

JARS–Mixed | Table 1

Mixed Methods Article Reporting Standards (MMARS) Information Recommended for Inclusion in Manuscripts That Report the Collection and Integration of Qualitative and Quantitative Data

Title Page

Title

- See the JARS–Qual and JARS–Quant Standards.

Guidance for Authors

- Refrain from using words that are either qualitative (e.g., "explore," "understand") or quantitative (e.g., "determinants," "correlates"), because mixed methods stands in the middle between qualitative and quantitative research.
- Reference the mixed methods, qualitative methods, and quantitative methods used.

Author Note

- See the JARS–Qual and JARS–Quant Standards.

Abstract

- See the JARS–Qual and JARS–Quant Standards.
- Indicate the mixed methods design, including types of participants or data sources, analytic strategy, main results/findings, and major implications/significance.

Guidance for Authors

- Specify the type of mixed methods design used. See the note on types of designs in the Research Design Overview section of this table.
- Consider using one keyword that describes the type of mixed methods design and one that describes the problem addressed.
- Describe your approach(es) to inquiry and, if relevant, how intersecting approaches to inquiry are combined when this description will facilitate the review process and intelligibility of your paper. If your work is not grounded in a specific approach(es) to inquiry or your approach would be too complicated to explain in the allotted word count, however, it would not be advisable to provide explication on this point in the abstract.

Introduction

Description of Research Problems/Questions

- See the JARS–Qual and JARS–Quant Standards.

Description of Research Problems/Questions (*continued*)

Guidance for Authors

- This section may convey barriers in the literature that suggest a need for both qualitative and quantitative data.

Guidance for Reviewers

- Theory or conceptual framework use in mixed methods varies depending on the specific mixed methods design or procedures used. Theory may be used inductively or deductively (or both) in mixed methods research.

Study Objectives/Aims/Research Goals

- See the JARS–Qual and JARS–Quant Standards.
- State three types of research objectives/aims/goals: qualitative, quantitative, and mixed methods. Order these goals to reflect the type of mixed methods design used.
- Describe the ways approaches to inquiry were combined, as it illuminates the objectives and mixed methods rationale (e.g., descriptive, interpretive, feminist, psychoanalytic, postpositivist, critical, postmodern, constructivist, or pragmatic approaches).

Guidance for Reviewers

- A mixed methods objective, aim, or goal may not be familiar to reviewers. It describes the results to be obtained from using the mixed methods design type where “mixing” or integration occurs (e.g., the aim is to explain quantitative survey results with qualitative interviews in an explanatory sequential design). For instance, the goal of a qualitative phase could be the development of a conceptual model, the goal of a quantitative phase could be hypothesis testing based upon that model, and the goal of the mixed methods phase could be to generate integrated support for a theory based upon quantitative and qualitative evidence.

Method

Research Design Overview

- See the JARS–Qual and JARS–Quant Standards.
- Explain why mixed methods research is appropriate as a methodology given the paper’s goals.
- Identify the type of mixed methods design used and define it.
- Indicate the qualitative approach to inquiry and the quantitative design used within the mixed methods design type (e.g., ethnography, randomized experiment).



Research Design Overview *(continued)*

- If multiple approaches to inquiry were combined, describe how this was done and provide a rationale (e.g., descriptive, interpretive, feminist, psychoanalytic, postpositivist, critical, postmodern, constructivist, or pragmatic approaches), as it is illuminating for the mixed method in use.
- Provide a rationale or justification for the need to collect both qualitative and quantitative data and the added value of integrating the results (findings) from the two databases.

Guidance for Reviewers

- Because mixed methods research is a relatively new methodology, it is helpful to provide a definition of it from a major reference in the field.
- Mixed methods research involves rigorous methods, both qualitative and quantitative. Refer to the JARS–Qual standards (qualitative) and JARS–Quant standards (quantitative) for details of rigor.
- One of the most widely discussed topics in the mixed methods literature would be research designs. There is not a generic mixed methods design but rather multiple types of designs. Basic, core designs include convergent design, explanatory sequential design, and exploratory sequential design. Although the names and types of designs may differ among mixed methods writers, a common understanding is that procedures for conducting a mixed methods study may differ from one project to another. Further, these basic procedures can be expanded by linking mixed methods to other designs (e.g., an intervention or experimental trial mixed methods study), to theories or standpoints (e.g., a feminist mixed methods study), or to other methodologies (e.g., a participatory action research mixed methods study).

