

Supplementary Material to “Testing the Usability of the Psychological Research Preregistration-
Quantitative (PRP-QUANT) Template”

Appendix H: What would participants add, change, or remove about the template items

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Table H1

Participants' answers to the item "What would you add, change, or remove about the item?"

| Item | Comments |
|---------------|---|
| T8 N = 12 | <ul style="list-style-type: none"> - <i>Add</i>: Default answer when there is no conflict (e.g., "All authors declare that they have no conflicts of interest." (n = 3) - <i>Remove</i>: Item (n = 2) - <i>Add/change/remove</i>: Nothing (n = 6) |
| T10 N = 14 | <ul style="list-style-type: none"> - <i>Add</i>: Multiple options for different sub-datasets (n = 2) - <i>Add</i>: Ask for repository (as it is indicated in the item title) (n = 1) - <i>Add</i>: Link to repository location (if already existing, e.g., in a project) (n = 1) - <i>Add</i>: Possibility to justify (n = 1) - <i>Change</i>: Indicate if all or anonymized data will be shared (n = 1) - <i>Change</i>: Differentiate between raw or accumulated data (n = 1) - <i>Remove</i>: Repository (n = 1) - <i>Add/change/remove</i>: Nothing (n = 4) |
| T11 N = 11 | <ul style="list-style-type: none"> - <i>Add</i>: Clarify and ask for code (e.g., experimental or analysis, which software) (n = 5) - <i>Add</i>: Make applicable for coding for qualitative analyses (n = 1) - <i>Add</i>: Confirmation that code is coded to increase reusability (n = 1) - <i>Add</i>: Adherence to standards (n = 1) - <i>Change</i>: "data" to "code" in dropdown menu (n = 1) - <i>Add/change/remove</i>: Nothing (n = 3) |
| T12 N = 11 | <ul style="list-style-type: none"> - <i>Add</i>: Explanation of what such a document is and list with examples of existing standard lab practices documents (n = 3) - <i>Add</i>: Option to indicate there is no such document (n = 1) - <i>Remove</i>: Item - <i>Add/change/remove</i>: Nothing (n = 2) |
| I1 N = 9 | <ul style="list-style-type: none"> - <i>Add</i>: Suggestions how this should be done (n = 2) - <i>Change</i>: Distinguish between theory and study-specific predictions (n = 1) - <i>Remove</i>: Item (n = 1) - <i>Add/change/remove</i>: Nothing (n = 4) |
| I2 N = 9 | <ul style="list-style-type: none"> - <i>Change</i>: Better distinguishment between this item and the other items of the <i>introduction</i> section (especially I1), and between theoretical and practical research questions (n = 4) - <i>Change</i>: Clarify description (n = 2) - <i>Add/change/remove</i>: Nothing (n = 2) |
| I3 N = 10 | <ul style="list-style-type: none"> - <i>Add</i>: Option for indicating that there are no hypotheses (n = 1) - <i>Add</i>: Prompt to indicate which of the hypotheses are mutually exclusive or not (n = 1) - <i>Change</i>: Use the plural "hypotheses" in the title and description (n = 1) - <i>Change</i>: It should not always be required that hypotheses are numbered, as this is not always necessary (n = 1) - <i>Change</i>: "Hypothesis/aims" instead of only "Hypothesis" for studies that rather provide aims than hypotheses (e.g., meta-analyses) (n = 1) - <i>Change</i>: Integrate this item with I2 (n = 1) - <i>Add/change/remove</i>: Nothing (n = 2) |
| I4 N = 7 | <ul style="list-style-type: none"> - <i>Add</i>: More information about what to register here (n = 1) - <i>Add</i>: Prompt for indication how multiple comparisons will be handled (n = 1) - <i>Change</i>: Clarify if one should include the research questions for purely exploratory studies here or in I2 (n = 1) - <i>Remove</i>: Item (n = 1) - <i>Add/change/remove</i>: Nothing (n = 2) |
| M1 N = 25 | <ul style="list-style-type: none"> - <i>Add</i>: Add options "Registration prior to piloting", "Registration after piloting", and "Registration prior to complete data collection" (n = 2) - <i>Add</i>: Item to described other studies in the same project or future studies (n = 1) |

