

Who do respondents recruit in Respondent Driven Sampling studies?

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Background - 1

- Respondent driven sampling (RDS) is commonly used to sample hard-to-reach populations
- In respondent driven sampling (RDS), respondents are asked to invite a fixed number of people they know to participate in the study
 - Initial respondents are called “seeds”
 - The people they can recruit are called “alters”
- Recruitment relies on respondents' cooperation in reaching out to their network and the invitees' cooperation to participate in the study

Background - 2

- Although one of RDS's assumptions is respondent recruits from their network randomly, past research showed that this is not true:
 - RDS respondents reported greater inclination to recruit people they are close to and have regular interactions with (Phillips II et al. 2014; Li et al. 2017)
 - However, who respondents say they will recruit and who end up actually being invited do not always match (Li et al. 2017)
- Understanding how respondents think about their decisions to recruit and the differences (if any) between successful recruiters vs. less successful recruiters can help RDS researchers to better target their instructions to the respondents

Research question

- What are the characteristics of the alters respondents would consider recruiting?
 - Research question will be answered with a combination of qualitative data from in-depth interviews and survey data from web-RDS

Data: Overview

- **Qualitative data: In-depth interviews with 16 LGBT respondents**
 - Study was advertised in University of Michigan LGBT groups listserv and Michigan Institute for Clinical & Health Research participants portal
 - 1-hour interviews over Zoom
- **Quantitative data: Web-RDS**
 - Study was advertised in the Michigan Institute for Clinical & Health Research participants portal
 - 10-15 minutes survey about the people in the respondents' LGBT networks

Data and methods: In-depth interview

- 16 LGBT respondents
 - Study was advertised in University of Michigan LGBT groups listserv and Michigan Institute for Clinical & Health Research participants portal
 - Black (n=8) and White (n=8) respondents who identify as L, G, B and/or T
- Topics in the interview:
 - How respondents define “knowing” and “being close to” people
 - The people they will consider inviting to a survey
 - The people they will not consider inviting to a survey
 - Reasons for participating in a research study
- Thematic analysis of the transcripts

Data and methods: Web-RDS -1

- Target population: Adult LGBT
- Respondent was asked to describe up to **four people (“alters”)** they know in their network they can invite to participate in a hypothetical survey
- Restricted RDS: Two waves of recruitment
 - Each respondent was asked to invite up to two people they know randomly selected from the four people they described and given two invitation codes to distribute
 - Almost all respondents reported reaching out to the people they were asked to invite in the follow-up survey two weeks later
- Analysis sample restricted to respondents asked to invite alters into the study:
 - n=182
 - Number of alters described: 493

Data and methods: Web-RDS - 2

- Measures:
 - Age category of alter same with respondent
 - Race/ethnicity of alter same with respondent
 - Perceived closeness: Rated on a 1 to 7 scale where 7 is very close
 - Relationship: Family/partner vs. Friends/others they perceive to have influence over vs. Friends/others they do not have influence over
 - Years known
 - Likelihood of responding to their invitation: Rated on a 1 to 5 scale where 5 is very likely

Data and methods: Web-RDS - 3

- Descriptive analysis of the differences between successful and less successful recruiters
 - Successful recruiter: Respondents whose invitation codes were all redeemed
- Generalized linear model with logit link, predicting being a successful recruiter with the variables mentioned

Results: In-depth interview

Characteristics of alters who might be invited

Interest in the survey

- *“I don’t think we’ve talked about it with respect to like the LGBT community, but **out of this interest** of hers (health) I think she would do it.”* – Age 26, White, Bisexual Cisgender Man
- *“I know some of the people that I would definitely invite are **very naturally curious**. They’re interested in, you know, furthering science and that sort of thing.”* – Age 34, White, Bisexual Cisgender Woman

Having time for the survey

- *“They don’t have kids. **They have more time**. The few people I know who have grown kids they have more time.”* – Age 46, Black, Bisexual Cisgender Man
- *“Some of them might be too busy, like, one of them is a parent, for example, and like, they **might not have the time**, like some of them just you know work heavily or otherwise don’t have as much free time.”*
– Age 33, White, Nonbinary

Characteristics of alters who might be invited

Interaction frequency/closeness

- “Maybe, these are people [I won’t invite] that *I don’t know too well*. But I might have asked like a question or two, but I don’t really know how they stand.” – Age 25, Black, Gay, Cisgender Man
- “Maybe going back to like the *four or five that I talked to, like, on a regular basis*, I don’t know if I feel comfortable sending a survey specifically to like people I don’t interact with much.” – Age 23, White, Bisexual Transgender Woman

Monetary need

- “A friend of mine is non-binary and they aren’t super close to me, like, they’re not somebody that I would talk about my feelings with, but *they always need money* and I’m, like, when I’ve given them little job opportunities before they’ve done [them], so I would give them.” – Age 28, White, Bisexual Transgender Man

Results: Web-RDS

Bivariate comparisons: Successful recruiter vs. Less successful recruiter

	Successful recruiter (n=644)	Less successful recruiter (n = 84)	Diff	P-value
¹Same age category	89.4%	78.4%	11.3%	< .001
¹ Same race	80.9%	84.6%	-3.7%	0.103
² Closeness (rated 1-7)	4.85	4.91	-0.06	0.744
²Years known	3.71	10.40	-6.69	< .001
¹Relationship				< .001
<i>Family/partner</i>	15.8%	38.2%	-22.4%	-
<i>Friends (R has influence over)</i>	47.5%	39.6%	-7.9%	-
<i>Friends (R has no influence over)</i>	36.8%	22.2%	14.5%	-
²Likelihood of responding (rated 1-5)	4.70	4.23	.47	0.002

1. Fisher's exact test/Chi-square test;
2. T-test for independent samples;
3. Years known has an outlier value of 55 years - differences still significant after removal

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Odds Ratio of Being a Successful Recruiter

	OR	CI
Same age category	7.38	[3.70, 14.95]
Same race	0.34	[0.12, 0.85]
Closeness (rated 1-7)	1.21	[0.93, 1.59]
Years known	0.90	[0.85, 0.94]
Relationship (ref: family/partner)		
Friends (R has influence over)	2.53	[0.98, 6.71]
Friends (R has no influence over)	0.58	[0.25, 1.26]
Likelihood of responding (rated 1-5)	1.13	[0.79, 1.64]

Note: Family and partner were collapsed into one category

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Summary and limitations

- In-depth interview indicates that there are multiple reasons respondents might think of inviting their peers
 - Respondents do consider how receptive their alters will be to the survey
 - They might not reach out to people they think will not have time/interest in the survey which may lead to this specific group of people being left out in RDS surveys, e.g., people who are parents, people with very busy jobs
- Successful recruiters tend to invite people close in age and newer known alters
 - However, due to small number of unsuccessful recruiters – results to be interpreted with caution
- Limited to LGBT population with internet access
- Most respondents did end up inviting their peers into the study – only 11.5% did not use both invitation codes

Thank you

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