Participants or Other Data Sources

- See the JARS–Qual and JARS–Quant Standards.
- When data are collected from multiple sources, clearly identify the sources of qualitative and quantitative data (e.g., participants, text), their characteristics, and the relationship between the data sets, if there is one (e.g., an embedded design).
- State the data sources in the order of procedures used in the design type (e.g., qualitative sources first in an exploratory sequential design followed by quantitative sources), if a sequenced design is used in the mixed methods study.

Guidance for Authors

- Because multiple sources of data are collected, separate descriptions of samples are needed when they differ. A table of qualitative sources and quantitative sources is helpful. This table could include type of data, when data were collected, and from whom. This table might also include study aims/research questions for each data source and anticipated outcomes of the study. In mixed methods research, this table is often called an "implementation matrix."
- Rather than describe data as represented in numbers versus words, it is better to describe sources of data as open-ended information (e.g., qualitative interviews) and closed-ended information (e.g., quantitative instruments).

Researcher Description

- See the JARS–Qual Standards.

Guidance for Authors

- Because mixed methods research includes qualitative research, and reflexivity is often included in qualitative research, we recommend statements as to how the researchers' backgrounds influence the research.

Guidance for Reviewers

- It is helpful to establish in a publication the researchers' experiences (or research teams' experiences) with both qualitative and quantitative research as a prerequisite for conducting mixed methods research.

Participant Recruitment

Participant Sampling or Selection

- See the JARS–Qual and JARS–Quant Standards.
- Describe the qualitative and the quantitative sampling in separate sections.
- Relate the order of the sections to the procedures used in the mixed methods design type.

Participant Recruitment

- See the JARS–Qual and JARS–Quant Standards.
- Discuss the recruitment strategy for qualitative and quantitative research separately.

Data Collection

Data Collection/Identification Procedures

- See the JARS–Qual and JARS–Quant Standards.

Recording and Transforming the Data

- See the JARS–Qual Standards.

Data Analysis

- See the JARS–Qual and JARS–Quant Standards.
- Devote separate sections to the qualitative data analysis, the quantitative data analysis, and the mixed methods analysis. This mixed methods analysis consists of ways that the quantitative and qualitative results will be "mixed" or integrated according to the type of mixed methods design used (e.g., merged in a convergent design, connected in explanatory sequential designs and in exploratory sequential designs).

Validity, Reliability, and Methodological Integrity

- See the JARS–Qual and JARS–Quant Standards.
- Indicate methodological integrity, quantitative validity and reliability, and mixed methods validity or legitimacy. Further assessments of mixed methods integrity are also indicated to show the quality of the research process and the inferences drawn from the intersection of the quantitative and qualitative data.



Findings/Results

Findings/Results Subsections

- See the JARS–Qual and JARS–Quant Standards.
- Indicate how the qualitative and quantitative results were “mixed” or integrated (e.g., discussion; tables of joint displays; graphs; data transformation in which one form of data is transformed to the other, such as qualitative text, codes, themes are transformed into quantitative counts or variables).

Guidance for Authors

- In mixed methods research, the Findings section typically includes sections on qualitative findings, quantitative results, and mixed methods results. This section should mirror the type of mixed methods design in terms of sequence (i.e., whether quantitative strand or qualitative strand comes first; if both are gathered at the same time, either qualitative findings or quantitative results could be presented first).

Guidance for Reviewers

- In mixed methods Results sections (or in the Discussion section to follow), authors are conveying their mixed methods analysis through “joint display” tables or graphs that array the qualitative results (e.g., themes) against the quantitative results (e.g., categorical or continuous data). This enables researchers to directly compare results or to see how results differ between the quantitative and qualitative strands.

Discussion

Discussion Subsections

- See the JARS–Qual and JARS–Quant Standards.

Guidance for Authors

- Typically, the Discussion section, like the Method and Findings/Results, mirrors in sequence the procedures used in the type of mixed methods design. It also reflects on the implications of the integrated findings from across the two methods.



JARS–Quant | Table 1
Information Recommended for Inclusion in Manuscripts
That Report New Data Collections Regardless of Research Design

Title and Title Page

Title

- Identify main variables and theoretical issues under investigation and the relationships between them.
- Identify the populations studied.

