APPROACHES TO SAMPLING

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This check sheet summarizes some of the most commonly used sampling methods in social science hazards and disaster research. This list draws upon work by Michaels (2003) and an analysis of Quick Response Reports published by the Natural Hazards Center.

☐ **CONVENIENCE SAMPLING** involves respondents who are readily or easily accessible to participate in research due to proximity and/or availability. While convenience sampling may be the only feasible way to recruit study participants—especially immediately after a disaster—the data gathered is unlikely to represent the population as a whole.

- Example: Chaney, Weaver, Youngblood, and Pitts (2011) conducted a preparedness and response survey among tornado survivors applying for disaster aid who were exiting a FEMA Disaster Field Office. sed a case study of Hurricane Sandy to explore the formation and maintenance of partnerships among disaster agencies.

☐ **PURPOSEFUL (OR PURPOSIVE) SAMPLING** recruits specific participants based on their knowledge of, or experience with, a given event, topic, and/or phenomenon. Research using purposeful sampling may or may not be generalizable to the population under consideration, depending on the study design and context. This approach to sampling can be especially useful, however, when there is no available or complete list of potential respondents and/or when specific knowledge or expertise is required.

- Example: Smythe (2013) interviewed 16 maritime responders after Hurricane Sandy to gather information specifically about the maritime community's preparedness efforts.

☐ **SNOWBALL SAMPLING** involves identifying an initial set of respondents, then drawing upon their contacts and connections to recruit future participants. Snowball sampling may be useful in contexts where respondents meeting specific criteria are difficult to locate, widely dispersed, and/or hold highly specialized knowledge.

- Example: Schumann and Nelan (2017) used snowball sampling to identify and describe community gathering places for residents and aid workers in Texas communities following Hurricane Harvey.

☐ **TOTAL POPULATION (OR CENSUS) SAMPLING** involves research where the entire available population is included in the study. Total population sampling can be difficult, time consuming, and costly when the population is large; however, when groups are of a manageable size, this represents an effective way to learn from everyone in the sampling universe.

- Example: Sim, Hung, Su, and Cui (2018) used total population sampling in a small village in China to study interpersonal communication and risk perception.

☐ **REPRESENTATIVE (OR PROBABILITY) SAMPLING** attempts to draw a sample with characteristics reflective of the population under study, lending confidence to the generalizability of findings. This is most commonly achieved through random sampling, or selecting a subset of the population through methods by which all members have an equal probability of being chosen for participation. The following four types of random sampling are commonly used in survey research.

- In **simple random sampling**, participants are selected in such a way that each member of the population has an equal chance of being chosen. A lottery system is an example of simple random sampling.

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* Example: Reininger, Rahbar, Lee, Chen, Alam, Pope, and Adams (2013) used simple random sampling to assess connections between social capital and disaster preparedness among Mexican Americans.

- **Stratified sampling** involves dividing the population of interest into groups based on given characteristics, then selecting a sample from within each group. For example, researchers wishing to study differences between age groups may use stratified sampling

  * Example: Yang, Kim, Lee, Lee, Cheong, Choi, and Lee (2018) used stratified sampling to compare anxiety and depressive symptoms among select South Korean residents after the 2014 Sewol ferry disaster.

- In **cluster sampling**, the population under study is divided into smaller groups. A random sample of these groups is then selected for study. In this case, a researcher may survey randomly selected city blocks rather than attempting to survey randomly selected residents across the entire geographic area.

  * Example: Horney, Zotti, Williams, and Hsia (2012) used cluster sampling to improve identification of pregnant and postpartum women with unmet needs after disaster.

- **Systematic random sampling** involves creating a list of population members, then randomly selecting a starting point and choosing every nth member thereafter to participate. A researcher could, for example, obtain a list of students at a given school and randomly select every 8th person in the list to participate. Therefore, numbers 8, 16, 24, 32, 40, and so on would constitute the sample.

  * Example: Mallick, Rahaman, and Vogt (2011) used systematic random sampling to select an interview sample of Bangladesh households about their social vulnerability following Cyclone Sidr.

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