turning knowledge into practice

Modeling Context Effects in the National Survey on Drug Use and Health

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Today's presentation

- Context Effects in Surveys
- NSDUH Overview
- Analysis and Results
- Conclusion

Context Effects

- Context effects occur when response to a question is affected by information that is not part of the question itself
  - Example 1 – “Fewer people say their taxes are too high after being asked a series of items about whether government spending should be increased in various areas.” (Converse and Presser, 1986)
  - Example 2 – Lower reports of difficulty seeing among those asked a preceding series of items on vision conditions than those not asked (Todorov, 2000)

Research on Context Effects

- Produced in mostly small scale experiments; some evidence from split ballot experiments
- Most studies follow an aggregate approach (effects across entire population)
- Less attention to examining if different types of individuals are more or less susceptible to context effects

NSDUH Overview

- Annual cross-sectional household survey that is the primary source of information on the use of illicit drugs, alcohol, and tobacco in the United States among the non-institutionalized population 12 and older
- Data collected by RTI International for the Substance Abuse and Mental Health Services Administration (SAMHSA)
- Approximately 170,000 households are screened and 67,500 interviews are conducted each year

NSDUH Overview (cont.)

- Administered through a combination of audio computer assisted interviewing (ACASI) and computer assisted personal interviewing (CAPI)
- Data are used by policymakers and researchers to assess the prevalence and correlates of substance use, to identify and monitor trends in substance use, and to analyze differences by population subgroups.
- Changes in the questionnaire can lead to changes in context which could affect trend estimates

Context Effects – SEN13B

SEN13A How do you feel about adults smoking one or more packs of cigarettes per day?

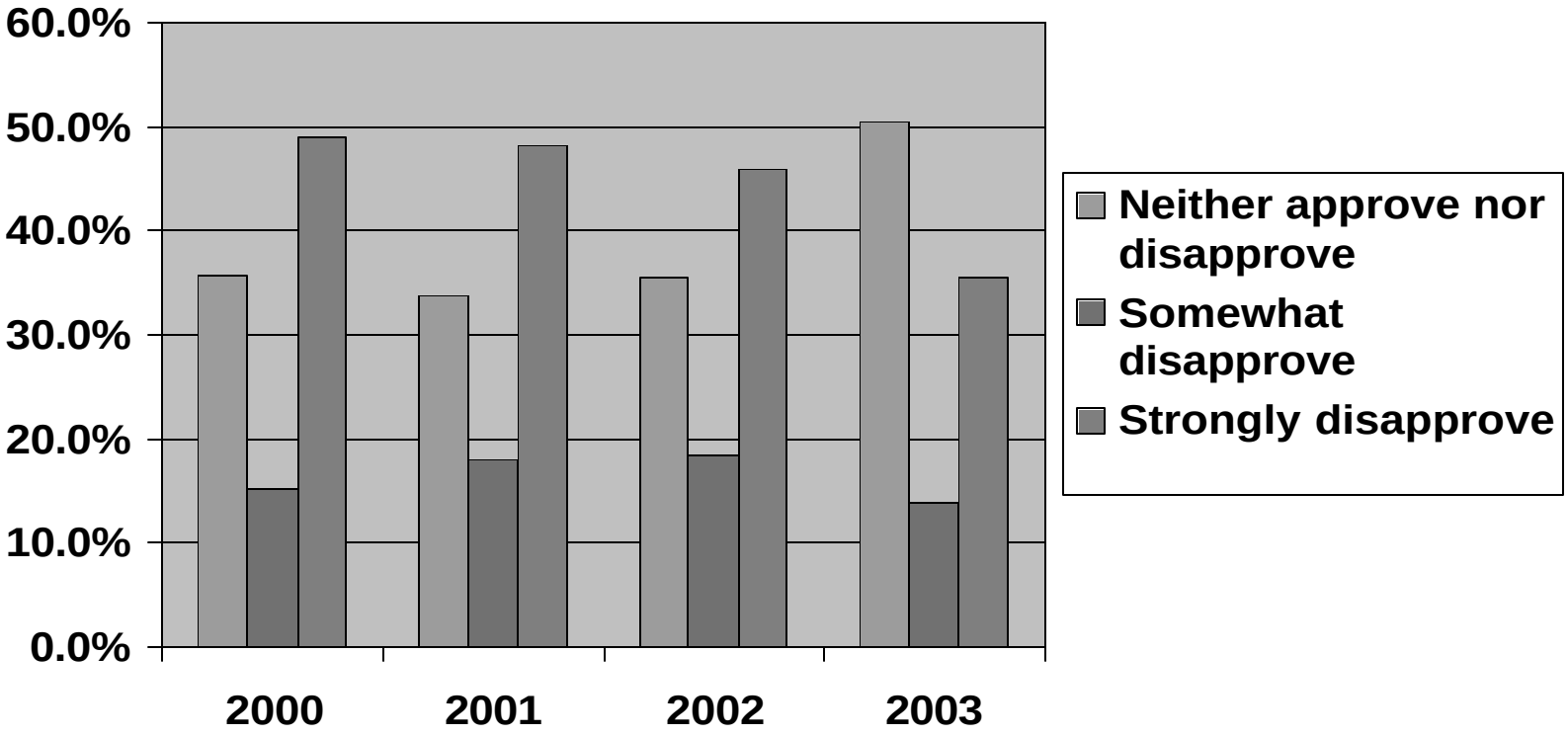
1. Neither approve nor disapprove
2. Somewhat disapprove
3. Strongly disapprove