Author Note

- Provide acknowledgment and explanation of any special circumstances, including
 - registration information if the study has been registered
 - use of data also appearing in previous publications
 - prior reporting of the fundamental data in dissertations or conference papers
 - sources of funding or other support
 - relationships or affiliations that may be perceived as conflicts of interest
 - previous (or current) affiliation of authors if different from location where the study was conducted
 - contact information for the corresponding author
 - additional information of importance to the reader that may not be appropriately included in other sections of the paper

Abstract

Objectives

- State the problem under investigation, including main hypotheses.

Participants

- Describe subjects (nonhuman animal research) or participants (human research), specifying their pertinent characteristics for the study; in animal research, include genus and species. Participants are described in greater detail in the body of the paper.

Study Method

- Describe the study method, including
 - research design (e.g., experiment, observational study)
 - sample size
 - materials used (e.g., instruments, apparatus)
 - outcome measures
 - data-gathering procedures, including a brief description of the source of any secondary data. If the study is a secondary data analysis, so indicate.

Findings

- Report findings, including effect sizes and confidence intervals or statistical significance levels.

Conclusions

- State conclusions, beyond just results, and report the implications or applications.

Introduction

Problem

- State the importance of the problem, including theoretical or practical implications.

Review of Relevant Scholarship

- Provide a succinct review of relevant scholarship, including
 - relation to previous work
 - differences between the current report and earlier reports if some aspects of this study have been reported on previously

Hypothesis, Aims, and Objectives

- State specific hypotheses, aims, and objectives, including
 - theories or other means used to derive hypotheses
 - primary and secondary hypotheses
 - other planned analyses
- State how hypotheses and research design relate to one another.

Method

Inclusion and Exclusion

- Report inclusion and exclusion criteria, including any restrictions based on demographic characteristics.

Participant Characteristics

- Report major demographic characteristics (e.g., age, sex, ethnicity, socioeconomic status) and important topic-specific characteristics (e.g., achievement level in studies of educational interventions).
- In the case of animal research, report the genus, species, and strain number or other specific identification, such as the name and location of the supplier and the stock designation. Give the number of animals and the animals' sex, age, weight, physiological condition, genetic modification status, genotype, health–immune status, drug or test naïveté, and previous procedures to which the animal may have been subjected.



Sampling Procedures

- Describe procedures for selecting participants, including
 - sampling method if a systematic sampling plan was implemented
 - percentage of sample approached that actually participated
 - whether self-selection into the study occurred (either by individuals or by units, such as schools or clinics)
- Describe settings and locations where data were collected as well as dates of data collection.
- Describe agreements and payments made to participants.
- Describe institutional review board agreements, ethical standards met, and safety monitoring.

Sample Size, Power, and Precision

- Describe the sample size, power, and precision, including
 - intended sample size
 - achieved sample size, if different from the intended sample size
 - determination of sample size, including
 - › power analysis, or methods used to determine precision of parameter estimates
 - › explanation of any interim analyses and stopping rules employed

Measures and Covariates

- Define all primary and secondary measures and covariates, including measures collected but not included in the report.

Data Collection

- Describe methods used to collect data.

Quality of Measurements

- Describe methods used to enhance the quality of measurements, including
 - training and reliability of data collectors
 - use of multiple observations

Instrumentation

- Provide information on validated or ad hoc instruments created for individual studies, for individual studies (e.g., psychometric and biometric properties).

Masking

- Report whether participants, those administering the experimental manipulations, and those assessing the outcomes were aware of condition assignments.
- If masking took place, provide a statement regarding how it was accomplished and whether and how the success of masking was evaluated.

Psychometrics

- Estimate and report values of reliability coefficients for the scores analyzed (i.e., the researcher's sample), if possible. Provide estimates of convergent and discriminant validity where relevant.
- Report estimates related to the reliability of measures, including
 - interrater reliability for subjectively scored measures and ratings
 - test–retest coefficients in longitudinal studies in which the retest interval corresponds to the measurement schedule used in the study
 - internal consistency coefficients for composite scales in which these indices are appropriate for understanding the nature of the instruments being used in the study
- Report the basic demographic characteristics of other samples if reporting reliability or validity coefficients from those samples, such as those described in test manuals or in norming information for the instrument.

