Analyse und Dokumentation

BSc Psychologie SoSe 2024

Belinda Fleischmann

Inhalte basieren auf Design, Analyse, Dokumentation von Dirk Ostwald, lizenziert unter CC BY-NC-SA 4.0

Datum	Einheit	Thema	Lehrperson
10.04.24	Seminar	(1) Ethik und Ethische Formalitäten	BF
17.04.24	**Seminar**	**(2) Wissenschaftliche Berichte**	**BF**
24.04.24	Seminar	(3) Offenheit und Transparenz	BF
01.05.24	Tag der Arbeit		
08.05.24	Seminar	(4) R und Quarto	BF
15.05.24	Praxisseminar	Offene Übung	BF
22.05.24	Präsentationen	Einfache Lineare Regression	JS
29.05.24	Präsentationen	Korrelation	JS
05.06.24	Präsentationen	Einstichproben-T-Test	JS
12.06.24	Präsentationen	Zweistichproben-T-Test	JS
19.06.24	Präsentationen	Einfaktorielle Varianzanalyse	BF
26.06.24	Präsentationen	Zweifaktorielle Varianznalyse	BF
03.07.24	Präsentationen	Multipe Regression	BF
10.07.24	Präsentationen	Kovarianzanalyse	BF
26.07.24	Klausurtermin		
Feb 2025	Klausurwiederholungstermin		

(2) Wissenschaftliche Berichte

Wissenschaftliche Kommunikation

Standardstruktur empirisch-quantitativer Berichte

Selbstkontrollfragen

Wissenschaftliche Kommunikation

Standardstruktur empirisch-quantitativer Berichte

Selbstkontrollfragen

Wissenschaft ist Kommunikation

Formen wissenschaftlicher Kommunikation

Journal article (Paper, Artikel)

Conference paper (Tagungsbeitrag)

Conference talk (Vortrag)

Conference poster (Poster)

Conference abstract (Abstract)

Invited talk

Textbook (Lehrbuch)

Lecture notes (Vorlesungskript)

Lecture (Vorlesung)

TedEx talk, Podcasts, Blogs, Tweets

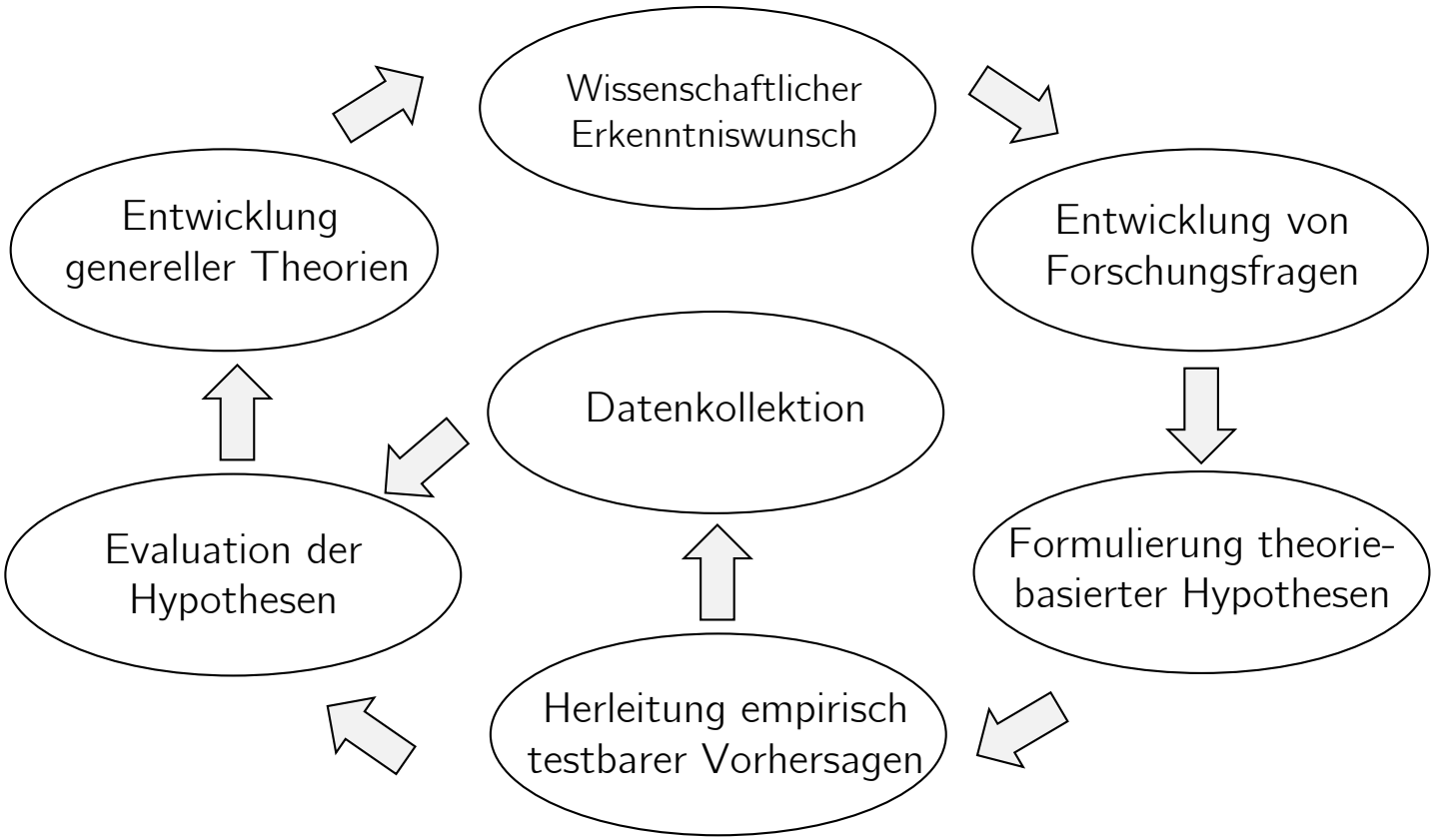
...

