COVENANT UNIVERSITY NIGERIA

TUTORIAL KIT
OMEGA SEMESTER

PROGRAMME: PSYCHOLOGY

COURSE: PSY 322

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PSY322: RESEARCH METHODS IN PSYCHOLOGY

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Question 1

> a. *What is research?*
> b. Sampling methods are classified as either *probability* or *non-probability Discuss different types of sampling under these classifications*
> c. Compare and contrast the quantitative and qualitative studies
> d. Identify five types of Participant Observation

Answer

a. Research is the systematic process of collecting and analyzing information to increase our understanding of the phenomenon under study. It is the function of the researcher to contribute to the understanding of the phenomenon and to communicate that understanding to others.
b. <u>Probability</u>

I. **Random sampling** is the purest form of probability sampling. Each member of the population has an equal and known chance of being selected.
II. **Systematic sampling** is often used instead of random sampling. It is also called an Nth name selection technique. After the required sample size has been calculated, every Nth record is selected from a list of population members.
III. **Stratified sampling** is commonly used probability method that is superior to random sampling because it reduces sampling error. A stratum is a subset of the population that share at least one common characteristic
IV. Cluster sampling

Non- Probability

I. Convenience sampling is used in exploratory research where the researcher is interested in getting an inexpensive approximation of the truth. As the name implies, the sample is selected because they are convenient. T
II. Judgment sampling is a common nonprobability method. The researcher selects the sample based on judgment. This is usually and extension of convenience sampling.
III. Quota sampling is the nonprobability equivalent of stratified sampling. Like stratified sampling, the researcher first identifies the stratums and their proportions as they are represented in the population. Then convenience or judgment sampling is used to select the required number of subjects from each stratum.
IV. Snowball sampling is a special nonprobability method used when the desired sample characteristic is rare.

c. Quantitative Research

1.   Hard Science   2. Focus: concise & narrow   3. Reductionistic   5 Objective Reasoning: Logistic, Deductive 6. Basis of Knowing: Cause & effect, relationships 7.Tests Theory 8. Control 9.Instruments 10.Basic Element of Analysis= numbers 11.Statistical analysis 12. Generalization

Qualitative Research
1. Soft Science   2 Focus: Complex & Broad   3Holistic 4 Subjective Reasoning: Dialectic, Inductive
   6. Basis of knowing: Meaning, Discovery 7. Develops Theory 8. Shared Interpretation 9. Communication & Observation 10 Basic Element of Analysis: Words 11Individual Interpretation 12 Uniqueness

Five Types of Participant Observation
I.   External Participation constitutes the lowest degree of involvement in observation. This type of observation can be done by observing situations on television or videotape.
II.   Passive Participation means the researcher is present at the scene of action but does not interact or participate. The researcher finds an observation post and assumes the role of a bystander or spectator.
III.   Balanced Participation means that the researcher maintains a balance between being an insider and being an outsider. The researcher observes and participates in some activities, but does not participate fully in all activities.
IV.   Active Participation means that the researcher generally does what others in the setting do. While beginning with observation to learn the rules, as they are learned the researcher becomes actively engaged in the activities of the setting.
V.   Total Participation means the researcher is a natural participant. This is the highest level of involvement and usually comes about when the researcher studies something in which he or she is already a natural participant.

Question 2
There are six major methods of data collection.
I.   Tests (i.e., includes standardized tests that usually include information on reliability, validity, and norms as well as tests constructed by researchers for specific purposes, skills tests, etc).
II.   Questionnaires (i.e., self-report instruments).
III.   Interviews (i.e., situations where the researcher interviews the participants).
IV.   Focus groups (i.e., a small group discussion with a group moderator present to keep the discussion focused).
V.   Observation (i.e., looking at what people actually do).
VI.   Existing or Secondary data (i.e., using data that are originally collected and then archived or any other kind of "data" that was simply left behind at an earlier time for some other purpose).

Question 3

Rating scales are the most commonly used, including:

I. Numerical rating scales (where the endpoints are anchored; sometimes the center point or area is also labeled). 1 2 3 4 5 6 7 Very Low Very High Fully anchored rating scales (where all the points on the scale are anchored). 1 2 3 4 5 Strongly Agree Neutral Disagree Strongly Agree Disagree .Omitting the center point on a rating scale (e.g., using a 4-point rather than a 5-point rating scale) does not appreciably affect the response pattern. Some researchers prefer 5- point rating scales; other researchers prefer 4-point rating scales. Both generally work well.

