Reseach methods

RESEARCH METHODS of Institute] Q No Discuss the three methods of demonstrating reliability of measurement? Ans. The reliability of measure indicates the stability and consistency and this tool helps to assess the goodness of a measure. Test-retest, multiple forms and split half technique are the three main methods of demonstrating reliability of measurement. Test-retest reliability is the simplest measure to test the stability and reliability within the model. In test-retest reliability the researcher asks the respondent the same question twice but in different occasions or different time periods to ensure consistent results. When the results predict higher retest coefficient or high positive correlation then the test would be reliable. Multiple form reliability refers to the application of equivalent forms of measure and correlation. This measurement tool is similar to test-retest reliability, but in this, subjects are given both forms of measure concurrently. Split half reliability reflects the correlation between the two halves in a set of items but the coefficient varies, depending on how the scale is split. Sometimes when more than one scale, dimension or factor is evaluated then split half reliability is used to check the consistency (Sekaran, 2006).

Q No. 2 What are the two types of crime seriousness scales and of what utility are they in criminal justice research?

Ans. Crime seriousness scales are the severity scales that judges the seriousness of the crime on the basis of weights assigned to them. There are two types of crime seriousness scales, simple rating scales and magnitude scales. Simple rating scales determine the rate of the crime on the basis of scales ranging from 1(not serious) to 9 (extremely serious). But this rating scale is unable to determine the magnitude difference between the scale scores. While magnitude scale measures the degree of seriousness of

various crimes by public ranking. Selling-wolf gang index and national survey of crime severity are the two examples of magnitude scales in crime seriousness. Both these crime seriousness scales are used in criminal justice research to determine and analyze the seriousness of the crime. Crime seriousness scales not only judges the crime level but it also helps in controlling (Wilmot, 2002).

Q No. 3 Explain the least-square regression line.

Ans. Least square regression line is known as the best fitted line, least square line, regression line and least square prediction equation. It represents a mathematical model for a group of data. Generally, linear regression consists of finding the best-fitted line through the points in the scatter diagram. This line identifies the relationship between a single predictor variable X and the response variable Y, while the other predictor variables are held fixed. This regression line is also used to predict the value of y for a given value of x, i. e. it is used in prediction and forecasting. It is a line that minimizes the distance of the actual scores from the predicted scores. The least square regression line is determined by the formulas Y= A+BX, where A is the y-intercept and B determines the slope of the least square line (McClave & Dietrich, 1988).

Q No. 4 How do you use the regression line for prediction?

Ans. Regression line can be used for future prediction and forecasting sales or other forecast projects. The regression line shows the trend line for long-term movements in time series data where the independent variable X, estimates the dependant variable Y for future or next time period. Due to this we can easily predict the value of Y on the basis of certain values of X. Regression line is generally plotted on the scatter plot of independent and

dependant variable because they fall on a perfect line. Regression line is the best fitted line due to this it gives an accurate knowledge of past trends and even future trends.

References

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