

CHECKLIST OF METHODS DESCRIPTION

Authors should use the following as a checklist and ensure that all relevant issues are covered.

Subjects

- Number, sex, breed/strain, age, developmental stage; for each component of the study.
- Source of subjects.
- Other aspects of the subjects relevant to the study (e.g. size, previous experience).
- Fate of subjects after study.

Study area

- Location, for field studies including latitude, longitude and elevation.
- Habitat features.

Housing

- Structure and dimensions of home cage or aquarium (indicate which dimension is the height).
- Periods of access to food and water or other vital resources.
- Ground substrate.
- Light, temperature and other environmental variables.
- Group size and composition.

Timing of study

- Dates of study.
- Season: e.g. breeding or non-breeding.
- Time of day.

Measures of behaviour

- Descriptions of behaviour. Provide a name for each type of behaviour, and descriptions based on either motor patterns or consequences of action (an example of the latter is 'nest-building'). Use behavioural names consistently.
- Type of measurement: frequency, bout duration, rate (= frequency/unit time), proportion of time or total time.
- Behavioural sequences.
- Stability criteria in learning experiments.
- Number of observers.
- Whether observers were blind to the treatments used in the study and the study's aims.
- Intra- and inter-observer reliability.

Sampling methods - examples

- Focal animal (state sample duration) or scan sample.

- Instantaneous or continuous sampling.
- Timing, frequency and duration of behavioural sampling within the study period.

Data recording methods - examples

- Check-sheet, event recorder, film, operant equipment.
- Commercial product descriptions.

Subject treatments and apparatus

- Subject treatments: e.g. handling, anaesthetic, marking, radio-tagging.
- Acclimatisation to apparatus.
- Duration of captivity.
- Structure and dimensions of experimental cage or aquarium (indicate which dimension is the height).
- Description of apparatus, including dimensions.
- Commercial product descriptions.
- In a diagram of the apparatus indicate whether it is a plan or an elevation, and whether it is drawn to scale.

Ethical note

- Ethical implications of procedures.
- Procedures taken to reduce suffering, or prevent reduction in survival or reproductive success.
- Licences, including reference numbers.

Experimental design

- Independent subjects or repeated measures? Indicate where subjects are used in more than one condition or more than one experiment.
- Treatment conditions. Give conditions suitable names or abbreviations and refer to the names throughout the paper.
- Sample sizes in each condition.
- If an experiment has a series of stages or phases, give each a number or name and refer to the number or name throughout the paper.
- If a study has a series of experiments, give each a number or name and refer to the number or name throughout the paper.
- The order in which individual subjects experienced different treatment conditions or different experiments.
- Timing:
 - Time of onset and duration of each stage of each experiment.
 - Time between stages and between experiments.
 - Latency between placing animal in apparatus and recording behaviour.
 - Time between all experimental actions.

Data analysis

- The unit of analysis (normally the individual).
- Measures used in the analysis (e.g. mean bout duration for each individual). Note that 'proportion' is not the same as 'percentage'. In the Results section, too, state the measures used in each analysis if there might be uncertainty.
- Always state the names of statistical tests, together with the test statistic symbol (e.g. U in the Mann-Whitney test). Do this either in the Methods section to save repetition in the Results section, or in the Results section if this will be clearer.
- Describe and justify unusual statistical methods, with references if necessary.
- Name and version number of any commercial statistical software used.
- State whether data satisfied the assumptions of the statistical tests used (not just that the data were *examined* for the satisfaction of assumptions).
- State whether p values are one- or two-tailed and justify your choice, if not obvious.