II. Rankings (i.e., where participants put their responses into rank order, such as most important, second most important, and third most important).

III. Semantic differential (i.e., where one item stem and multiple scales, that are anchored with polar opposites or antonyms, are included and are rated by the participants).

IV. Checklists (i.e., where participants "check all of the responses in a list that apply to them").

c. Types of quasi experimental
   I.   Nonequivalent control group design
   II. After-only nonequivalent control group design
   III. One group (pretest-posttest) design
   IV. Time series design

Question 4

a. Three criteria for inferring causation:
   I.   Covariation between presumed cause and effect: If A causes B, then A and B will tend to vary together (B changes as a function of A). If A goes up, B goes up (positive correlation). If A goes up, B goes down (negative correlation). Necessary but not sufficient. A and B can co-vary because both are caused by a third variable C
   II. Temporal precedence of the cause: A can cause B if A precedes B in time. Necessary but not sufficient. A can precede B, but not cause
   III. Need for control. Must be able show that B does not occur when A is removed.
   b.   Quantitative Experimental, Non-experimental{descriptive, correlational, Cause-comparative
   c.   Qualitative

Question 5

a. Differentiate between adapting and adopting of research instruments
b. Discuss briefly types of validity and reliability
c. What is pilot test in research?

Answer

a. Adopting instrument is the use of standardised instruments for collecting research data. Two sets of properties should be addressed when selecting and adapting research instruments: psychometric properties (validity, appropriateness, reliability, and responsiveness) and properties (feasibility and acceptability of the instrument). Adapting instrument is the use of standardised instruments to develop new instrument for collecting research data when adapting research instruments: psychometric properties should be reported (validity, appropriateness, reliability, and responsiveness) and properties (feasibility and acceptability of the instrument).

B Types of reliability

1. Test-retest reliability-The test-retest method of estimating a test's reliability involves administering the test to the same group of people at least twice. Then the first set of scores is correlated with the second set of scores. Correlations range between 0 (low reliability) and 1 (high reliability) (highly unlikely they will be negative!)

2. Alternate Forms-Administer Test A to a group and then administer Test B to same group. Correlation between the two scores is the estimate of the test reliability

3. Split Half reliability-Relationship between half the items and the other half.

4. Inter-rater Reliability-Compare scores given by different raters. e.g., for important work in higher education (e.g., theses), there are multiple markers to help ensure accurate assessment by checking inter-rater reliability

5. Internal consistency-Internal consistence is commonly measured as Cronbach's Alpha (based on inter-item correlations) - between 0 (low) and 1 (high). The greater the number of similar items, the greater the internal consistency.

Types of Validity

I. **Face validity -**Face validity is the least important aspect of validity, because validity still needs to be directly checked through other methods. All that face validity means is:"Does the measure, on the face it, seem to measure what is intended?"

II. **Construct validity-**Construct Validity is the most important kind of validity. If a measure has construct validity *it measures what it purports to measure.*Establishing construct validity is a long and complex process. The various qualities that contribute to construct validity include:
   - criterion validity (includes predictive and concurrent)
   - convergent validity
   - discriminant validity

III. **Criterion validity**Criterion validity consists of concurrent and predictive validity.
   - Concurrent validity: "Does the measure relate to other manifestations of the construct the device is supposed to be measuring?"
   - Predictive validity: "Does the test predict an individual's performance in specific abilities?"

IV. **Convergent validity-**It is important to know whether this tests returns similar results to other tests which purport to measure the same or related constructs. Does the measure match with an external 'criterion', e.g. behaviour or another, well-

established, test? Does it measure it concurrently and can it predict this "behaviour"? Observations of dominant behaviour (criterion) can be compared with self-report dominance scores (measure). Trained interviewer ratings (criterion) can be compared with self-report dominance scores (measure)

V. **Discriminant validity-**Important to show that a measure doesn't measure what it isn't meant to measure - i.e. it *discriminates*. For example, discriminant validity would be evidenced by a low correlation between between a quantitative reasoning test and scores on a reading comprehension test, since reading ability is an irrelevant variable in a test designed to measure quantitative reasoning.

Question 6

    a. What is research design?
    b. Discuss different types of research design

Question 7

Compare and contrast the quantitative and qualitative studies

Question 8

Identify five types of methods of data collection

Question 9

Identify three criteria for inferring causation:

Question 10

List and discuss types of quasi experimental