

WEEK 1 – GETTING RESEARCH STARTED: REVIEW OF HYPOTHESIS TESTING, T-TESTS - WITH MODULE 1

Definitions

- Discrete variable = separate, indivisible categories. No values can exist between two neighbouring categories (how many answers right out of 10)
- Continuous variable = infinite number of possible values fall between two observed values (height, weight)

SCALES

- Nominal = names, categories (art, biology)
- Ordinal = organised in ordered sequence (1st, 2nd)
- Interval = ordered categories that all intervals of exactly the same size. Zero point does not indicate zero amount of variable being measured (degrees Celsius)
- Ratio = score of zero indicates none of the variable being measured (physical measures – height, weight)

Source of Research ideas

- Unsystematic Observation = e.g. observing curious behaviour – why did that behaviour occur? Would it have occurred if person knew they were being observed?
- Systematic observation = e.g. particular behaviours associated with variety of particular factors – lead to development of hypothesis about that behaviour
- Theory: organised way of thinking about two or more variables and how they are related
- Source of research ideas:
 - Past research, case studies, conflicting findings, overlooked variables (identify important variable overlooked by past research), setting and expanding boundaries.

Characteristics of a good question

- Answerable
- Importance (help decide between two theories, provide solutions to practical problems, clarify nature of known relationships)

Experimental research

- Manipulation of independent variables
 - Variable manipulated to examine how manipulation effects another variable
 - Independent variable: manipulated by experimenter
 - Dependent variable: Variable that is observed
 - **3 criteria for determining cause and effect relationship:** (experimental research possesses all 3)
 - ◆ covariation of proposed cause and effect
 - ◆ Time precedence of the proposed cause
 - ◆ Absence of alternative explanation for the effect
- Control of extraneous variables
 - Controlling for possible alternative explanations

Effects of extraneous variables

- Swamp effects of IV = DV is affected by many factors, their combined effects may mask any effect of the IV

Confounding effects

Effect on DV that you observe looks like manipulation of IV but is actually caused by some other variable that was not manipulated. Any variable you failed to control/manipulate which affects results of the experiment

Random confounding variables= beyond the control of the experimenter but effects participants in random fashion. Solution = randomly assign participants to conditions/ take random sample of population