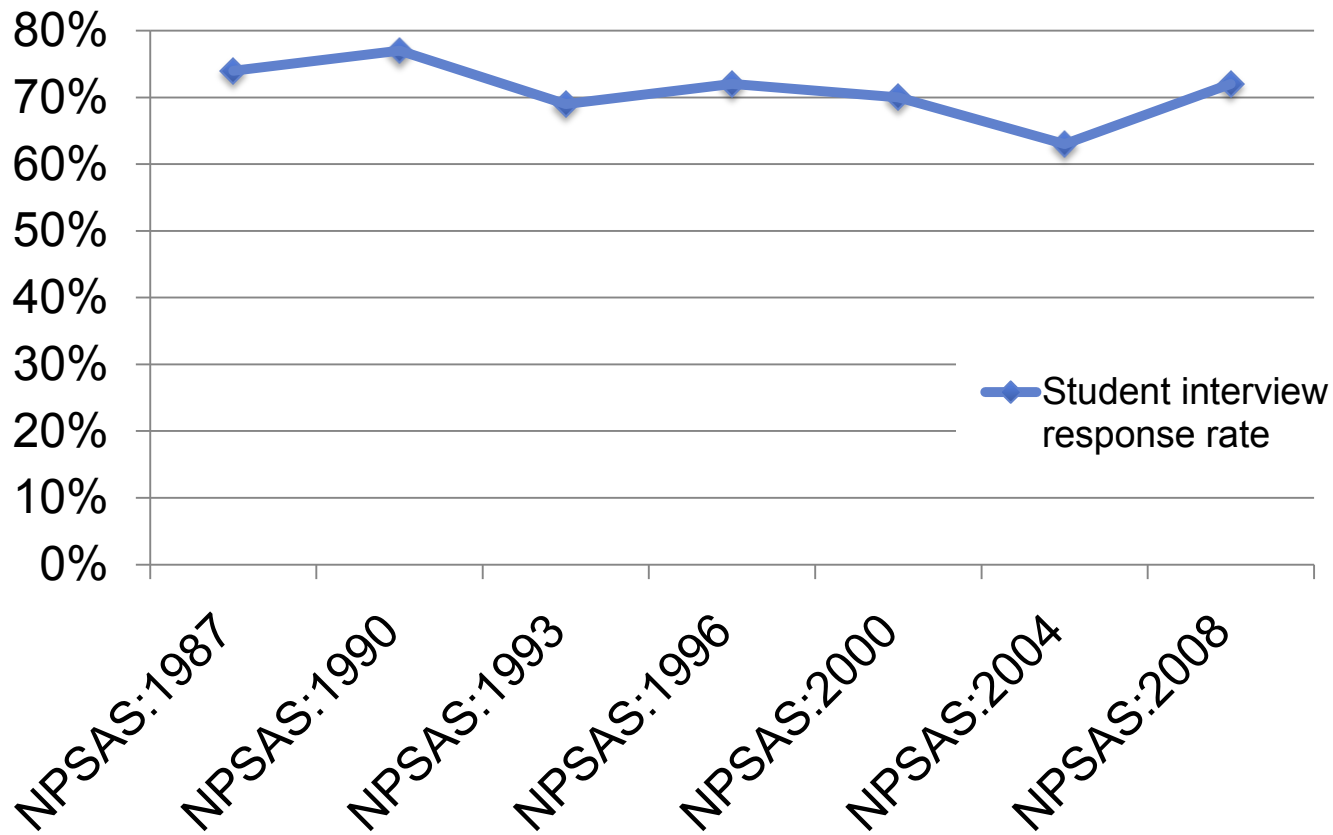
Unique Features of NPSAS

- Large scale, repeated cross-sectional study, not longitudinal
- Students sampled on a flow basis
 - Like multiple cohorts starting study at different times
- Student interview just one source to define a respondent
- Abundance of administrative data sources
- Increasingly self-administered

The Problem

- **Difficulty achieving response rates:**
 - Hard to reach students with all the screening devices and cell phones available
 - Mobile students
 - Unconventional schedules of students
- **Agency budget constraints**
- **Tight schedules**

Student Interview Response Rates – Full Scale



The Solution

A two-pronged approach:

- Effective use of respondent incentives
- Implement web-based data collection instrument

NPSAS Field Test Incentive Experiments in a Nutshell

NPSAS:2000	Phase I- Early response	Phase II- Outbound calls	\$0 v. \$20 (\$5 cash prepaid with \$15 promised)
NPSAS:2004			\$0 v. \$10 or \$20 promised
NPSAS:2008	\$30 early response, no experiment	Phase II- Outbound calls	\$10 check prepaid with \$20 promised v. \$30 promised
NPSAS:2012	Incentives throughout data collection High Propensity: \$30 v. \$15; Low Propensity: \$30 v. \$45		

**Phase I-
Early response**

**Phase II-
Outbound calls**

**Phase III-
Nonresponse
conversion**

NPSAS:2000 Field Test Experiment

Question: Will an incentive increase participation among certain nonresponse groups?