Wissenschaft ist Dokumentation

Wissenschaft ist Kunst

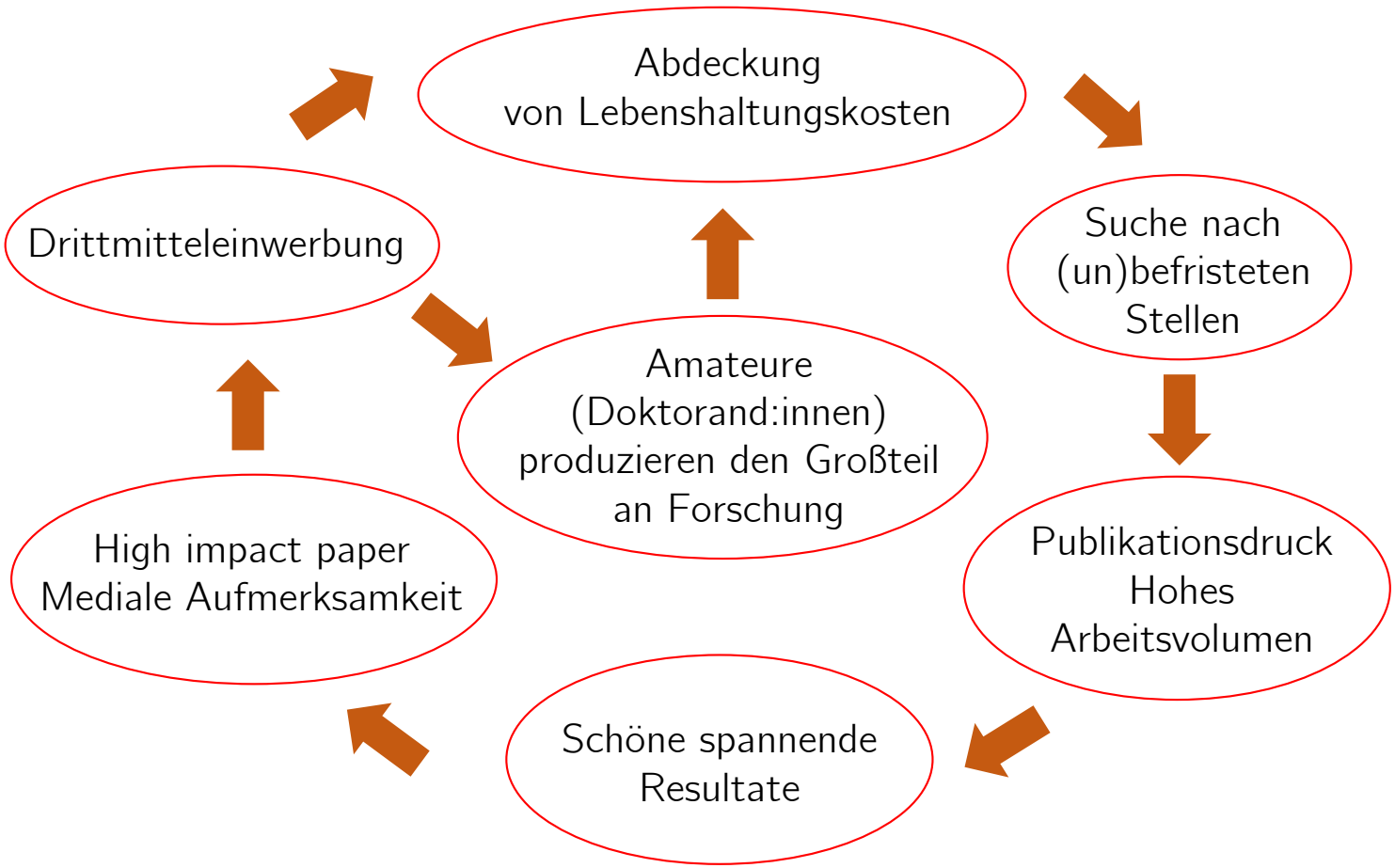
Wissenschaft und Academia

Das wissenschaftliche Ideal



aus "Design, Analyse und Dokumentation", Ostwald 2023

