Reviewer Information

What is your name? _____

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Notes:




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Questions for Evidence Extraction

[Meta-analysis](#) answers a research question of the form: "What is the impact of [some [predictor](#) or intervention of interest] on [some [outcome](#) of interest]?" Your research questions is, "What is the impact of a vegetarian diet on the overall mortality rate due to all causes?"

The purpose of this form is to guide the process of extracting evidence from written reports of research findings for meta-analysis. The evidence we are interested in will be reported in the form of estimates from a statistical model. This form has two parts. The first part documents study-level information which includes crucial details about each written report. The second part documents estimate-level information which describes the specific nature of each statistical result to be included in your meta-analysis.

Study-Level Information

In this section, you will document information about the written report you are coding. This information should be consistent for all results reported.

Study Identity

1. What is the title of the report?

   _____

2. List the authors of the study.

   _____

3. What year was the study published?

   _____

Study Context

Please use the following items to document information about the design of the study and the context in which the data were collected, paying special attention to information that might impact how you interpret the meaning of the results.

1. What kind of study is this?

   [Description: We differentiate kinds of studies depending on the degree of control the authors exert on the situation under study. In experiments, the authors may assign participants to treatment and control groups and attempt to isolate the effect they are measuring through experimental control. In observational studies, the authors measure the situation under study in the real-world without exerting their influence. Articles will often explicitly state what kind of study was run, usually in the Method section. When comparing studies, we will want to consider whether different kinds of studies yield different patterns of results.]

   ❏ Experimental (i.e., participants randomly assigned to groups)
   ❏ Observational (i.e., participants' behavior was observed without intervention)
   ❏ Other kind of study ↓

   Name: _____

   Description: _____

2. In what country was the study conducted?

   _____

3. What was the study setting?

   [Description: Studies might present data gathered in different kinds of settings or environments. A controlled setting is one in which the authors have attempted to isolate the effect of interest by eliminating factors that might exist in real-world situations. In contrast, a naturalistic setting is one in which the authors have exerted no influence and are taking measurements in the real world. A crowdsourced setting is one in which data is

collected online. Study settings will often align with the kind of study and should be reported in the Method section. When comparing studies, we will want to consider whether different settings yield different patterns of results.]

- ❏ Controlled (e.g., clinic, laboratory)
- ❏ Naturalistic (e.g., home, school, work)
- ❏ Crowdsourced (e.g., webpage)
- ❏ Other setting ↓

  Name: _____

  Description: _____

Participants

Please use the following items to describe who the participants in the study were, thinking in particular what aspects of the sampling process that might influence the population the authors selected.

1. Briefly describe the participants in the study in terms of relevant characteristics (e.g., demographics, occupation, health status). Please describe how the sample for the study was selected, especially the recruitment process and any inclusion or exclusion criteria.

   [Description: We think of participants in studies as being sampled from a particular population. Populations are essentially groups defined by common characteristics. If the recruitment process for a study selects for a particular kind of participant, we want to document this information so we can reason about the population in the study. The effect we are interested in might be different in different populations, so we will want to consider differences in study populations when choosing whether to aggregate studies in meta-analysis.]

Estimate-Level Information

In this section, you will document information about each estimate of the effect of interest in the written report you are coding. Please fill out the questions in this section for each reported result you would like to include in your meta-analysis. Be careful not to create duplicate entries if the same results are reported in separate written reports.

Measurement

Please use the following items to describe how the outcome of interest is [operationalized](#) (i.e., how the outcome of interest was defined and measured in the study).

1. What are units of measurement were reported to quantify the outcome of interest?

   [Description: Units of measurement refer to the way that the outcome of interest is reported in the study. This might be some raw measure such as the number of times an event occured, or it might be some derived measure such as the rate at which an event occured. Measurement units should be reported in the Method or Results section. We want to consider units of measurement when appraising the practical importance of the effect size reported in the study. Studies will likely use different units, so we will probably need to [standardize the effect estimates](#) from different studies before we can directly compare them.]

2. How did the author(s) qualify what they would and would not count as an observation of the outcome of interest?

   [Description: Think of this question as asking about the set of conditions that must be met in order for the authors to measure the outcome of interest. These conditions might be chosen by the author to qualify what will count as an instance of the outcome of interest, or they might result from limitations in the method of measurement. This information should be reported in the Method or Results section. For the sake of comparison, we want to know if studies differ in their methods of measurement.]

