



ADDICTION RESEARCH DEVELOPMENT IN GEORGIA PROJECT

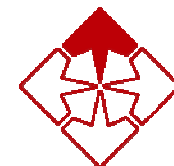
The Randomized Response Technique (RRT) application to the National Survey on Substance Use in General Population in Georgia 2015

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Objectives

- Prevalence of use of tobacco, alcohol and other psychoactive substances in the general population and various subgroups
- Gambling and its consequences
- Attitudes towards substance use and legislative measures



Study population

Target population:

- Any gender
- 18-64 years old at the moment of the interview
- Georgian citizen
- Ability to read and write in Georgian

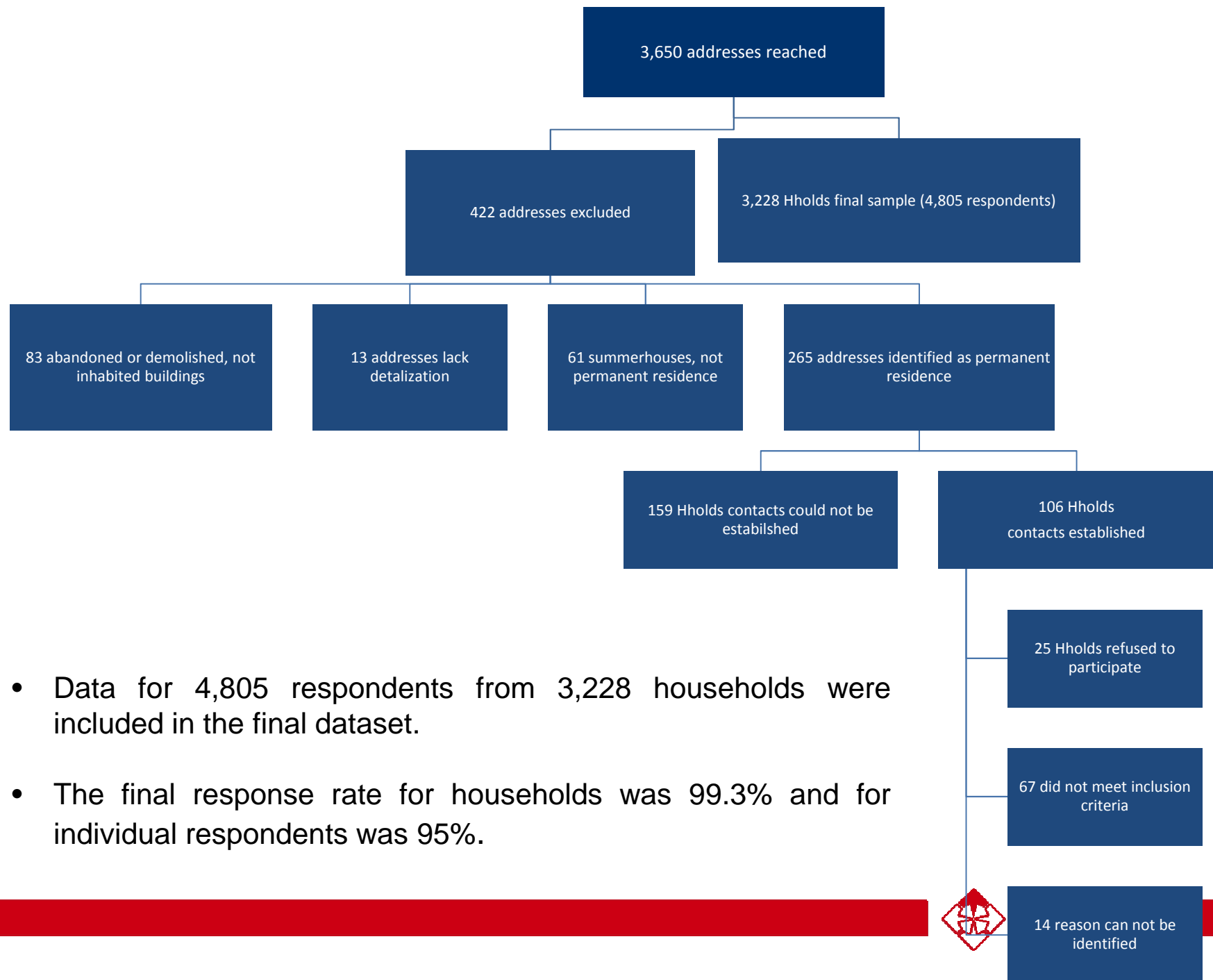
Exclusion criteria:

- Under 18 and above 64 years old'
- Individuals residing in territories occupied by Russia (Abkhazia and Samachablo)
- Lessee/temporary resident, who were not the members of the selected household
- Individuals, who already took part in the survey
- Presence of mental, physical or any other kind of disability, that interfered with ability to participate in the survey independently and fully
- Institutionalized individuals (elderly homes, hospitals, penitentiary institutions);