Die akademische Realität



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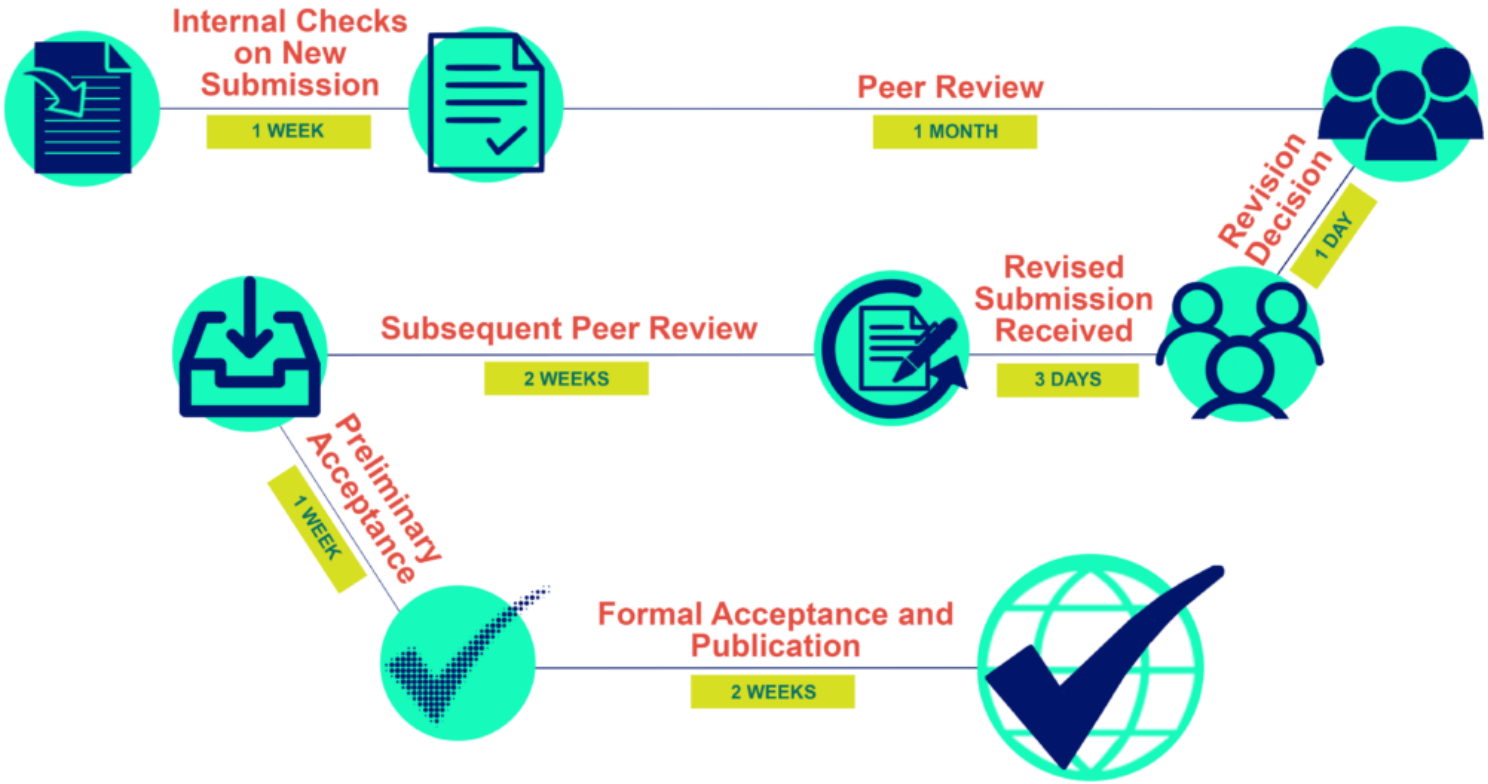
Der wissenschaftliche Publikationsprozess



