



MAP ACADEMY

Methodology, Analytics & Psychometrics



Sampling, Recruiting, and Retaining Diverse Samples

Methodology Application Series

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Session Overview

- Research Questions and Target Populations
- Problems with Common Methods
- Sampling Strategies
 - Common Methods
 - Random sampling
 - Stratified sampling
 - Convenience sampling
- Recruitment and Retention Strategies
- Issues Related to Study Validity



Why is this topic important?

- Sampling and recruiting participants are basic steps in almost every research enterprise and are fundamental to determining the quality of the resulting research
- Need to be sure that we have studied the group targeted by our research
- Well-established research sampling and recruitment methods developed and used successfully with middle-class European American groups may not work as well with ethnic minority or economically disadvantaged populations



RESEARCH QUESTIONS AND IDENTIFICATION OF THE TARGET POPULATION



Research Questions

- How best to answer research question with design
 - With disadvantaged populations, ethnical considerations for cultural relevance of research questions
- Group Comparative Designs
 - Examining cross-group comparisons
 - E.g., on incidence rates or relationships between variables
- Within Group (Ethnic Homogenous) Designs
 - Examining variability or heterogeneity within a group to understand specific mechanisms operating
 - E.g., culturally-relevant risk and protective factors that might inform culturally relevant preventive interventions



Target Population

- Before you implement study to answer research questions, make sure that you can generalize your results
 - Define target population
 - Population of interest
 - Determine accessible population
 - Those who can be located and contacted from the target population
 - Determine validity of chosen population
 - The degree of similarity between target and accessible populations
 - Determine validity of sample
 - The degree of similarity between the sample and the target population



Defining Ethnic Minority and Economic Disadvantage

- Ignoring or dealing simplistically with the definition of target population contributes to the misrepresentation of these populations
- Reliance on participant self-reports to determine group membership
- Researchers should carefully determine which indicator best fits research question before defining group membership



Defining Ethnic Minority and Economic Disadvantage

- Studies focusing on specific research questions or on certain groups might be improved if more attention were paid to the issue of membership
 - For some groups, such as American Indians and Alaska Natives, there are legal definitions that vary across group that determine formal tribal membership
 - Interracial families and how to determine membership under these conditions
- Definitions of group membership determined on a study by study basis after considering how various options might affect study results and ability to interpret and generalize results



PROBLEMS WITH COMMON SAMPLING AND RECRUITING METHODS



Assumptions Underlying Common Methods May Not Apply

1. Research is conducted for the common good and potential participants should be willing to contribute to the common good
 - Common good usually refers to that which benefits most of society, generally “mainstream” and middle class populations
 - Ethnic minority and economically disadvantaged populations may not consider themselves as part of “mainstream” society



Assumptions Underlying Common Methods May Not Apply

2. Universities and other research institutions are generally well known, universally trusted, and deserving of support
 - Members of middle class more likely to have attended college or to be aware of research institutions
 - Individuals who attended college may be more comfortable or familiar with research, and less fearful of harm because of their experiences with or knowledge of research
 - Members of disadvantaged populations may be less likely to understand purposes of research or to be connected to or familiar with institutions that conduct research



Assumptions Underlying Common Methods May Not Apply

3. Most White, middle-class persons think of participation in social science research as quite benign; assume lack of harm from research
 - Does not necessarily apply to other groups
 - Have experienced various forms of discrimination in society, and, at times, in research
 - E.g., Tuskegee Study of syphilis with Black males



Misrepresentation in Research

- Studies too often fail in the basic goal of sampling and recruitment: to represent the population
 - E.g., research on African American families, children, or adolescents, typically over represents those living below the poverty level
 - African Americans, and most other ethnic minority groups, are more likely to be living in poverty than European Americans, the majority of African Americans and most other ethnic minority groups are not living in poverty
- Studies are also needed that represent the diversity of groups to make accurate inferences



Misrepresentation in Research

- Ethnic Comparative Designs
 - Designs that compare ethnically diverse populations to, most commonly, a middle-class European American group (often considered to be the normative comparison group)
 - Sample of the ethnic minority group often economically disadvantaged
 - Results of such comparisons often contribute to a “deficit model” of the ethnic minority groups
- Comparative research designs that confound social class and ethnicity
 - Produced a literature with a biased perspective of ethnic minority individuals
 - Provides little insight into successful members of the groups
- Need for studies that disentangle ethnicity and socioeconomic status
 - E.g., take into account context of poverty when comparing groups
 - Examining within-group heterogeneity



Misrepresentation in Research

- Pan-ethnic research designs
 - Researchers ignore distinctions among ethnic minority subgroups
 - Treat groups of people as being very similar because they come from the same ...
 - Continent (e.g., Africans, Asians)
 - General geographic area (e.g., Latinos)
 - Share a label developed by U.S. Census Bureau (e.g., Hispanics, Asians and Pacific Islanders)