SEN13B How do you feel about adults trying marijuana or hashish once or twice?

1. Neither approve nor disapprove
2. Somewhat disapprove
3. Strongly disapprove

In 2002, both items were asked; In 2003, item SEN13A was dropped.

SEN13B – Percentages, 2000 – 2003 (unweighted)



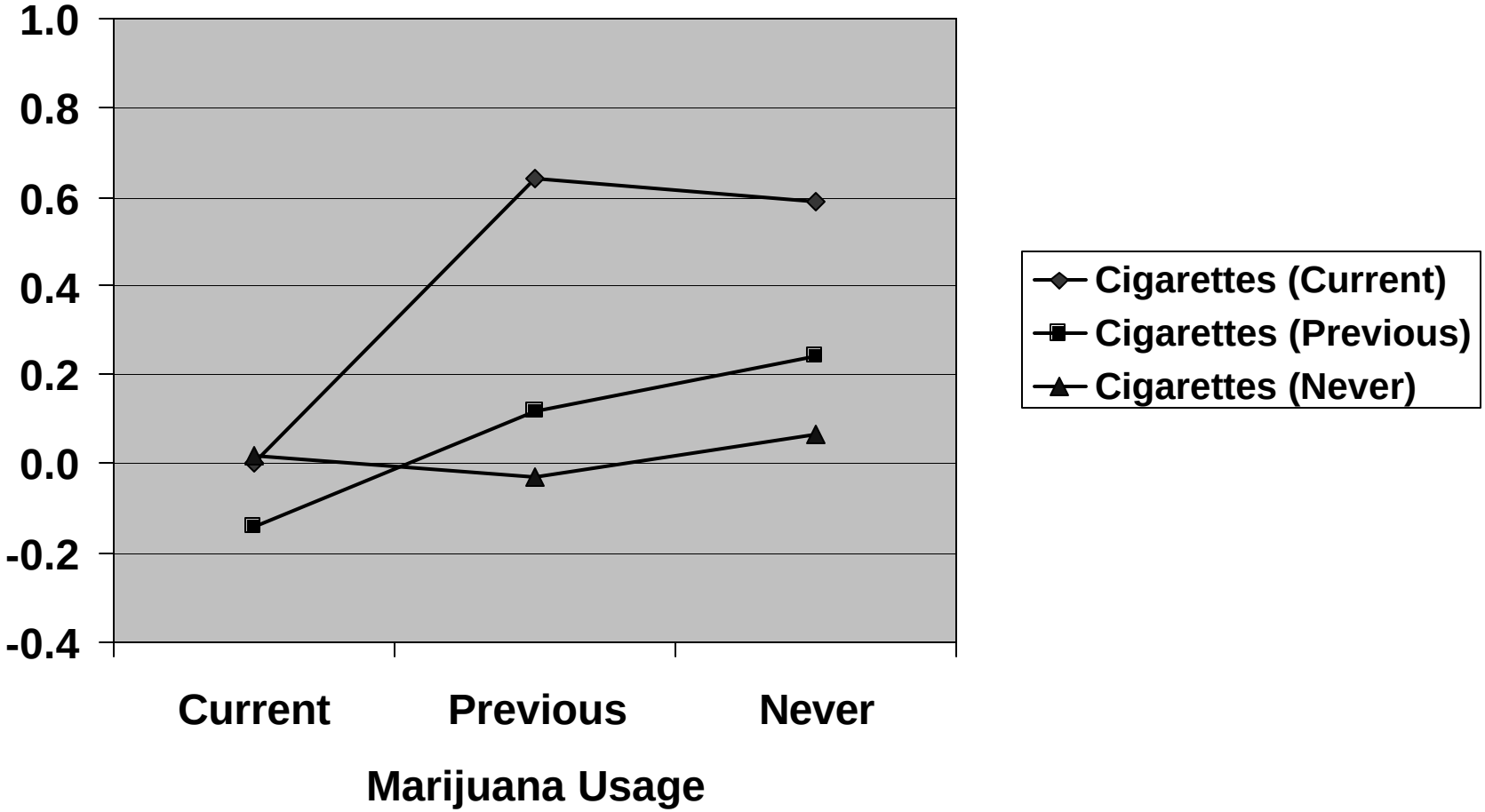
Modeling Changes in Responses to SEN13B between 2002 and 2003