| Item | Comments |
|--------------|--|
| | <ul style="list-style-type: none"> - <i>Add</i>: More information when the item should be answered ($n = 1$) - <i>Change</i>: Clearer description and distinguishment between options (e.g., especially considering the terms “creation”, “access”, and “observation”) ($n = 5$) - <i>Change</i>: Make it suitable for other research types (e.g., meta-analyses, field studies) ($n = 2$) - <i>Change</i>: “Other” option, add example “If study 1 is already conducted, but not published, and study 2 is now being preregistered.”, and make it an open text input field ($n = 2$) - <i>Change</i>: “Collection” instead of “creation” ($n = 1$) - <i>Add/change/remove</i>: Nothing ($n = 10$) |
| M2 N = 13 | <ul style="list-style-type: none"> - <i>Add</i>: Examples of what it means to have knowledge of the data or how to remain of results when using pre-existing data ($n = 3$) - <i>Add</i>: Possibility to answer for each of multiple studies individually ($n = 1$) - <i>Add</i>: Category where raw data has been collected and is now used by various researchers, or where some analyses were already conducted, but now in a new paper, different aspects are analyzed ($n = 1$) - <i>Add</i>: Question about whether existing data will be compared to newly collected data ($n = 1$) - <i>Add</i>: Filter question “Will you re-analyze existing data in this study” and only if yes, inquire in more detail ($n = 1$) - <i>Change</i>: Break down into multiple sub-items, if pre-existing data will be analyzed, to make answering it easier ($n = 1$) - <i>Change</i>: Make it suitable for meta-analyses or systematic reviews ($n = 1$) - <i>Add/change/remove</i>: Nothing ($n = 3$) |
| M3 N = 10 | <ul style="list-style-type: none"> - <i>Add</i>: Aspect “practical reasons” ($n = 1$) - <i>Add</i>: Information that references may be given ($n = 1$) - <i>Add</i>: Clarify all aspects and add exempld ($n = 1$) - <i>Change</i>: Make it easier to answer, e.g., make question shorter (e.g., “Provide (planned) sample sizes and power analysis.”) and instead add sub-questions like “If you are doing a multilevel analysis, also provide X, if you use a sequential design, also provide Y”) ($n = 2$) - <i>Change</i>: Place the part for sequential designs on a separate paragraph for better reading ($n = 1$) - <i>Remove</i>: “(e.g., t-tests and correlations, but even descriptively such as with histograms)” ($n = 1$) - <i>Remove</i>: Item ($n = 1$) |
| M4 N = 5 | <ul style="list-style-type: none"> - <i>Add</i>: “e.g.,” in d) because not all points are required in all studies ($n = 1$) - <i>Add</i>: Examples of stratification sampling methods ($n = 1$) - <i>Change</i>: Make it more suitable for other designs (e.g., field studies) ($n = 1$) - <i>Change</i>: Make item shorter ($n = 1$) |
| M5 N = 8 | <ul style="list-style-type: none"> - <i>Change</i>: Clarify drop-out (e.g., if experiment crashes, is this participant treated as drop-out) and what to fill in if it is not a longitudinal study ($n = 2$) - <i>Change</i>: Link this item to the inclusion/exclusion criteria of M4 ($n = 1$) - <i>Change</i>: Rather focus on how attrition is treated (listwise deletion, multiple imputation, unbalanced data allowed?) ($n = 1$) - <i>Change</i>: Ask for procedures to handle incomplete data ($n = 1$) |
| M6 N = 8 | <ul style="list-style-type: none"> - <i>Add</i>: Filter, since this is oftentimes not applicable ($n = 3$) - <i>Add</i>: Term “blinding” ($n = 2$) - <i>Add</i>: Option for non-group comparison work ($n = 1$) - <i>Change</i>: Clarify what to insert if this does not apply ($n = 1$) |
| M7 N = 9 | <ul style="list-style-type: none"> - <i>Add</i>: Examples ($n = 2$) - <i>Add</i>: Interrater reliability training ($n = 1$) - <i>Add</i>: Check boxes ($n = 1$) - <i>Change</i>: Link to other items (e.g., could be combined with M6 or AP3) ($n = 3$) - <i>Add</i>: Options “(a) intention to treat, (b) per protocol analysis, (c) intention to treat and per protocol analysis” ($n = 1$) |
| M8 N = 6 | <ul style="list-style-type: none"> - <i>Change</i>: Integrate in AP1–3 ($n = 2$) - <i>Change</i>: Make “deletion” the default and only answer if one deviates ($n = 1$) - <i>Change</i>: FIML is not an imputation procedure ($n = 1$) - <i>Remove</i>: Item ($n = 1$) |