Survey Instrument

- General physical and mental health (12 questions)
- Alcohol Use (3 questions)
- AUDIT (10 questions)
- Tobacco use, including e-cigarettes (6 questions)
- Use of psychotropic substances without doctor's prescription (7 questions);
- Cannabis (marijuana/hashish) use (8 questions)
- Use of NPS (8 questions)
- Other illegal substances (7 questions about 12 substances): inhalants, ecstasy, LSD, cocaine, meth/amphetamine, homemade stimulants (Vint, Jeff), heroine, opium, other opiates, buprenorphine, methadone and hillarine (non existing drug)
- Gambling and gaming (9 questions)
- HIV testing; treatment experience (alcohol and other substances) (8 questions)
- Attitudes towards marijuana, injecting drug users and drug policy (6 questions)
- Demographic data (9 questions)
- **RRT (6 pairs of questions)**



- Data for 4,805 respondents from 3,228 households were included in the final dataset.
- The final response rate for households was 99.3% and for individual respondents was 95%.

Randomized Response Technique

- Proposed as a survey technique to reduce potential bias due to nonresponse and social desirability when asking questions about sensitive behaviors and beliefs (Warner, 1965)
- Use of randomization device (outcome unobserved by the interviewer) conceals individual responses and protects respondent privacy

Basic RRT designs with known probability

- Mirrored Question Design (*randomize whether or not a respondent answers the sensitive item or its inverse*)
- Forced Response Design (*randomization determines whether a respondent truthfully answers the sensitive question or simply replies with a forced answer, “yes” or “no”*)
- Disguised Response Design (*modification of Forced Response Design*)
- Unrelated Question Design (*randomization determines whether a respondent should answer a sensitive question or an unrelated, nonsensitive question*)

Graeme BLAIR, Kosuke IMAI, and Yang-Yang ZHOU (2015). Design and Analysis of the Randomized Response Technique
Vol. 110, No. 511, DOI: 10.1080/01621459.2015.1050028

Randomized Response Technique in Georgian GPS

- We used RRT as an additional tool to validate data collected with standard questionnaire
- Was used in a GPS and on such a big sample for the first time globally

Critical assumption:

- (1) the randomization distribution is known and is accurate
- (2) respondents comply with the instructions and answer the sensitive question truthfully

Answer if HEAD	Answer if TAIL
RRT1. Have you ever taken hashish or marihuana yourself?	Have you completed University?
	1 <input type="checkbox"/> Yes
	2 <input type="checkbox"/> No
RRT3. Have you ever taken new synthetic drugs yourself?	Where are you insured by state health care universal insurance last year?
	1 <input type="checkbox"/> Yes
	2 <input type="checkbox"/> No
RRT4. Have you ever taken home-made stimulants yourself?	Are you employed?
	1 <input type="checkbox"/> Yes
	2 <input type="checkbox"/> No
RRT5. Have you ever taken heroin yourself?	Are you smoker?
	1 <input type="checkbox"/> Yes
	2 <input type="checkbox"/> No
RRT6. Have you ever taken Subutex yourself?	Did you get new ID card last year?
	1 <input type="checkbox"/> Yes
	2 <input type="checkbox"/> No
RRT7. Have you ever taken Krakadil yourself?	Did you get new passport last year?
	1 <input type="checkbox"/> Yes
	2 <input type="checkbox"/> No



RRT application to cannabis use

- RRT1: Have you ever used hashish or marijuana?
- 4,758 responses (47 missing), 1,806 “yes”
- Our estimate: $4,758 / 2 = 2,379$ answered question about education
- 46% of this answers belongs to the question about education ($2,379 * 46\% = 1,094$)
- After calculation, we have 712 “yes” answers to marijuana consumption ($1,806 - 1,094 = \underline{712}$)
 $712 / 2,379 = \underline{29.9\%}$
- RRT result: lifetime prevalence of marijuana use is around 30%, which is almost twice as much compared to the results gathered with the standard questionnaire – 15.9%

RRT Results

Substance	Standard Questionnaire %	RRT %
Marijuana (LTP)	15.9	29.9
Heroine (LTP)	0.7	9
Homemade Stimulants (LTP)	0.5	2
Buprenorphine (LTP)	0.9	3
NPS (LTP)	1.5	7.3

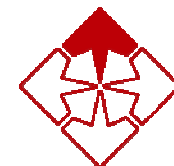
Conclusions

- Without exception, the GPS+RRT approach produced estimates that were larger than corresponding estimates from the standard GPS approach, or produced estimates when the standard GPS approach did not yield a useable estimate other than a working approximation.
- We suggest that the RRT approach to the GPS context should be refined and improved upon, and might become a useful adjunct to the now-standard GPS methods

Thank you!

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