- Carried out regression analyses of item SEN13B in 2002 and 2003 and compared changes in the effects for different groups of respondents
- One set of covariates defined by nine groups based on combinations of marijuana and cigarette usage:
  - Current (used in the last 30 days)
  - Previous (used more than 30 days ago)
  - Never used
- 2002 model includes responses to item SEN13A
- Results shown here are unweighted; also carried out analyses using selection and final analysis weights; mostly similar results

Logistic Regression Results (Regression coefficients)

Variable	2002	2003	Difference (2003-2002)
Current Cigarette, Previous Marijuana	-1.36	-0.72	0.64
Current Cigarette, Never Marijuana	-2.21	-1.62	0.59
Previous Cigarette, Current Marijuana	0.29	0.15	-0.14
Previous Cigarette, Previous Marijuana	-1.18	-1.06	0.12
Previous Cigarette, Never Marijuana	-2.36	-2.12	0.24
Never Cigarette, Current Marijuana	-0.15	-0.13	0.02
Never Cigarette, Previous Marijuana	-1.12	-1.15	-0.03
Never Cigarette, Never Marijuana	-2.31	-2.25	0.07
Somewhat disapprove of cigarettes (SEN13A=2)	-1.58	NA	NA
Somewhat disapprove of cigarettes (SEN13A=3)	-1.91	NA	NA
Constant	3.43	3.14	-0.29

