

March 9, 2016

NOTE THERE ARE A FEW QUESTIONS I NOTED IN REVIEW OF THE WEEKEND I COULD HAVE WORDED BETTER TO MAKE IT CLEARER. THESE HAVE A NOTE BELOW. IT WAS AN EFFORT TO GET YOU A PRACTICE EXAM QUICKLY SO I WILL TRY TO BE SURE ON WEDNESDAY I HAVE CHECKED OVER THESE KINDS OF ISSUES. I HOPE!

Exam is 20 points. There are 10 questions. Each question is worth 2 points. If there are sub questions, each part is worth an equal share of the 2 points.

- 1) We discussed three purposes for social science research. We have also discussed different social science research sampling methods. Below are listed three short descriptions of social science research. For each, identify which is the main purpose of the research and identify the sampling strategy used in the research.

Research Description	Purpose	Sampling Strategy
The research team was attempting to identify the degree of child malnutrition in a rural community in Mali. They conducted interviews of households coming to a community health clinic over a three-day period using a structured survey form to record the overall roster of ages, gender, and education levels for all household members. For all children under 5 who came with their parent to the clinic, measures were taken on childrens mid-upper arm circumference. For all children under 15 who came to the clinic, height for age and weight for age were collected. For all children, a 24 hour dietary recall was administered.	Descriptive	Convenience
The research team was attempting to understand vectors of ISIS inspired radicalization the children of youth whose parents had immigrated from the horn of Africa which is currently poorly understood. They began interviewing youth who were children of immigrants from the horn of Africa who were participating in an after school basketball program run by an NGO. From there, they developed a network of youth who had been radicalized, their friends, families, and teachers. They conducted interviews with these different people to develop specific definitions and indicators of what exactly was meant by 'ISIS inspired radicalization' to use in a later quantitative study.	Exploratory	Snowball
The research team has a hypothesis that higher exposure to lead contamination for recently arrived immigrants arriving from the Horn of Africa is leading to learning and behavioral problems for the children of the immigrant families. The research involves reconstructing arrival dates in the United States for these immigrants, records of known residences since arrival, and a checklist of learning and behavioral problems the children may have experienced since arriving. Blood tests are drawn for all of the youth under 18 to identify blood lead content. An index is constructed of behavioral issues and an index is constructed of learning issues. These are regressed on the blood lead content and other covariates to test the theory that lead contamination is correlated with behavioral and learning problems.	Explanatory	Could have worded this more clearly for a sampling strategy. There is a possibility it is convenience, random, or some kind of treatment and control. I will write it more

		clearly for the exam.
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2) Elements of social theory.

You are conducting research on the fishing communities of the islands of West Africa. You note that there seem to be two landing points for the fishing boats as they come in. When you stroll over to the two landing sites, you see there is a pattern. The boats to the south are full of fish and fish nets, and there is a thriving market full of market women who sell the fish to people who want to buy the fish. The boats to the north all have boxes in them that are covered by a thin layer of fish and fish nets. You also note that armed men with Land Cruisers are collecting the boxes and putting them in the Land Cruisers, and handing the owners of the boats envelopes full of something. There is no thriving fish market here, and the fishermen appear to be roasting the catch they brought in for their personal consumption. As you hear small airplanes taking off from near the north beach, you jot down your ideas about what might be driving the market for the fish and what might be driving the market for what you speculate is in the boxes.

Distinguish between observations, facts, and laws / principles in the paragraph above.

I observe the boats and where they are landing, I observe the content of the boats, I observe the on the shore activity where the boats are landing. I hear the planes taking off near the northern landing point. I probably smell fish and the ocean as well.

Facts are that the landing point to the north and the landing point to the south are arranged by a different logic. In one, there is a fish market with a supply of fish and a demand for fish. In the other, there are people with guns in land cruisers moving the contents of the boats to airplanes. The boats landing at the northern point and the boats landing at the southern point have different contents.