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|---------------|--|
| M10 N = 3 | <ul style="list-style-type: none"> - <i>Add</i>: Possibility to answer for each of multiple studies individually ($n = 1$) - <i>Change</i>: Make it clearer that the list in parentheses are examples, not categories one has to choose from ($n = 1$) - <i>Change</i>: Make it more suitable for other sub-disciplines (e.g., include terminology used in personality psychology) ($n = 1$) |
| M11 N = 4 | <ul style="list-style-type: none"> - <i>Add</i>: Information on which studies this does not apply to ($n = 1$) - <i>Change</i>: Split this item into multiple items ($n = 1$) - <i>Change</i>: Make it more suitable for other designs (e.g., population representative survey studies) ($n = 1$) - <i>Add/change/remove</i>: Nothing ($n = 1$) |
| M12 N = 6 | <ul style="list-style-type: none"> - <i>Add</i>: Allow possibility to specify hypotheses in terms of model comparison ($n = 1$) - <i>Add</i>: Make it easier to connect I3, M12, and AP6, e.g., by displaying them in a table ($n = 1$) - <i>Change</i>: “Operationally defined” as it might be too technical ($n = 1$) - <i>Change</i>: Clarify what to write if multiple hypotheses correspond to different variables (and vice versa) ($n = 1$) - <i>Change</i>: Clarify what “consistent with statistical analysis plans” means ($n = 1$) - <i>Change</i>: Clarify if factors need to be repeated (already defined in other items) ($n = 1$) - <i>Change</i>: Make it more suitable for other designs (e.g., survey research) ($n = 1$) - <i>Change</i>: Make item shorter ($n = 1$) - <i>Add/change/remove</i>: Nothing ($n = 1$) |
| M13 N = 5 | <ul style="list-style-type: none"> - <i>Add</i>: Flexible order of items to tailor template to specific study designs ($n = 1$) - <i>Change</i>: Link to other items (redundant to M12, items assessing hypotheses) ($n = 2$) - <i>Remove</i>: Item (as it imposes a large effort without reducing many researcher degrees of freedom) ($n = 1$) - <i>Add/change/remove</i>: Nothing ($n = 2$) |
| M14 N = 4 | <ul style="list-style-type: none"> - <i>Add</i>: Inquire how participants are recruited and (if applicable) translation of measures ($n = 2$) - <i>Add/change/remove</i>: Nothing ($n = 1$) |
| AP1 N = 10 | <ul style="list-style-type: none"> - <i>Add</i>: Inquire if participants will be excluded list/case wise from the analysis ($n = 1$) - <i>Change</i>: Make it clearer that examples are examples, not a list of all things that need to be answered ($n = 1$) - <i>Change</i>: Ask for cut-off values if the exclusion relates to data (either incorrect or missing) ($n = 1$) - <i>Change</i>: Split into separate items ($n = 1$) - <i>Add/change/remove</i>: Nothing ($n = 2$) |
| AP2 N = 11 | <ul style="list-style-type: none"> - <i>Add</i>: “reliability score” and “incorrectly solved trials” as examples ($n = 2$) - <i>Add</i>: Offer recommendations that help researchers select a strategy, together with an “else, please specify” option ($n = 1$) - <i>Change</i>: Clarify wording ($n = 1$) - <i>Change</i>: Make it more suitable for other study designs (i.e., it might be difficult to find statistical outliers in large-scale studies) ($n = 1$) - <i>Add/change/remove</i>: Nothing ($n = 1$) |
| AP3 N = 5 | <ul style="list-style-type: none"> - <i>Add</i>: Possibility to submit additional files (e.g., syntax) ($n = 1$) - <i>Change</i>: Combine with M7 (what choices you make about data cleaning/screening/processing are typically made in combination, not at two different times as is implied by Methods and Analysis Plan placement) ($n = 1$) - <i>Change</i>: Make it optional ($n = 1$) |
| AP4 N = 3 | <ul style="list-style-type: none"> - <i>Change</i>: Split this item between traditional analyses and measurement development studies ($n = 1$) - <i>Change</i>: Inquire about how one will establish if items are removed from scales and in what cases excluded items will be analyzed separately or skipped completely ($n = 1$) - <i>Add/change/remove</i>: Nothing ($n = 1$) |
| AP5 N = 7 | <ul style="list-style-type: none"> - <i>Change</i>: Make it optional, as it is not always relevant ($n = 2$) - <i>Change</i>: Ask for effect sizes elsewhere, not with the descriptive statistics ($n = 1$) - <i>Remove</i>: Item ($n = 3$) |
| AP6 N = 4 | <ul style="list-style-type: none"> - <i>Add</i>: Mention NHST versus Bayesian approach to analysis, and plans to use confidence intervals for point estimates and/or effect sizes as well as planned visualization ($n = 1$) |

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|----------------|---|
| | <ul style="list-style-type: none"> - <i>Add</i>: Possibility to submit additional files (e.g., syntax) ($n = 1$) - <i>Change</i>: Let the author decide which information is most relevant ($n = 1$) - <i>Remove</i>: Tests for statistical violations, as it is too much to report ($n = 1$) |
| AP7 $N = 6$ | <ul style="list-style-type: none"> - <i>Add</i>: Asking for software is more important, since this oftentimes decides about what effect sizes are used ($n = 1$) - <i>Change</i>: Effect sizes are inquired about in multiple items; they should not be covered here again (redundant) ($n = 3$) - <i>Change</i>: Make it optional ($n = 1$) - <i>Remove</i>: Not necessary to describe how effect sizes are computed ($n = 1$) - <i>Add/change/remove</i>: Nothing ($n = 1$) |
| AP8 $N = 7$ | <ul style="list-style-type: none"> - <i>Change</i>: Clarify that other exploratory analyses are allowed afterwards ($n = 2$) - <i>Remove</i>: Item, as it is not relevant for preregistering ($n = 3$) |