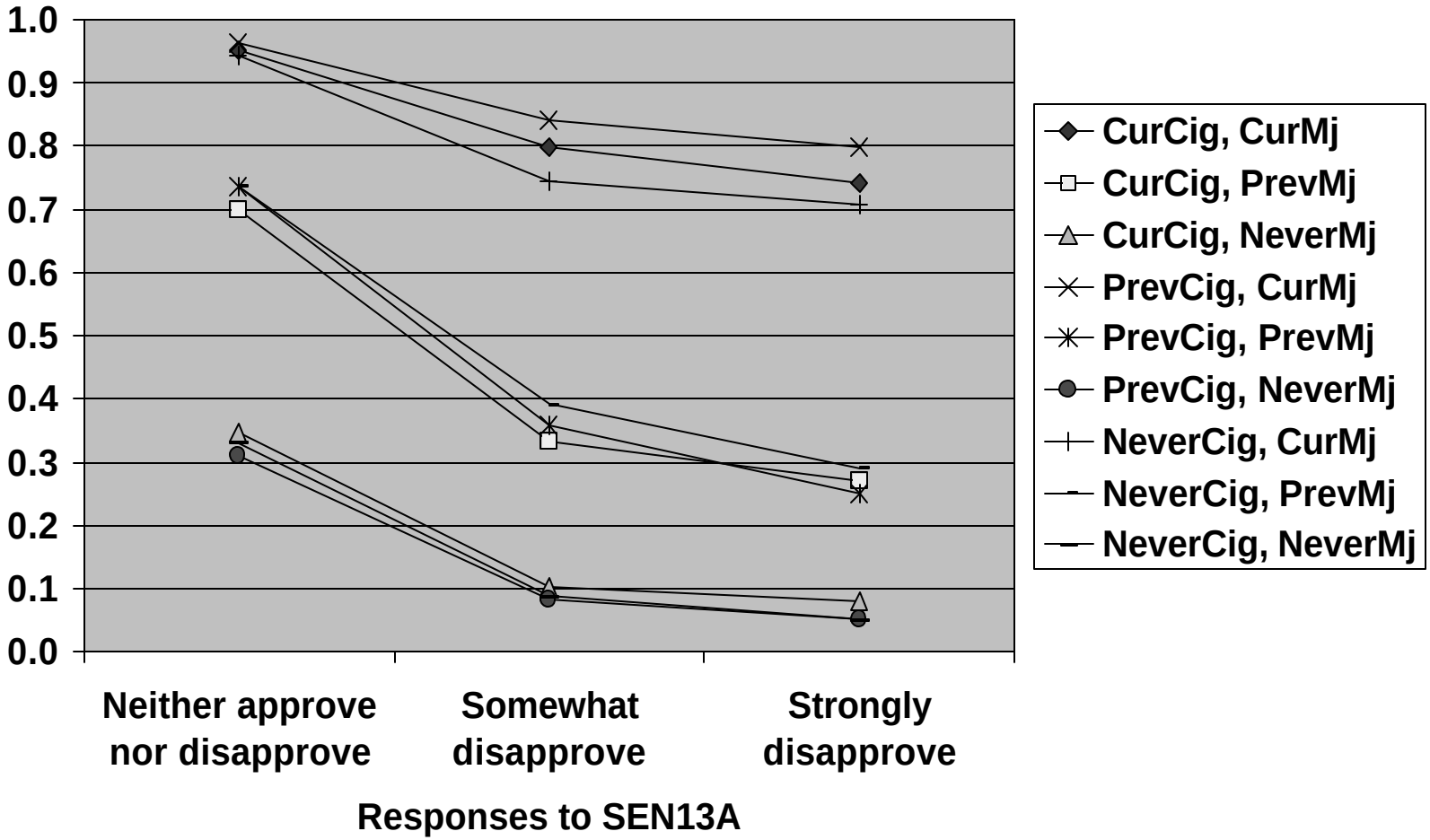
Differences in Regression Coefficients for Cigarette, Marijuana Usage Groups, 2003-2002



Decomposition of Difference in SEN13B Responses

Cigarette Usage	Marijuana Usage	Percent (2002)	Percent (2003)	Percent SEN13B=1 (2002)	Percent SEN13B=1 (2003)	Contribution to total difference
Current	Current	8.5	7.9	86.7	90.8	-0.2
Current	Previous	18.5	18.3	55.0	72.5	3.1
Current	Never	8.5	8.5	27.3	43.1	1.3
Previous	Current	2.6	2.5	82.7	91.5	0.1
Previous	Previous	18.4	18.6	38.0	59.9	4.2
Previous	Never	17.4	17.3	12.7	26.8	2.4
Never	Current	0.6	0.7	75.3	88.7	0.1
Never	Previous	3.3	3.5	39.9	59.4	0.8
Never	Never	22.3	22.7	11.7	24.7	3.0

Average Predicted Probabilities of Response of "Neither approve nor disapprove" to SEN13B, 2002 NSDUH



Additional Results

- In both years, respondents who perceive high levels of risk from regular cigarette use are more likely to respond with “neither approve nor disapprove” of marijuana (SEN13B) than those who perceive no risk from regular cigarette usage.
- No change in the effect of perception of risks from cigarettes between 2002 and 2003 in unweighted estimates; change in effect occurs in weighted estimates
- Association between responses to SEN13B and use of marijuana in the last 30 days is higher in 2002 than in 2003 (Estimates for SEN13B in 2002 more valid?)

Conclusion

- Regression models correctly identify large changes in responses among current cigarette users and lack of change in responses among current marijuana users
- Change seemed to have affected all respondents to a certain extent, even among current marijuana users
- Further analysis of those who do not smoke either cigarettes or marijuana using other items that could affect beliefs about cigarettes and/or marijuana
- Any way to have predicted these changes just using 2002 data alone?

Thank You!

- Presentation available at: www.rti.org/jsm
- Information on NSDUH at www.oas.samhsa.gov/nhsda.htm
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