

Creating a Summary Chart to Guide Synthesis

Body section:

Summary Charts organizes notes about the methods, results, and conclusions of published studies. Most Important, summary charts guide the process of synthesizing study outcomes.

Synthesizing Studies with Similar Conclusions

- Backing central claim with the outcomes of published studies
- Check for how closely their supporting data line up.
- If conclusions and supporting data of different studies agree, chances are that there are similarities in the methods as well. Synthesizing the mythological pieces affords greater explanatory and predictive power.

Synthesizing Studies with Contrasting Conclusions

- Isolate any contrasting conclusions from studies on your research issue
- Form your own conclusion by independently interpreting the contrasting studies' results.
- Compare your conclusions to those of the studies' authors; if your conclusions disagree with those in the published literature, develop your synthesis by explaining and justifying your interpretations.
- If your conclusions agree with those in the published literature, look for differences in the studies' methods as possible explanations for their contrasting outcomes
- Goal is to compare the studies' methods to identify similarities and differences. For differences consider whether they might actually have accounted for the studies' contrasting results and conclusions.
 - Questions to consider
 - independent variable:** variable changed or controlled by the scientists
 - dependent variable:** variable researchers test and evaluate, it does not change.
 - identify differences in relevant characteristics, i.e. age, sex, initial physical and health conditions, lifestyle behaviors, and son on.
 - Did levels of the studies' independent variables differ? were the same doses administered.
 - Were the dependent variables similar or different? Did the researchers measure identical outcomes
 - Did the studies differ in setting, length, and other aspects of their design?
 - Were there differences in the researchers' approaches to controlling for potential confounding variables?

Here are some other examples of dependent and independent variables in scientific experiments:

- A scientist studies the impact of a drug on cancer. The **independent variables** are the administration of the drug - the dosage and the timing. The **dependent variable** is the impact the drug has on cancer.
- A scientist studies the impact of withholding affection on rats. The **independent variable** is the amount of affection. The **dependent variable** is the reaction of the rats.
- A scientist studies how many days people can eat soup until they get sick. The **independent variable** is the number of days of consuming soup. The **dependent variable** is the onset of illness.