Misrepresentation in Research

- Pan-ethnic research designs problematic when...
 - Research tests for differences (e.g., comparing apples to oranges)
 - Treats mixed groups as homogenous, ignoring differences in history, culture, immigration experiences, variations in race or skin color, variations in language



SAMPLING STRATEGIES



Sampling

- Operations used to select a small group of people from a target population of interest
- In quantitative research, goal to select members of targeted population who are representative of, or very similar to that population
- Sampling methods determine if findings can be generalized



Sampling

- There are no unique sampling strategies for studying ethnic minority or economically disadvantaged populations
- Pay close attention to implications of using certain strategies or interpreting results in such studies that include these groups
- Typical methods common to social science can be equally valid, but often must be combined with tailored recruitment processes to be successful



Random (Probability) Sampling

- Samples are selected in accord with probability theory
- Used when researchers want precise, statistical descriptions of large populations
- A sample of individuals from a population must contain the same variations that exist in the population



Random Sampling

- Each member of the target population has an equal probability of being selected into the sample
- Findings based on a sample represent the aggregation of elements that compose the sampling frame
 - A sampling frame is a list of elements in the population



General Strengths of Random Sampling

- Proper use of random sampling generates a sample more likely to be representative of the targeted population than any other method
 - Assumes reasonably high and similar rates of successful recruitment for all segments of population
- Ideal for determining how many people in a given group have experienced a given event



Random Sampling: In Context of Ethnic Minority Populations

Comparative Research Designs

- Random samples of general population are good for making cross-group comparisons on incidence rates and relationships between variables
 - With successful recruitment rates , large sample size...
 - And when subpopulations of specific economic, racial, or ethnic groups large enough



Random Sampling: In Context of Ethnic Minority Populations

Within-Group Designs

- Strong foundation for studying within-group diversity on incidence rates or the utility of theoretical models for that group
 - When random sampling is applied exclusively to a single economic, racial, or ethnic group
 - Create sampling frame that includes communities/schools that represent diversity in cultural and economic conditions related to target population



Problems with Random Sampling

- May not capture groups that constitute a very small proportion of the general population or may represent these groups in such small numbers that meaningful comparisons are not possible
 - E.g., Sudanese immigrants
- Rarely represent all segments of the population equally
 - Because of difficulties in recruiting disadvantaged populations, urban dwellers, those discriminated against, those distrustful of research



Problems with Random Sampling

- Well-executed random sampling designs might not fully represent marginalized ethnic minority or economically disadvantaged populations
- Research using random sampling may produce results with somewhat biased perspective of these groups



Summary of Random Sampling

- To overcome some problems of random sampling...
 - Researchers may want to tailor recruitment methods for each targeted subgroup
 - Monitor recruitment rates for subgroups
 - Use caution in interpretation and generalization of results to the degree that response rates are low or uneven among one or more subgroups



Stratified Random Sampling

- Rather than selecting a sample from a population, the researcher draws from homogenous subsets of the population.
 - Stratum/Strata
 - Grouping of units composing a population into homogenous groups before sampling
 - Selected subgroups are proportionally represented in final sample



Use of Stratified Random Sampling

- Often used when important groups have a small n in the population
- Used to be sure that each subgroup of sample has the same proportion as the population
- Thus, may need to “oversample” from certain groups



General Advantages of Stratified Random Sampling

- When successful, strongest sampling design for studies that want to make comparisons across groups on:
 - Incident rates
 - Means
 - Relations between variables
- Example: The National Longitudinal Study of Adolescent to Adult Health (Add Health)
 - Nationally representative sample of U.S. schools for adolescents with respect to region of country, urbanicity, school size, school type, and ethnicity
 - Selected using unequal probability sampling, and implicit stratification



Stratified Random Sampling: In Context of Ethnic Minority Populations

- Use pre-identified characteristics on which there is substantial diversity within the group as the stratifying variable
 - Family income
 - Family structure
 - Acculturation level
 - Language use



Stratified Random Sampling: In Context of Ethnic Minority Populations

- Modify the stratified random sampling method and oversample strata
 - Over represent groups that make up only small portion of general population
 - Use when group comparisons are planned and one or more subgroups represent such small portions of general population that comparisons would have little statistical power to identify differences that exist
 - E.g., Latinos in U.S.
 - Oversample country of origin



Convenience Sampling

- Nonrandom sampling design
- Elements are selected for convenience sampling because they're available or easy to find
 - Examples: intro psychology students, magazine surveys, online chat room, school children in Lincoln
- This sampling method is also known as a *haphazard*, *accidental*, or *availability* sample
- Obtained more easily, inexpensively, and quickly than other methods
- Less desirable, but MOST common
 - Systematic differences between participants who volunteer for research and those who do not