Conditions and Design

- State whether conditions were manipulated or naturally observed. Report the type of design as per the JARS–Quant tables:
 - experimental manipulation with participants randomized
 - › Table 2 and Module A
 - experimental manipulation without randomization
 - › Table 2 and Module B
 - clinical trial with randomization
 - › Table 2 and Modules A and C
 - clinical trial without randomization
 - › Table 2 and Modules B and C
 - nonexperimental design (i.e., no experimental manipulation): observational design, epidemiological design, natural history, and so forth (single-group designs or multiple-group comparisons)
 - › Table 3
 - longitudinal design
 - › Table 4
 - *N*-of-1 studies
 - › Table 5
 - replications
 - › Table 6
- Report the common name given to designs not currently covered in JARS–Quant.

Data Diagnostics

- Describe planned data diagnostics, including
 - criteria for post-data-collection exclusion of participants, if any
 - criteria for deciding when to infer missing data and methods used for imputation of missing data
 - definition and processing of statistical outliers
 - analyses of data distributions
 - data transformations to be used, if any



Analytic Strategy

- Describe the analytic strategy for inferential statistics and protection against experiment-wise error for
 - primary hypotheses
 - secondary hypotheses
 - exploratory hypotheses

Results

Participant Flow

- Report the flow of participants, including
 - total number of participants in each group at each stage of the study
 - flow of participants through each stage of the study (include figure depicting flow, when possible; see the [JARS–Quant Participant Flowchart](#))

Recruitment

- Provide dates defining the periods of recruitment and repeated measures or follow-up.

Statistics and Data Analysis

- Provide information detailing the statistical and data-analytic methods used, including
 - missing data
 - › frequency or percentages of missing data
 - › empirical evidence and/or theoretical arguments for the causes of data that are missing—for example, missing completely at random (MCAR), missing at random (MAR), or missing not at random (MNAR)
 - › methods actually used for addressing missing data, if any
 - descriptions of each primary and secondary outcome, including the total sample and each subgroup, that includes the number of cases, cell means, standard deviations, and other measures that characterize the data used
 - inferential statistics, including
 - › results of all inferential tests conducted, including exact p values if null hypothesis significance testing (NHST) methods were used, and reporting the minimally sufficient set of statistics (e.g., dfs , mean square [MS] effect, MS error) needed to construct the tests
 - › effect-size estimates and confidence intervals on estimates that correspond to each inferential test conducted, when possible
 - › clear differentiation between primary hypotheses and their tests—estimates, secondary hypotheses and their tests—estimates, and exploratory hypotheses and their test—estimates

Statistics and Data Analysis (continued)

- complex data analyses—for example, structural equation modeling analyses (see also Table 7), hierarchical linear models, factor analysis, multivariate analyses, and so forth, including
 - › details of the models estimated
 - › associated variance–covariance (or correlation) matrix or matrices
 - › identification of the statistical software used to run the analyses (e.g., SAS PROC GLM or the particular R package)
- estimation problems (e.g., failure to converge, bad solution spaces), regression diagnostics, or analytic anomalies that were detected and solutions to those problems.
- other data analyses performed, including adjusted analyses, if performed, indicating those that were planned and those that were not planned (though not necessarily in the level of detail of primary analyses).
- Report any problems with statistical assumptions and/or data distributions that could affect the validity of findings.

Discussion

Support of Original Hypotheses

- Provide a statement of support or nonsupport for all hypotheses, whether primary or secondary, including
 - distinction by primary and secondary hypotheses
 - discussion of the implications of exploratory analyses in terms of both substantive findings and error rates that may be uncontrolled

Similarity of Results

- Discuss similarities and differences between reported results and work of others.

Interpretation

- Provide an interpretation of the results, taking into account
 - sources of potential bias and threats to internal and statistical validity
 - imprecision of measurement protocols
 - overall number of tests or overlap among tests
 - adequacy of sample sizes and sampling validity

Generalizability

- Discuss generalizability (external validity) of the findings, taking into account
 - target population (sampling validity)
 - other contextual issues (setting, measurement, time; ecological validity)

Implications

- Discuss implications for future research, program, or policy.