3. How did the authors obtain the values of the reported measure?

[Description: What was actually done to get the measurements reported in the paper? The authors may have administered a survey, brought participants into the lab for data collection, or perhaps they retrieved data that had already been collected for another study. If we are going to use the evidence presented in the study to support inferences, we want to know where it came from.]

4. Was this measure repeated over time for individual participants?

[Description: Some studies involve repeated measurements from individual participants over time. When authors take measurements from participants at multiple points in time, it is often to see how their responses change in response to some intervention. Authors who do this should report the time schedule of their measurements, often in the Method section. To the extent that follow-up durations vary across studies, this information may be important to consider when deciding whether to aggregate studies in meta-analysis.]

- ❏ Not reported
- ❏ No
- ❏ Yes ↓

    Would you like to document multiple follow-up measurements or just one?

    - ❏ Multiple follow-up measurements ↓

        Select timepoints to report:

        - ❏ Baseline (i.e., time zero)
        - ❏ First follow-up ↓

            Duration: _____

            Unit of time: _____

        - ❏ Second follow-up ↓

            Duration: _____

            Unit of time: _____

        - ❏ Third follow-up ↓

            Duration: _____

            Unit of time: _____

    - ❏ Just one measurement ↓

        What was the duration of the follow-up period?

        Duration: _____

        Unit of time: _____

5. Was this measure taken for subgroups of participants which are of interest in your meta-analysis, or will you just document the overall effect?

[Description: Some studies break up an effect by subgroups of participants by presenting data in [contingency tables](). When authors present outcomes in subgroups, it is often because those grouping factors are thought to influence the effect of interest. These subgroups should be reported in the results section of the paper, but the rationale for their importance may be located elsewhere. You need to decide whether these grouping factors are of interest for your meta-analysis, or if you prefer to only document the overall effect. Even if you are interested in these subgroup effects, you will only be able to include them in your meta-analysis if they are reported across multiple studies.]

- ❏ No subgroups effects were reported.
- ❏ Subgroup effects were reported, but we are only interested in the overall effect.
- ❏ Subgroup effects were reported, and we are interested in them. ↓

   What was the grouping factor? _____

   What levels of the grouping factor were reported?

   _____

Effect Size

Please use the following items to capture, in as much detail as possible, information reported about estimates of [effect size](). You will almost certainly find this information in the Results section. For each statistic reported about the effect interest, please fill out the following items.

1. What is the name of statistic used to report the effect size estimate?

[Description: [Effect size]() might be reported as an average measurement in each group, an average difference between groups, a ratio describing the relative probability of the outcome of interest, a [correlation coefficient](), an [R-squared]() value, or a [regression coefficient](). These are all related measurements of the impact of the predictor or intervention of interest on the outcome of interest.]

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   a. What kind of effect size statistic is this?
      - ❏ Mean
      - ❏ Ratio
      - ❏ Correlation
   b. Please record the numeric value for the reported statistic. _____

2. How is the reliability of the effect size estimate reported?

[Description: Reliability is an indicator of how repeatable the estimation process is. Reliability statistics answer the question: How likely is it that if we repeated the same analysis process, it would produce a similar effect size estimate? Reliability might be reported as a test statistic such as a t-test or an ANOVA F-test. Alternatively, it might be a p-value, a standard error, or a confidence interval. We'll want to document whatever the authors reported so that we know how uncertain the results from the study are.]

a. What statistical model was used to produce the effect size estimate?

b. Please record the numeric value(s) describing the reliability of the reported statistic. _____

c. Please record the sample size used to estimate the reported statistic. _____

3. What (if any) covariates were adjusted for in the statistical model that produced the reported estimate?

[Description: Covariates are factors or variables other than the predictor and outcome of interest which are included in a statistical model. The impact of including these other variables in the model is that we adjust the effect size estimate for the influence of these covariates. Specifically, the model splits the data into subgroups as each level of the covariates, calculates the effect of interest in each subgroup, and takes a weighted average of the effect size across these subgroups. Covariates might be demographic variables like gender or age or characteristics like health status which impact both the predictor and the outcome of interest. Most regression models in particular will have covariates, but other kinds of models may not. The authors should report the covariates for each model somewhere in their methods or results. We want to know about covariates because if different studies adjust for different sets of variables, this will probably lead to differences in estimated effect size.]