Respondent Driven Sampling for Immigrant Populations: An Application to Foreign-Born Korean Americans*

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Jerzy Neyman
Background – 1

• Pressing needs for minority data collection
  - Changes in the racial/ethnic composition of the U.S. population
    → Expansion in the scope of policy agenda and research interests
  - Negative outcomes for minorities
  - Evidence for data on more granular racial/ethnic categories (e.g., Asian Americans vs. Korean Americans)

• No practical solutions for sampling

• Respondent driven sampling (RDS)
  - Variant of snowball sampling exploiting social networks
  - Chain-referral: seeds to their peers through incentivized recruitment using coupons
  - Potentially useful locating rare groups
Background – 2

• RDS for racial/ethnic minorities
  - Built-in social networks
  - Racial homophily
  - Applications limited mostly to the context of in-person surveys of migrants in Europe
  - Uncertain representation properties
This study

A Web-based RDS survey specifically designed to

• Evaluate its application for racial/ethnic minorities and

• Compare RDS sample against external data from two well-established probability sample surveys with respect to
  - geographic distributions and
  - population estimates
Data – 1

Health and Life Study of Koreans (HLSK)

• Targets foreign-born Korean American adults in
  • Los Angeles County
  • State of Michigan

• Web-RDS survey
  [http://sites.lsa.umich.edu/korean-healthlife-study/](http://sites.lsa.umich.edu/korean-healthlife-study/)
  • Unique number required for participation
  • Incentive through checks ($20 for survey; $5 per recruit)
  • June 2016 to March 2018
  • LA n=354 (from 128 seeds)
  • MI n=278 (from 93 seeds)
Data – 2

External data

• American Community Survey (ACS) 2012-2016
  • Flagship population data using area-probability sampling
  • Foreign-born Korean adults: LA n=7,983; MI n=789
  • Public Use Micro Sample (PUMS) and Summary File (SF)

• California Health Interview Survey (CHIS) 2013-2016
  • LA only
  • RDD telephone survey
  • Foreign-born Korean adults: LA n=407
  • AskCHIS (online query system) and sample counts through personal communication
Analysis

1. Geographic distributions
   • MI by county (HLSK sample, ACS pop)
   • LA by ZIPCODE (HLSK sample, ACS pop, CHIS sample)

2. Population estimates
   A. ACS and HLSK
      • MI and LA
      • Socio-demographics
      • Health: Insurance coverage, Disability
   B. CHIS and HLSK
      • LA only
      • Socio-demographics
      • Health: Insurance coverage, Disability + lots more
Results – Geographic distribution

- MI Maps
- LA Maps
Results – MI: ACS and HLSK
Results – LA: ACS and HLSK
Results – LA: CHIS and HLSK

- Had Hard Time Understanding Doctor
- Chronic Condition: Heart disease
- Needed Help for Mental Health
- BMI: Overweight/Obese
- Smoking Status: Current Smoker
- Chronic Condition: Diabetes
- Self-rated Health: Fair/Poor
- Have Usual Source of Care
- Binge Drinking Last Year
- Chronic Condition: Hypertension
Implications

- Geographic coverage promising
- Population estimates
  - HLSK fared well on family type, household size, employment type, and health insurance coverage and type
  - HLSK over-represented younger, more recent immigrants (hence, lower English proficiency and U.S. citizenship)
  - Unclear health outcome patterns
- Consistent patterns between MI and LA
- Over-representation of recent immigrants
  → Effectiveness for harder-to-recruit minority subgroups?
- Existing RDS-specific estimation methods ineffective
- Operational difficulties ← Recruitment noncooperation
THANK YOU!
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