Appealing to the law of supply and demand, can draw on laws / principles. I believe I have discovered two separate markets. One, the southern land point, is where suppliers of fish are meeting with consumers who want fish. The other market, associated with the northern point, appears to be a transshipment point for international trade of some valued commodity. There are also supply and demand principles at work in this market.

3) Research Ethics.

a. What are the three basic ethical principles of the Belmont Report?

1. Respect for Persons. Voluntary participation, and special care for those who lack complete autonomy.
2. Beneficence. Do no harm and if possible some good. Contemplate and state risks.
3. Justice. Burdens and benefits of research should be shared fairly within society.

b. Describe Milgram's study of obedience to authority, why it was a research topic of interest in the era in which it was conducted, and the ethical issues of concern that are associated with the study.

Milgram's study was of interest in the era it was conducted as it came in the aftermath of World War II and the Nuremberg trials. A driving concern for this kind of study was to explore the psychology behind the 'I was just following orders' defense. The research agenda was to understand what people are capable of doing in terms of following the commands of an authority in a context where following the orders led to extreme physical suffering of a test subject.

Milgram played the part of the authority, the research scientist who was running the exam. There were two other participants. One was the true test subject, the person who was being given orders by the research scientist. The orders were to administer an electrical shock of varying strength to an ostensible test subject, who was attached by wires to the dial controlled by the true test subject. The ostensible test subject was in on the plan, and acted as if the shocks caused great pain to the point of feigning passing out from shock from the pain. The research scientist kept specifying higher and higher levels of electrical shock if the ostensible subject missed a word pair in a test. The objective was to see at what level, if any, the true test subject would refuse orders to administer painful shocks to the ostensible test subject.

One main ethical issue this study brought out was that there was deception involved in having what was said to be the test subject actually was not a test subject but was acting. Further, it was observing people's behavior without asking them to consent to being observed, and deceived them into the actual nature of the test. Finally, when the true test subject found out the real purpose of the test, they faced psychological difficulties trying to process the fact that they were capable of inflicting pain on another human being simply because they were told to do it by a person who appeared to be an authority.

4) Measurement Issues.

Measured item	Category of this measured item (circle one)		
Intelligence Quotient (IQ) from a test	Direct observable	Indirect observable	Construct
Height measured with a tape measure.	Direct observable	Indirect observable	Construct
Reported vote in last presidential election	Direct observable	Indirect observable	Construct
Empathy categorized by responses to Lickert questions	Direct observable	Indirect observable	Construct
Facial reaction to Puppy-Monkey-Baby ad	Direct observable	Indirect observable	Construct
PAIRA IR Town Hall minutes*	Direct observable	Indirect observable	Construct
Writes signature using right or left hand.	Direct observable	Indirect observable	Construct
Ranking for best policy oriented IR Master's program.	Direct observable	Indirect observable	Construct

*This I probably would word more clearly that the content of the Town Hall was the object of interest to be measured, the minutes were an indirect reporting of what was said at this meeting.

5) Index and scale issues.

Assume you have results from 5 survey responses to questions about the appropriate level of US military involvement in the Syrian crisis.

Statement	Responses	
The US has no legitimate military interest in Syria and should stay out of any conflict there. ¹	Agree	Disagree
The US military should provide air cover for safe havens to allow Syrians to travel to refugee camps in Jordan and Turkey	Agree	Disagree
The US military should provide on the ground training and military equipment for the Free Syrian Army.	Agree	Disagree
The US military should use special forces units to eliminate leaders of both IS and the Assad regime who have committed human rights violations.	Agree	Disagree
The US military should collaborate in a coalition of forces with a United Nations mandate to conduct peacekeeping operations in Syria.	Agree	Disagree
The US military should invade Syria and establish a US sanctioned Provisional Authority to administrate the occupied territory.	Agree	Disagree

- a) Contrast using these responses to construct an index with using them to construct a scale.

An index measure would take the different responses and count the number of yes responses. So scores could go from zero (with the re-worded version noted in the footnote), or assigning a zero to agree to the first question, and one to agree in the subsequent questions.

