Implementation Science and Evaluation #17:
PROGRAMME EVALUATION DESIGN (I): PRE-EXPERIMENTAL

We can take different approaches when evaluating programmes.
A simple and accessible design is: **Pre-experimental.**

WHAT is a pre-experimental design?

This involves the same person going through repeated administration of a test across various timepoints.

For example:

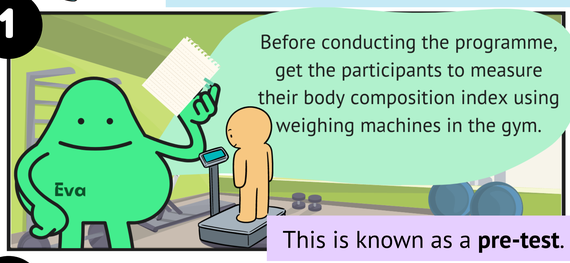
PRE-TEST → PROGRAMME A → POST-TEST → NO PROGRAMME → FOLLOW-UP

Let's illustrate this with a scenario: **Conducting an Exercise Programme**

Hi Eva, I want to conduct an exercise programme. **How do I know whether the programme is effective in helping with weight loss?**

Hey ISter, let me explain...

1

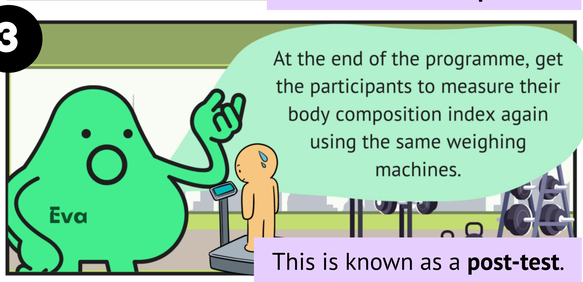


This is known as a **pre-test**.

2

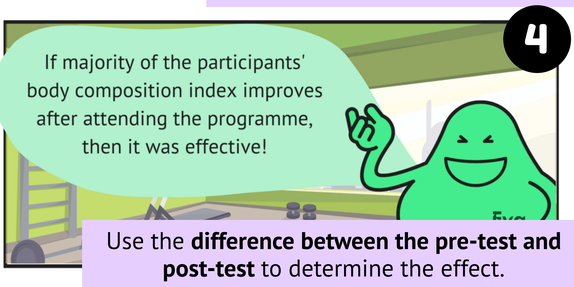
The **'programme/intervention'.**

3



This is known as a **post-test**.

4

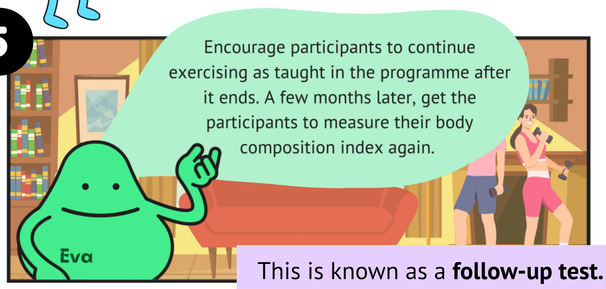


Use the **difference between the pre-test and post-test** to determine the effect.

I see! **How do I know whether participants maintained their weight loss?**

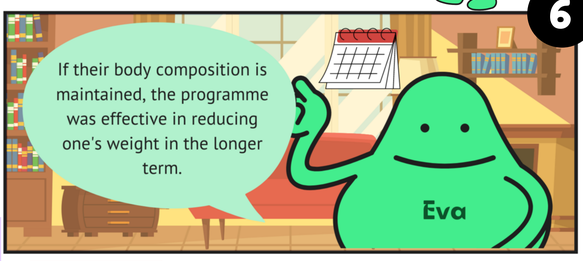
Here is what you can do...

5



This is known as a **follow-up test.**

6



PROS & CONS of a pre-experimental test study

Pros

- Simple, easy to implement and analyse the data.
- Able to observe changes before and after something is introduced.
- The design is suitable when a comparison group is not possible.
- A smaller sample size is needed to achieve the same [1]statistical power as there is no comparison group.

[1]Statistical power refers to the probability of detecting an effect, if there is a true effect present.

Cons

- Difficult to rule out alternative explanations, for example:
  - The outcomes observed could be due to the characteristics of the sample (e.g., genetic disposition)
  - Other changes experienced by the group may have led to the observed changes (eg. change in diet)

A comparison group will help to increase the credibility of the evaluation results.
We'll be talking more about this in the next info-poster. Do stay tuned!

References:

Miller, C. J., Smith, S. N., & Pugatch, M. (2020). Experimental and quasi-experimental designs in implementation research. *Psychiatry research*, *283*, 112452. https://doi.org/10.1016/j.psychres.2019.06.027

Baguley, T. (2004). Understanding statistical power in the context of applied research.*Applied Ergonomics, 35*(2), 73-80. https://doi.org/10.1016/j.apergo.2004.01.002

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