JARS–Qual | Table 1

Information Recommended for Inclusion in Manuscripts That Report Primary Qualitative Research

Title Page	Study Objectives/Aims/Research Goals <i>(continued)</i>
Title <ul style="list-style-type: none"> Identify key issues/topic under consideration. 	<ul style="list-style-type: none"> Describe the approach to inquiry, if it illuminates the objectives and research rationale (e.g., descriptive, interpretive, feminist, psychoanalytic, postpositivist, critical, postmodern, constructivist, or pragmatic approaches).
Author Note <ul style="list-style-type: none"> Acknowledge funding sources or contributors. Acknowledge conflicts of interest, if any. 	Guidance for Authors <ul style="list-style-type: none"> If relevant to objectives, explain the relation of the current analysis to prior articles/publications.
Abstract <ul style="list-style-type: none"> State the problem/question/objectives under investigation. Indicate the study design, including types of participants or data sources, analytic strategy, main results/findings, and main implications/significance. Identify five keywords. 	Guidance for Reviewers <ul style="list-style-type: none"> Qualitative studies often legitimately need to be divided into multiple manuscripts because of journal article page limitations, but each manuscript should have a separate focus. Qualitative studies tend not to identify hypotheses, but rather research questions and goals.
Guidance for Authors <ul style="list-style-type: none"> Consider including at least one keyword that describes the method and one that describes the types of participants or phenomena under investigation. Consider describing your approach to inquiry when it will facilitate the review process and intelligibility of your paper. If your work is not grounded in a specific approach to inquiry or your approach would be too complicated to explain in the allotted word count, however, it would not be advisable to provide explication on this point in the abstract. 	
Introduction	
Description of Research Problem or Question	Research Design Overview <ul style="list-style-type: none"> Summarize the research design, including data-collection strategies, data-analytic strategies, and, if illuminating, approaches to inquiry (e.g., descriptive, interpretive, feminist, psychoanalytic, postpositivist, critical, postmodern, constructivist, or pragmatic approaches). Provide the rationale for the design selected.
Study Objectives/Aims/Research Goals <ul style="list-style-type: none"> State the purpose(s)/goal(s)/aim(s) of the study. State the target audience, if specific. Provide the rationale for fit of design used to investigate this purpose/goal (e.g., theory building, explanatory, developing understanding, social action, description, highlighting social practices). 	Guidance for Reviewers <ul style="list-style-type: none"> Method sections can be written in a chronological or narrative format. Although authors provide a method description that other investigators should be able to follow, it is not required that other investigators arrive at the same conclusions but rather that the method description leads other investigators to conclusions with a similar degree of methodological integrity. At times, elements may be relevant to multiple sections and authors need to organize what belongs in each subsection in order to describe the method coherently and reduce redundancy. For instance, the overview and the objectives statement may be presented in one section. Processes of qualitative research are often iterative versus linear, may evolve through the inquiry process, and may move between data collection and analysis in multiple formats. As a result, data collection and analysis sections might be combined. For the reasons above and because qualitative methods often are adapted and combined creatively, requiring detailed description and rationale, an average qualitative Method section typically is longer than an average quantitative Method section.



Study Participants or Data Sources

Researcher Description

- Describe the researchers' backgrounds in approaching the study, emphasizing their prior understandings of the phenomena under study (e.g., interviewers, analysts, or research team).
- Describe how prior understandings of the phenomena under study were managed and/or influenced the research (e.g., enhancing, limiting, or structuring data collection and analysis).

Guidance for Authors

- Prior understandings relevant to the analysis could include, but are not limited to, descriptions of researchers' demographic/cultural characteristics, credentials, experience with phenomena, training, values, and/or decisions in selecting archives or material to analyze.

Guidance for Reviewers

- Researchers differ in the extensiveness of reflexive self-description in reports. It may not be possible for authors to estimate the depth of description desired by reviewers without guidance.

Participants or Other Data Sources

- Provide the numbers of participants/documents/events analyzed.
- Describe the demographics/cultural information, perspectives of participants, or characteristics of data sources that might influence the data collected.
- Describe existing data sources, if relevant (e.g., newspapers, internet, archive).
- Provide data repository information for openly shared data, if applicable.
- Describe archival searches or process of locating data for analyses, if applicable.

Researcher–Participant Relationship

- Describe the relationships and interactions between researchers and participants relevant to the research process and any impact on the research process (e.g., was there a relationship prior to research, are there any ethical considerations relevant to prior relationships).