For a scale response, there is some logical ordering to the questions, where there is a gradual escalation of the level of intervention that the person would be agreeing to. It is possible that someone who agrees to the highest level that would imply that an 'agree' answer was given to all the preceding questions. That is, if they agree that a US military invasion is appropriate, they might have agreed all other less drastic actions asked prior to this were also appropriate. So a six (US military invasion) is a higher intensity of response agreed to than is a 5, an international coalition to conduct peacekeeping operations.

- b) What is the logic by which the responses to these questions could possibly be used as a scale? What kinds of responses are possible that might defy the logic of potential scale construction?

Well, as noted to a, the logical ordering of these might make it possible to interpret responses as a scale rather than an aggregate number of 'yes – no' results (or agree / disagree in this case). However, people are funny. Someone might have a problem with the US having anything to do with UN operations and may never agree that anything having to do with the UN and US forces is acceptable. The person may have just read a news report that is very critical of the Free Syrian Army, so they don't in any situation accept that they should receive support, and would support other groups that are not named in the question. All these and other kinds of responses would make it so the scale might fail as an interpretation of the results so that you would be better off with the index; it depends on the data that comes in.

¹ This on re-reading would have made more sense if I worded it that the first level is the US monitoring using drones and remote sensing rather than not. Then it works more logically.

- c) What test could you use to assess whether the scale scores are preferable to the index scores or not?

Coefficient of reproducibility = $1 - \{\text{number of errors} / \text{total number of responses to questions}\}$.

A 90% or a 95% threshold is used in such a case to evaluate whether a scale outperforms an index for a given set of data.

6) Time, data, and research design.

a. What does it mean if someone describes a study as longitudinal?

A longitudinal study means there are observations of the same phenomenon over an extended period of time.

b. Contrast a trend study to a cohort study.

A trend study looks at changes in a population over time. These are measures like age at first marriage, percent of the population over 15 years old, racial composition of the population over time, educational attainment in the population. It is tracking changes in the characteristics of the population as a function of time.

A cohort study identifies a specific population of interest, and studies them at various points in time. That is to say, we identify children born in 1960 as meriting focused attention over time. We survey a random sample of them in 1965. We identify another random sample of them in 1970. We identify another random sample of them in 1975, 1980, 1985, 1990, 1995, 2000, 2005, We look at how the characteristics of those born in 1960 change over time as time passes.

c. Contrast a cohort study to a panel study.

A cohort study as describe in the answer to part (b) differs from a panel study. In a panel study, we not only revisit over time to conduct interviews, we revisit the same unit of observation to the extent that that is feasible. We are tracking the unit of observation evolution over time of a set of observations, where we have an initial baseline, then follow up repeat survey rounds of the same units of observation to investigate patterns of change over time at the observation level. So in contrast to the cohort sample, where we draw different samples to collect observations with each repeat round, in the panel study we visit the same sample observations each round.

7) True or False.

Statement	Is it True or False (circle)
Confidentiality means a given response cannot be linked to a given respondent even by the researcher.	True False
Quota sampling requires that you have information about the overall population's characteristics.	True False
A snowball sample is an example of an equal probability of selection method.	True False
A positivist approach identifies the presence of unequal wages by gender as an objective for social policy to correct.	True False
Disclosure of the Tuskegee syphilis experiments from 1932 to 1972 influenced the 1979 Belmont report.	True False
Concepts such as good governance and participation are directly measurable in tangible way.	True False
Durkheim applied the term <i>anomie</i> to describe the behavior of individuals in the book <i>Tearoom Trade</i> .	True False

8) Measures.

