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Qndy What do you about reliability explain it by mentioning it types and explain one type with its sub types as well?

Ans: Reliability tells you how consistently a method measure something- when you apply the same sample under the same conditions- you should get the same results- if not the method of measurement may unreliable. There are four main types of reliability each can be estimated by comparing different sets of results produced by the same method-

- ① Test-retest The same test overtime;
- ② Inter rater The same test conducted by different people -
- ③ Parallel forms different version of a test which are designed to be equivalent.

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(4) Internal consistency - The individual items of a test.

Now I want to explain one type with detail and its sub types -

(1) Test retest The same test overtime. Test retest reliability measure the consistency of results when you repeat the same test on the same sample at a different point in time - you use it when when you are measuring something that you expect to stay constant in your sample.

A test of colour blindness for trainee Pilots applicants should have high test retest reliability, because colour blindness is a trait that does not change over time.

(ii) Why it's important:

Many factors can influence your results at different point in time.

e.g Respondant might experience different moods, or external conditions might affect their ability to respond accurately -

Test retest reliability can be used
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To assess how well a method resists these factors over time - The smaller the difference between the two sets of results - The higher the test retest reliability -

(ii) How to measure it:

To measure test retest reliability you conduct the same test on the same group of people at two different points in time - Then you calculate the correlation between the two sets of results.

Test retest reliability example:

You give a questionnaire to measure the IQ of a group of participants.

(A property that is unlikely to change significantly over time) You administer the test two months apart to the same group of people, but the results are significantly different so the test retest reliability of the IQ questionnaire is low -

(iii) Improving test retest reliability:

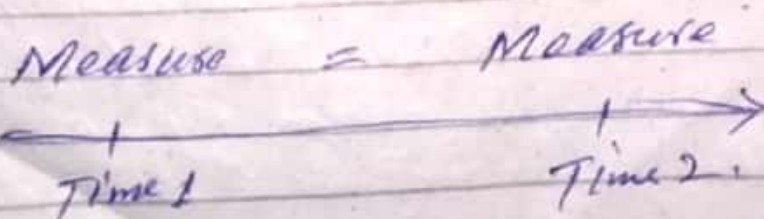
When designing tests a questionnaire try to formulate questions, statements and tasks in a way that won't be influenced by the mood or concentration of participants - when planning your methods of data collection -

(4)

try to minimize the influence of external factors and make sure all samples are tested under the same conditions.

Remember that changes can be expected to occur in the participants over time and take these into account.

⇒ How we estimate test-retest reliability when we administer the same test to the same sample on two different occasions. This approach assumes that there is no substantial change in the construct being measured between the two occasions. The amount of time allowed between measure is critical. We know that if we measure the same things twice that the correlation between the two observations will depend in part by how much the time elapses between the two measurement occasions. Now the following shape of test-retest.



The End.

Q2:

How many types of validity are there and explain any two in detail?

Ans:

Validity tells you how accurately a method measures something. If a method measures, and the results closely correspond to real world values, then it can be said to have four main types of validity - which are the following -

①

Construct validity:

Does the test measure the concept that it is intended to measure -

②

Content validity:

Is the test fully representative of what it ~~means~~ ^{aims} to measure -

③

Face validity:

Does the content of the test appear to be suitable to its aim -

④

Criterion validity:

Do the results correspond to a different test of the same thing? Here we determine the accuracy of the actual components of a measure. If you are doing experimental research, you also need to consider internal and external validity.

which deal with the experimental designs and the generalizability of results -

Now I explain the two types of validity with detail -

① Content validity:

Content validity assess whether a test is representative of all aspects of the construct.

To produce valid results, the content of a test survey or measurement instrument must cover all relevant parts of the subject it aims to measure.

If some aspects are missing from the measurement (or if irrelevant aspects are included) the validity is threatened. e.g. A mathematics teacher develop an end of semester algebra test for her class. The test should cover very from of algebra that was taught in the class.

If some types of algebra are left out, then the results may not be an accurate indication of students' understanding of the subjects. Similarly if she include questions that are not related to algebra.