Participant Recruitment

Recruitment Process

- Describe the recruitment process (e.g., face-to-face, telephone, mail, email) and any recruitment protocols.
- Describe any incentives or compensation, and provide assurance of relevant ethical processes of data collection and consent process as relevant (may include institutional review board approval, particular adaptations for vulnerable populations, safety monitoring).
- Describe the process by which the number of participants was determined in relation to the study design.
- Provide any changes in numbers through attrition and final number of participants/sources (if relevant, refusal rates or reasons for dropout).
- Describe the rationale for decision to halt data collection (e.g., saturation).
- Convey the study purpose as portrayed to participants, if different from the purpose stated.

Recruitment Process (*continued*)

Guidance for Authors/Reviewers

- The order of the recruitment process and the selection process and their contents may be determined in relation to the authors' methodological approach. Some authors will determine a selection process and then develop a recruitment method based on those criteria. Other authors will develop a recruitment process and then select participants responsively in relation to evolving findings.

Guidance for Reviewers

- There is no agreed-upon minimum number of participants for a qualitative study. Rather, the author should provide a rationale for the number of participants chosen.

Participant Selection

- Describe the participants/data source selection process (e.g., purposive sampling methods, such as maximum variation; convenience sampling methods, such as snowball selection; theoretical sampling; diversity sampling) and inclusion/exclusion criteria.
- Provide the general context for the study (when data were collected, sites of data collection).
- If your participant selection is from an archived data set, describe the recruitment and selection process from that data set as well as any decisions in selecting sets of participants from that data set.

Guidance for Authors

- A statement can clarify how the number of participants fits with practices in the design at hand, recognizing that transferability of findings in qualitative research to other contexts is based in developing deep and contextualized understandings that can be applied by readers rather than quantitative estimates of error and generalizations to populations.

Guidance for Authors/Reviewers

- The order of the recruitment process and the selection process and their contents may be determined in relation to the authors' methodological approach. Some authors will determine a selection process and then develop a recruitment method based on those criteria. Other authors will develop a recruitment process and then select participants responsively in relation to evolving findings.

Data Collection

Data Collection/Identification Procedures

- State the form of data collected (e.g., interviews, questionnaires, media, observation).
- Describe the origins or evolution of the data-collection protocol.
- Describe any alterations of data-collection strategy in response to the evolving findings or the study rationale.
- Describe the data-selection or data-collection process (e.g., were others present when data were collected, number of times data were collected, duration of collection, context).
- Convey the extensiveness of engagement (e.g., depth of engagement, time intensiveness of data collection).
- For interview and written studies, indicate the mean and range of the time duration in the data-collection process (e.g., interviews were held for 75 to 110 min, with an average interview time of 90 min).
- Describe the management or use of reflexivity in the data-collection process, as it illuminates the study.
- Describe questions asked in data collection: content of central questions, form of questions (e.g., open vs. closed).



Guidance for Reviewers

- Researchers may use terms for data collection that are coherent within their research approach and process, such as "data identification," "data collection," or "data selection." Descriptions should be provided, however, in accessible terms in relation to the readership.
- It may not be useful for researchers to reproduce all of the questions they asked in an interview, especially in the case of unstructured or semistructured interviews as questions are adapted to the content of each interview.

Recording and Data Transformation

- Identify data audio/visual recording methods, field notes, or transcription processes used.

Analysis

Data-Analytic Strategies

- Describe the methods and procedures used and for what purpose/goal.
- Explicate in detail the process of analysis, including some discussion of the procedures (e.g., coding, thematic analysis) following a principle of transparency.
- Describe coders or analysts and their training, if not already described in the researcher description section (e.g., coder selection, collaboration groups).
- Identify whether coding categories emerged from the analyses or were developed a priori.
- Identify units of analysis (e.g., entire transcript, unit, text) and how units were formed, if applicable.
- Describe the process of arriving at an analytic scheme, if applicable (e.g., if one was developed before or during the analysis or was emergent throughout).
- Provide illustrations and descriptions of the analytic scheme development, if relevant.
- Indicate software, if used.

Guidance for Authors

- Provide rationales to illuminate analytic choices in relation to the study goals.

Guidance for Reviewers

- Researchers may use terms for data analysis that are coherent within their research approach and process (e.g., "interpretation," "unitization," "eidetic analysis," "coding"). Descriptions should be provided, however, in accessible terms in relation to the readership.