Item measured	What kind of measure is it? (circle)			
GRE test results	Nominal	Ordinal	Interval	Ratio
Age	Nominal	Ordinal	Interval	Ratio
Gender	Nominal	Ordinal	Interval	Ratio
Degree of religious orientation	Nominal	Ordinal	Interval	Ratio
Place of birth	Nominal	Ordinal	Interval	Ratio
Adjusted Gross Income in 2015*	Nominal	Ordinal	Interval	Ratio
Number of Graduate School Credits earned to date	Nominal	Ordinal	Interval	Ratio
Did you get your teeth cleaned in the last 6 months?	Nominal	Ordinal	Interval	Ratio

*we did talk about income being both interval and ratio. Adjusted Gross income goes to zero for tax purposes, so we can think of it having a ratio element as we are not just looking at the interval but can also look at the ratio of two values on a measure that goes to zero. I would try to make the difference clearer in the question.

9) Evaluating measures.

- a. What does it mean if a measure is reliable but not valid?

It is really consistent at giving you an inaccurate value. The idea of the broken bathroom scale works here. Each time I get on it, it tells me with a great deal of consistency the same weight. Turns out that the scale is broken, so the value it tells me is not anywhere near the actual weight, but it is telling me the same answer each time when I step on it! It has very low variation about the incorrect mean is a way to think about it.

- b. What does it mean if a measure is valid but not reliable?

On average, the values for the measure converge to the true value. That is, on average, the answer is right, the measures when taken as a whole converge to the true value. The bad news is that the measure is not very good at capturing the true value, so it is all over the place. It has really high variation around the true mean is a way to think about it.

- c. Contrast the following concepts: Criterion related / predictive validity, Content validity, Construct validity, Face validity. The proposed measure is the number of months of home consumption from grain harvested from a household's fields last year. The concept is household food security. The setting is a rural village in a developing country. For each concept provide one reason why the measure might be valid by this concept and why it might not be valid by this concept.

Criterion	Valid If I look at measures of malnutrition gathered right now, the number of months of home consumption last year is negatively and significantly related to the incidence of child malnutrition in households. This is because home produced grains over the past year are the major component of household diets, therefore low values increase current malnutrition.
	Not valid If I look at measures of malnutrition gathered right now, the number of months of home consumption last year is not significantly related to the incidence of child malnutrition in households. This is because households in this community share grains across households so that household level production is not the only determinant of household level consumption and therefore is not directly related to malnutrition.
Content	Valid. Home production and consumption of grains covers 85% of household caloric intake. The question covers this critical topic. There are other sources of food beyond household fields to contribute to food security, but these are pretty minimal.
	Not valid. The households in this area obtain income to buy food from a variety of sources of which cultivation and consumption from household fields is less than 20% overall. Food also comes from income from beekeeping and honey sales (40% overall) and work in the local French bean packing plant (30% overall) plus a variety of

	other kinds of artisanal activities depending on the household's lineage. Home produced and consumed grain is one small element among many of determinants of food security.
Construct	Valid The response to the grain question is strongly correlated with the responses to other questions in the survey about the number of times over the past year they have had to reduce the number of meals per day in their household and the number of times they have had to reduce the amount of food prepared per meal for their household.
	Not valid The responses to the grain question are inconsistent with measures of household income, consumption and asset levels. These other variables that would seem related to food security predict higher food insecurity according to the grain question for households that appear wealthier by these other measures.
Face	Valid The community is a farming community who grow and eat grains. This seems like a plausible measure of food security.
	Not valid The community is a fishing community who catch, eat, and sell fish to buy grains. Asking them about home production of grains is not a plausible measure of food security.

10) Assign the name of the scale to the description.

Put name of scale here	Description of scale
Semantic Differential	Results from questions that pair two opposite adjectives and have respondents place their reaction on their degree of closeness to either adjective.
Lickert	Symmetric scale centered on zero that captures a range of responses both negative and positive
Thurstone	A type of composite measure where weights are assigned by 'judges' to assess the strength of particular indicators
Bogardus social distance scale	Captures the willingness of people to participate in social relations of varying degrees of closeness with other kinds of people.
Guttman	A scale that is based on the idea that people who support a strong indicator of a variable will also support weaker indicators of this variable.