Target: Refusals, those with no telephone, and hard to reach

Experiment: \$0 vs. \$20 (\$5 prepaid cash with \$15 promised) to certain types of nonrespondents

Result: Overall, 55% of treatment group responded vs. 50% of the control group. Not significant.

NPSAS:2000 Full-Scale Data Collection

FS Incentive plan:

Initial: \$20 (\$5 prepaid/\$15 promised) to refusals and those with no valid telephone number

Final: \$20 promised to all nonrespondents

Result:

Overall, student interview response rate was 70%. Of those offered incentives, 50% responded (about one-quarter of all student interviews).

NPSAS:2004 Field Test Experiments

Question 1: Will an incentive increase participation during the early response phase and promote a higher rate of online interview completion?

Experiment: \$0, \$10 promised, \$20 promised to all sample members during early response phase

Results: Yes, incentive groups had higher response rates: 23% for treatment groups, 13% for control group. No difference between \$10 and \$20 groups. The treatment groups also responded online at a higher rate.

NPSAS:2004 Field Test Experiments

Question 2: Will an incentive increase participation during the nonresponse conversion phase?

Experiment: \$0 vs. \$20 promised to certain types of nonrespondent (e.g., hard to reach, etc.)

Results: Yes, incentive increased participation: 33% of treatment group responded vs. 15% of the control group.

NPSAS:2004 Full-Scale Data Collection

FS Incentive plan:

Early Response: \$10 promised

Nonresponse:

Initial: \$20 promised to certain nonrespondents

Final: \$30 promised to all nonrespondents

Result:

Overall, student interview response rate about 63%, lowest ever in NPSAS history....Why?

NPSAS:2008 Field Test Experiment

Question: Is an incentive with a prepaid component more effective than a promised incentive among nonrespondents?

Target: Refusals and hard to reach

Experiment: \$10 prepaid check with \$20 promised vs. \$30 promised

Result: No difference; 34% response rate for each treatment group

NPSAS:2008 Full-Scale Data Collection

FS Incentive plan:

Early Response: \$30 promised to all

Nonresponse:

Initial: \$30 promised to certain types of nonrespondents

Final: \$30 promised to all nonrespondents

Result:

Overall, student interview response rate about 72%: 34.5% of sample members responded during early response period, 7.5% during outbound call period with no incentive, 29.7% during nonresponse conversion period

Questions resulting from NPSAS:08

- Is \$30 the correct incentive level to yield the best results?
- Is the outbound calling period with no incentive necessary. Only yielded 10% of the completed interviews.

NPSAS:2012 Time For Something New

- Should everyone get the same incentive amount regardless of their likelihood of responding?

Or

- Should we use a person's likelihood of response to target incentives – response propensity?

NPSAS:2012 Time For Something New

Why ask?

- Possibly reduce nonresponse bias by targeting higher incentives at low propensity cases.
- Possibly get higher propensity cases to respond at lower incentive levels.

NPSAS:2012 Field Test Experiment

Developed a propensity model based on NPSAS:04 data, applied model to NPSAS:12 field test sample members

Experiment

Treatment group	Count	Control	Treatment
High propensity	3,190	\$30	\$15
Low propensity	1,400	\$30	\$45

NPSAS:2012 Field Test Experiment

Questions:

- 1) Can the response propensity model distinguish between high and low response propensity cases?
- 2) Will high propensity cases respond at same rate at a lower incentive amount?
- 3) Will more low propensity cases response at a higher incentive amount?
- 4) Will this model help reduce nonresponse bias?

NPSAS:2012 Field Test Experiment

Questions 2 and 3 results: High propensity treatment group had significantly lower response rate. Low propensity – no difference.

Treatment group	Response rate
High propensity	
Control (\$30)	71.6%
Treatment (\$15)	64.6%*
Low propensity	
Control (\$30)	57.2%
Treatment (\$45)	60.2%

* $p < 0.0001$

NPSAS:2012 Field Test Experiment

Other results

Q1: Was the response propensity model able to distinguish between high and low propensity cases?

Yes, did a good job of identifying cases.

Q4: Did the response propensity model result in a reduction in nonresponse bias?

No. Used low propensity cases to test for bias and since there was no significant difference in participation between the control and treatment groups, a reduction in bias would not be observed.

NPSAS:2012 Full-Scale Plans

- Offer \$30 to all sample members throughout data collection
- Don't use response propensity – It did not reduce bias
- Target nonmonetary interventions to students in certain types of institutions that historically have low response rates. How?
 - Make outbound calls immediately instead of allowing for a 3 week self-administration period
 - Start tracing activities earlier

Future Directions – Some Thoughts

- Increasing response rates do not mean reduced bias.
- Can we identify *a priori* sample members that contribute most to bias?
- What about using Responsive Design techniques to change strategies during data collection to target these folks and gain their participation?
- Will try in our Baccalaureate and Beyond Longitudinal Study.

Questions?

Thank you!

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