Methodological Integrity

- Demonstrate that the claims made from the analysis are warranted and have produced findings with methodological integrity. The procedures that support methodological integrity (i.e., fidelity and utility) typically are described across the relevant sections of a paper, but they could be addressed in a separate section when elaboration or emphasis would be helpful. Issues of methodological integrity include the following:
 - Assess the *adequacy* of the data in terms of its ability to capture forms of diversity most relevant to the question, research goals, and inquiry approach.
 - Describe how the *researchers' perspectives* were managed in both the data collection and analysis (e.g., to limit their effect on the data collection, to structure the analysis).

- Demonstrate that findings are *grounded* in the evidence (e.g., using quotes, excerpts, or descriptions of researchers' engagement in data collection).
- Demonstrate that the contributions are *insightful* and *meaningful* (e.g., in relation to the current literature and the study goal).
- Provide relevant *contextual* information for findings (e.g., setting of study, information about participants, interview question asked is presented before excerpt as needed).
- Present findings in a *coherent* manner that makes sense of contradictions or disconfirming evidence in the data (e.g., reconcile discrepancies, describe why a conflict might exist in the findings).
- Demonstrate *consistency* with regard to the analytic processes (e.g., analysts may use demonstrations of analyses to support consistency, describe their development of a stable perspective, interrater reliability, consensus) or describe responses to inconsistencies, as relevant (e.g., coders switching midway through analysis, an interruption in the analytic process). If alterations in methodological integrity were made for ethical reasons, explicate those reasons and the adjustments made.
- Describe how support for claims was supplemented by any checks added to the qualitative analysis. Examples of supplemental checks that can strengthen the research may include
 - transcripts/data collected returned to participants for feedback
 - triangulation across multiple sources of information, findings, or investigators
 - checks on the interview thoroughness or interviewer demands
 - consensus or auditing process
 - member checks or participant feedback on findings
 - data displays/matrices
 - in-depth thick description, case examples, or illustrations
 - structured methods of researcher reflexivity (e.g., sending memos, field notes, diary, logbooks, journals, bracketing)
 - checks on the utility of findings in responding to the study problem (e.g., an evaluation of whether a solution worked)

Guidance for Reviewers:

- Research does not need to use all or any of the checks (as rigor is centrally based in the iterative process of qualitative analyses, which inherently includes checks within the evolving, self-correcting iterative analyses), but their use can augment a study's methodological integrity. Approaches to inquiry have different traditions in terms of using checks and which checks are most valued.

Findings/Results

Findings/Results Subsections

- Describe research findings (e.g., themes, categories, narratives) and the meaning and understandings that the researcher has derived from the data analysis.
- Demonstrate the analytic process of reaching findings (e.g., quotes, excerpts of data).
- Present research findings in a way that is compatible with the study design.
- Present synthesizing illustrations (e.g., diagrams, tables, models), if useful in organizing and conveying findings. Photographs or links to videos can be used.

Guidance for Authors

- Findings presented in an artistic manner (e.g., a link to a dramatic presentation of findings) should also include information in the reporting standards to support the research presentation.
- Use quotes or excerpts to augment data description (e.g., thick, evocative description, field notes, text excerpts), but these should not replace the description of the findings of the analysis.

Guidance for Reviewers

- The findings section tends to be longer than in quantitative papers because of the demonstrative rhetoric needed to permit the evaluation of the analytic procedure.
- Depending on the approach to inquiry, findings and discussion may be combined or a personalized discursive style might be used to portray the researchers' involvement in the analysis.
- Findings may or may not include quantified information, depending upon the study's goals, approach to inquiry, and study characteristics.

Discussion**Discussion Subsections**

- Describe the central contributions and their significance in advancing disciplinary understandings.
- Describe the types of contributions made by findings (e.g., challenging, elaborating on, and supporting prior research or theory in the literature describing the relevance) and how findings can be best utilized.
- Identify similarities and differences from prior theories and research findings.
- Reflect on any alternative explanations of the findings.
- Identify the study's strengths and limitations (e.g., consider how the quality, source, or types of the data or the analytic processes might support or weaken its methodological integrity).
- Describe the limits of the scope of transferability (e.g., what should readers bear in mind when using findings across contexts).
- Revisit any ethical dilemmas or challenges that were encountered, and provide related suggestions for future researchers.
- Consider the implications for future research, policy, or practice.

Guidance for Reviewers

- Accounts could lead to multiple solutions rather than a single one. Many qualitative approaches hold that there may be more than one valid and useful set of findings from a given data set.

