RESPONDENT-DRIVEN SAMPLING

Respondent–driven sampling (RDS) is a **chain referral method** and a modification of snowball sampling used when the sampling frame of a population is not available. The method relies on initial subjects ("seeds") to **recruit participants from their networks.** These seeds need to be sufficiently generative by being strongly connected to the target community.

Researchers provide seeds referral coupons to recruit peers who fit the study criteria. A **fixed number of coupons** are given to each participant and contain information to identify the recruiter, location, and other indicators required to map out network characteristics.

The coupon system is used to control the number of recruits each participant can refer to the study and not over-represent one participant's peers with the larger social network. Recruitment waves are repeated through this **dual–incentive process**, where the recruiters and recruited are both compensated, until the sufficient sample is attained.

Sample size should be large and diverse enough to be representative of the population. The research team can derive the sample size from statistical methods taking into account significance levels, power, effect size, and prevalence rates.

ASSUMPTIONS

- Participants in the larger single network are all linked in smaller networks since seeds and subsequent responders are known to each other.

- RDS addresses the traditional chain-referral method limitation of non-probability.

- Because recruitment is not random, and reflects social relationships between participants and their peers, these samples are inherent to homophily bias. Homophily may be minimized by limiting the number of participants each seed can recruit.

- Seeds do not need to be randomly selected since it is expected that the resulting sample is sufficiently heterogeneous after several recruitment waves. Equilibrium is reached when the recruited sample is no longer identical to the initial seeds.
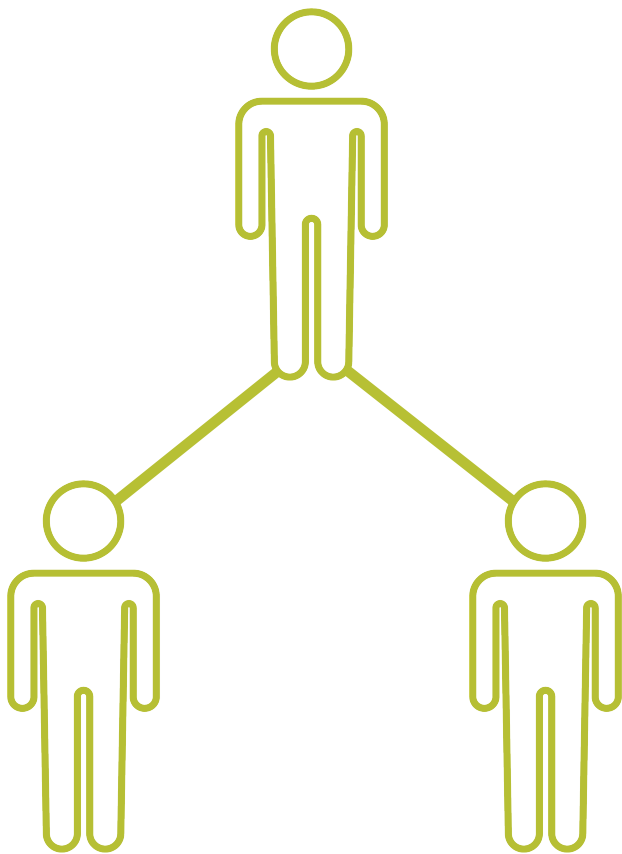
PREVIOUS USES

Sex Trafficking
Chohaney (2016); Williamson, et al. (2012); Zhang & Vincent (2017)

Individuals Engaged in Commercial Sex
Grosso, et al. (2015); Grosso, et al. (2018)

Labor Trafficking
Zhang (2012)

Undocumented Migrant Work
Zhang, et al. (2014)

PROS
- Creates a heterogenous sample and reduces homophily bias by limiting recruitment numbers per seed.

- Seeds more likely to recruit peers due to anonymity provided to recruited people.

- Can use multiple seeds to target different locations when the population is geographically dispersed or networks are fragmented.

CONS
- Not appropriate for researchers mainly focused on subgroups excluded from the larger population networks.

- Costly due to dual-incentive recruitment strategy.

A NOTE ABOUT SEEDS

- Identifying diverse seeds with strong connections within their social networks reduces the amount of time needed to achieve a sufficient sample.

- Formative, background research provides the team critical preliminary information on the characteristics of the population and target sub-groups.

- Well-articulated recruitment criteria protects the research team from enrolling participants who are not members of the research group or omitting previously unidentified sub cultures.

- When choosing seeds, a seed's self-reported network connections are not enough to determine their ability to recruit peers. Researchers should also factor in a seed's network density, strength of connections, and frequency of the study-related behavior.

- RDS necessitates an appropriate incentive limit. It should be high enough to recruit peers but not incentivize recruiting of peers outside inclusion criteria or coercion for vulnerable people.

- Most designs allow 3-5 referral coupons per seed.

PAST SEED LEVEL EXAMPLES

- Grosso, et al. (2018) used 19 seeds in 2 cities for final sample size of 744.

- Zhang, et al. (2014) used 18 seeds across 16 sites for final sample size of 826.

- Grosso, et al. (2015) used 10 seeds in 2 cities for final sample size of 698.

CenHTRO

Center on Human Trafficking Research & Outreach