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The results are no longer a valid measure of algebra knowledge.

⑤ Criterion validity:

Criterion validity evaluates how closely the results of your tests correspond to the result of a different test. What is a criterion? The criterion is an external measurement of the same thing it is usually an established or widely used test that is already considered valid.

What is criterion validity?

To evaluate criterion validity, you calculate the correlation between the results of your measurement and the results of the criterion measurement. If there is a high correlation, this gives a good indication that your test is measuring what it intends to measure -

e.g. A university professor creates a new test to measure applicants' English writing ability, ~~she find~~ and to assess how well the test really does measure students' writing ability, she find an existing test that is considered a valid measurement

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of English writing ability and compare
the results when the same group
of students take both tests.

If the outcomes are very similar
the new test has a high criterion
validity.

— x — x — x

Q. No. 3

Explain major steps involved in developing scale - ?

Ans:

Scaling:

Scaling is the procedure of measuring and assigning the subject to the number according to the specified rules.

In other words, the process of locating the measured objects on the continuum, a continuous sequence of numbers to which the objects are assigned is called as scaling. Now the following steps which is involved in developing scale.

①

Nominal scale.

②

Ordinal scale.

③

Interval scale.

①

Nominal scale:

Nominal scale is a scale of measured only deals with the non numeric variable and there is no relative ordering of the categories. When the scale is used for classification purpose then the numbers scaled on nominal bases serve as tags for the categories or classes.

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e.g. The case of gender scale in individual can be categorized either as male or female.

This means the objects in each categories are said to equivalent to the characteristic represented by the nominal number. All the objects in the same category have the same number and no two classes will have the same numbers.

It is to be noted that the nominal scale does not determine the amount of characteristic possessed by the object and is only use for counting purposes.

(3) Ordinal Scale:

The ordinal scale is a rank order scale in which the numbers are assigned to the objects to determine the relative extent to which certain characteristic is possessed. It helps in identifying that whether the object has more or less of characteristic as compare to another object. But does not tell about how much or less the characteristic is. The ordinal scale tells about the

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relative position of the object and not the magnitude of difference between the objects.

The most common examples of the ordinal scale are quality rankings, occupational status, ranking of team in tournaments, rank order of winners etc -

In the case of an ordinal scale the equivalent objects are assigned the same rank - any series of numbers can be assigned to the objects provided it preserves the ordered relationship between the objects - Thus in the ordinal scale it is the order that matters and not the relative degree of difference between the objects -

(3) Interval Scale:

Interval scale is a numeric scale in which the numbers are assigned to the objects in such a way that numerically equal distances on the scale represent the equal distance between the characteristics of the objects being measured.

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The most common example is a Celsius temperature scale in which the difference between the values is same - in the case of interval scale.


The distance between the descriptors is also known.

Time is another most common example of an interval scale in which the values are known.

Consistent of measurable.

In the ordinal scale there is no fixed beginning or a true zero point - which means these scale do not possess the origin characteristic - e.g. In the case of temperature scale - there is no point where the temperature can be zero.

And without a true zero point it is impossible to compute ratios.



Q No 1

You want to know admission intake of different universities at Jash and you end up selecting top three universities - min?

Ans:

To take admission in selecting to three universities at Peshawar for initiating of students.

There I was confused a bit. whether it is public sectors universities or private universities. Public university is on merit basis and private universities on merit basis self finance bases - These a probability sampling method means. that every student member of the population has chance of being selected (example private universities) - It is mainly used in qualitative research -

There are four main types of probability sample here regarding to this question simple random sampling method is suitable. In a simple random sample every member of the population has an equal chance of being selected your sampling frame

P.T.O

Should include the whole population. To conduct this type of sampling you can use tools like random number generators - or other techniques that are based entirely on chance.

Here biases and errors are absent usually in this simple random sampling method. It is likely to access just a part of the full population. In simple sample random an accurate statistical measure of a target population can only be obtained - when a full list of the entire population to be studied is available.

In some instances detail on a population of students at a university or a group of employees at a specific company -

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In The End ~