Problems with Nonrandom Sampling Designs

- Rarely, if ever, are representative of the population
- In general, important subgroups of the population may be represented poorly or not at all
- Research participants compared to nonparticipants are more likely to be
 - College educated
 - Middle-income
 - Women
 - Intelligent
 - Unconventional, nonconforming, and sociable
 - Higher need for social approval



RECRUITMENT AND RETENTION STRATEGIES



Recruitment and Retention

- Recruitment
 - Process of trying to get individuals selected during sampling to participate in study
 - Together with sampling, determines initial quality of the sample studied (sample representativeness of population)
- Retention
 - For longitudinal studies, critical for maintaining quality of sample
 - If particular subgroup of sample drops out, difficult to make inferences about that subgroup



Questions

- What will motivate a member of an underrepresented ethnic minority or economically disadvantaged group to participate in a study?
- How can a representative sample be obtained?
- Once recruited, what can a researcher do to convince participants from these populations to continue in the study?



Practical Issues Hindering Recruitment

- Individuals and families often more mobile than general population
 - May rent on weekly or month-to-month basis
 - Disruptions in income may result in evictions
 - Seasonal farm workers
 - May differ from less-mobile participants on key personal or family characteristics
- Less likely to have access to working telephones or to be listed in directories
 - May use pre-paid cell phones with number changing often
 - May rely on neighbors or relatives for access to phone



Practical Issues Hindering Recruitment

- Low-income ethnic minority populations more often live in high-density inner-city communities
 - Higher income members of ethnic minority groups are often widely scattered throughout urban and suburban areas
- More cost-effective to recruit ethnic minority populations in inner-city neighborhoods
 - Produces biased samples that may be less representative of the target population than is desirable
 - E.g., interest in the experiences of Latino parents across demographic characteristics, inner-city sample would underrepresent the portion of the population that is middle to upper-class



Practical Issues Hindering Recruitment

- Researchers interested in immigrant populations need to be prepared to work in individual's native language
 - This is a considerable undertaking with implications for measurement and translation processes
 - Need for bilingual recruitment staff and flexibility



Practical Issues Hindering Recruitment

- Broader societal issues related to discriminatory experiences of the group
- Adversarial relationships between some members of these groups and authority figures
- Groups may have numerous reasons not to trust researchers
 - Families may react defensively when approached by a recruiter because of assumptions that the recruiter is an authority figure from the police, immigration, or social service agency, who too often represent a threat for many low-income families



Overcoming Challenges to Recruitment

- Research on recruitment practices tends to be descriptive and informally comparative at best
- Strategies
 - Understanding and acknowledging participants' values
 - Minimize barriers to participation
 - Create culturally relevant materials
 - Seek out the gatekeepers
 - Maintain a presence at local community events
 - Provide participant leadership and volunteer training opportunities



Understanding and Acknowledging Participants' Values

- Treat all potential participants respectfully
- When working with middle-class groups, many researchers also have a middle- or upper-class socioeconomic status, and, thus, understand the rules of social interactions of their own social class group
- When working with ethnic minority or economically disadvantaged populations, become familiar with the targeted group prior to trying to engage group members in research
 - Rules of social interaction
 - Attitudes toward authority figures, and
 - Values and belief systems



Minimize Barriers to Participation

- Minimize logistical barriers
 - Providing transportation and child-care
 - Offer schedule and location choices
- Increase opportunities for two-way communication
 - Personal contact
 - Present family with benefits and goals of study; let them ask questions
 - Incorporate family in decision making process



Minimize Barriers to Participation

- Increase cultural awareness among project staff
 - If possible, match participants and research personnel on demographic characteristics
- Provide direct (face-to-face) contact and personalized interactions across all phases of the study
 - Conducting interviews in participant's home or other locations of preference



Create Culturally Relevant Materials

- Materials visually appealing, have useful content, and deliver consistent message
- Use photos and cultural and ethnic symbols that resonate with the target population
- Use the same or similar visuals and graphics throughout materials to make them easily recognizable
- Use appropriate language and consider the audience's literacy levels and learning styles
 - Write text at a fourth-grade reading level
 - Create bilingual materials



Create Culturally Relevant Materials

- Be positive in your message and emphasize benefits to the family, not just the individual
 - May be beneficial to recruit mothers and fathers to recognize important roles of both parents
- Develop culturally appropriate strategies and advertising materials
 - Be sensitive to traditional gender roles, stigmas, and taboos
- Have bilingual clear and simple brochures available
 - Use conceptual translations to help avoid mistakes and confusing potential participants.



Seek out the Gatekeepers/Advisors

- Do not rely solely on flyers/brochures for recruitment
- Many ethnic minority groups value relationships and are more likely to participate in a study if someone they trust invites them
- Seek out community gatekeepers and cultural advisors and engage them as advisors in study planning, recruitment, and implementation
 - Community-Based Participatory Research
 - Can review or critique research plans, train research staff



Maintain a Presence at Local Events

- Participate in local events and gatherings to spread the word
 - Meet potential participants, partners, and gatekeepers face-to-face
 - Include interactive activities for children; as children are entertained, parents can listen and speak to volunteers/staff about the study
- Make presentations about the study at local networking events
 - PTA meetings
 - Hospital, clinics
 - Chambers of Commerce
 - Community open houses



Participant Leadership and Volunteer Training

- Best recruiters are past participants
- Can relay experience with and benefits of research
- By investing in past participants, who are members of the community, you also reinvest in and empower the community resulting in trust
 - Past participants will also be more equipped to motivate others to participate



Strategies Relevant to Retention Only

- Obtain tracing information
 - Names, contact information for several people who will always know the participant's location
- Systematically contact participants between interviews or assessments
 - When intervals between assessments longer than a few weeks contact once every 4 months or so
 - Indicate how important participants are to research
 - Prepare participants for upcoming assessments
 - Use personalized birthday cards, reminders of upcoming interviews, short study newsletter



Strategies Relevant to Retention Only

- Provide painless methods for participants to contact study with address changes
 - Include post-paid return card/envelope with other study materials
 - Project website
 - As motivation, include small incentive for updates
- Follow-up on mailings that do not generate a response
 - Use other means to try to contact participants to confirm current contact information
 - Contact tracers if necessary



STUDY VALIDITY



Generalizability (External Validity)

- Ability to apply findings to the larger population from which you drew
 - e.g., ethnic minority youth in Lincoln
- And other populations
 - e.g., ethnic minority youth in NE or the US



Two Factors Affecting Ability to Generalize

- Sampling Context
 - Degree of similarity of the accessible population (those who can be located and contacted) to the target population
- Results of Recruitment
 - Degree of similarity of the sample to the accessible population



Limits to Generalizability

- Difficulty in identifying or accessing members of target population may limit generalizability
 - Identification: e.g., illegal immigrants, homeless individuals
 - Accessibility: e.g., people without a permanent residence, those who speak rare dialects
- Realistically can generalize only to accessible population
- Be cautious and concerned about how well succeeded in gaining access to target population



Generalizations and Convenience Sampling

- Generalizations based on convenience samples...
 - Need to be very limited
 - Make with considerable caution



Representativeness of Sample

- Information to help researchers judge the representativeness of samples
- Compare means or distribution on the sample with relevant census data on such variables:
 - Adult or parent education level
 - Family income
 - Immigrant status or years in the U.S., if relevant
 - Family structure (i.e., marital status)
 - Language spoken or preferred
 - Language spoken at home
 - Methodological data



Representativeness of Sample

- Describe how individuals/families from target population were identified, sampled, and recruited:
 - Participation rate information
 - Separately for each ethnic group or social class for sample purposively ethnically or economically diverse
 - Percentage of individuals sampled who were locatable
 - Percentage of locatable sample who agreed to participate and who did participate
 - Longitudinal or Intervention Studies
 - Percentage of those who participated in the initial stage of the research who also participated in each subsequent stage



Representativeness of Sample

- Reporting this information helps fellow researchers clearly understand:
 - Sampling, recruitment, retention methods
 - Effectiveness of methods
 - Likelihood that the sample is representative of population of interest
- Few studies report information
 - Fellow researchers are not able to build on strengths or avoid mistakes of prior research, learning through trial and error



Internal Validity Considerations

- Sampling and recruitment also affects internal validity
 - Internal Validity:
 - The accuracy of causal inferences
 - Often sampling and recruitment are used to operationally define the independent variable
 - E.g. 1: Comparative Design
 - Comparing U.S. born Mexican Americans to those Mexican Americans born in Mexico on familism values
 - Sampling only those who are English speaking may skew representativeness of subgroups to larger population and thus skew results



Internal Validity Considerations

- Internal Validity:
 - E.g. 2: Ethnic-Homogenous Design
 - Examining how familism values are related to prosocial behaviors among Mexican American sample
 - Excluding those with limited English-proficiency could restrict the range of observed familism scores, and, in turn, attenuate observed relations
 - If familism values and prosocial behaviors strongly related in the population, then resulting scientific inference is inaccurate



CONCLUSIONS



Conclusions

- Research studies on ethnically diverse or economically disadvantaged populations continue to increase in number and sophistication
- Much of the research to date has been conducted with convenience samples using recruitment methods that are more appropriate for middle class and European American populations
- Preliminary research indicates that attention to sampling and recruitment methods tailored to specific ethnic minority groups achieve reasonable response rates and obtain samples representative of the population of interest
- All researchers can contribute to improvements in sampling, recruitment, and retention in the social sciences by systematically reporting the results of these procedures



Resources

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Thank you!

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Questions? Comments?