aus "Understanding the publishing process", PLOS

Der wissenschaftliche Publikationsprozess ca. 1950 bis 2010

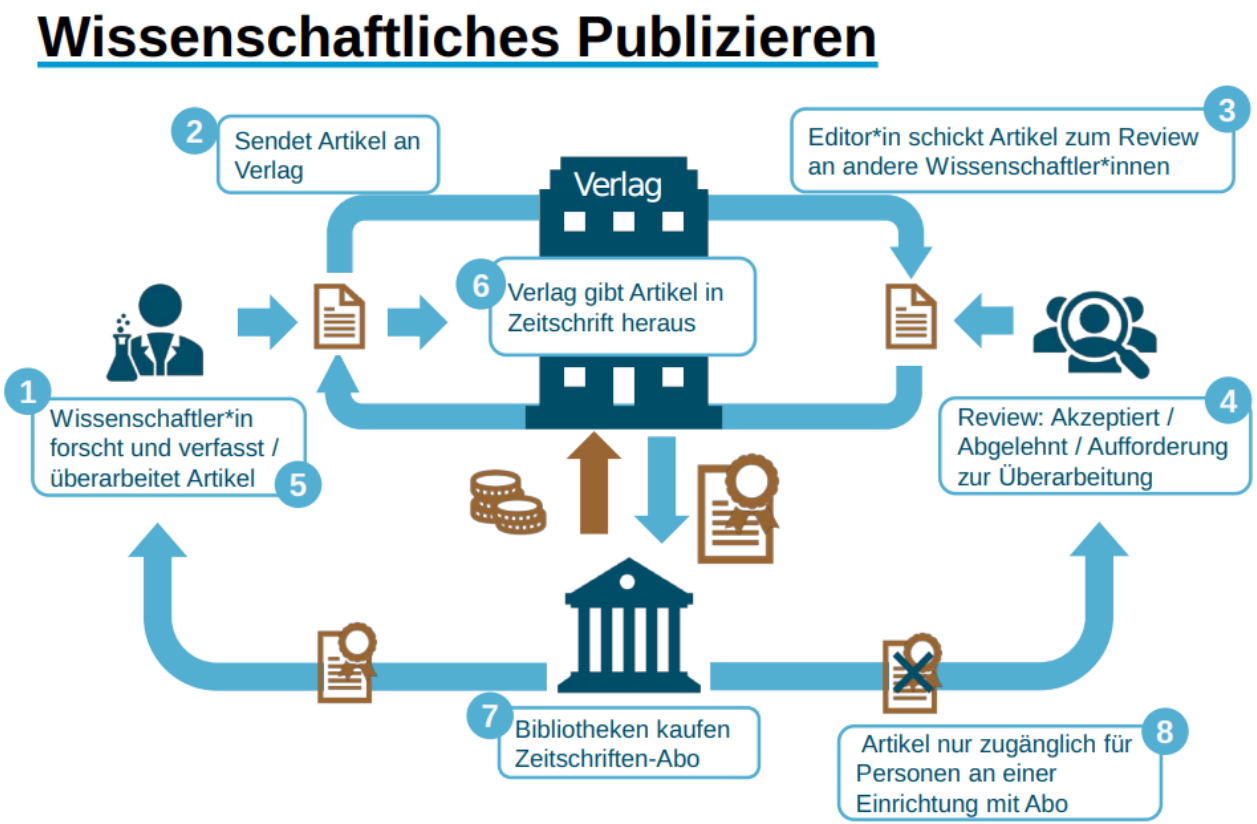
Öffentlich finanzierte Wissenschaftler:innen

- führen Studien durch und schreiben Manuskripte,
- begutachten und editieren Manuskripte,
- kreieren also Wissenschaftlichen Content.

Private Verlage

- setzen Manuskripte in Publikationstemplates,
- verkaufen Wissenschaftlichen Content an öffentlich finanzierte Wissenschaft,
- schließen über Paywalls Nichtabonnementen vom Zugang aus.

Wissenschaftliches Publizieren: Closed Access



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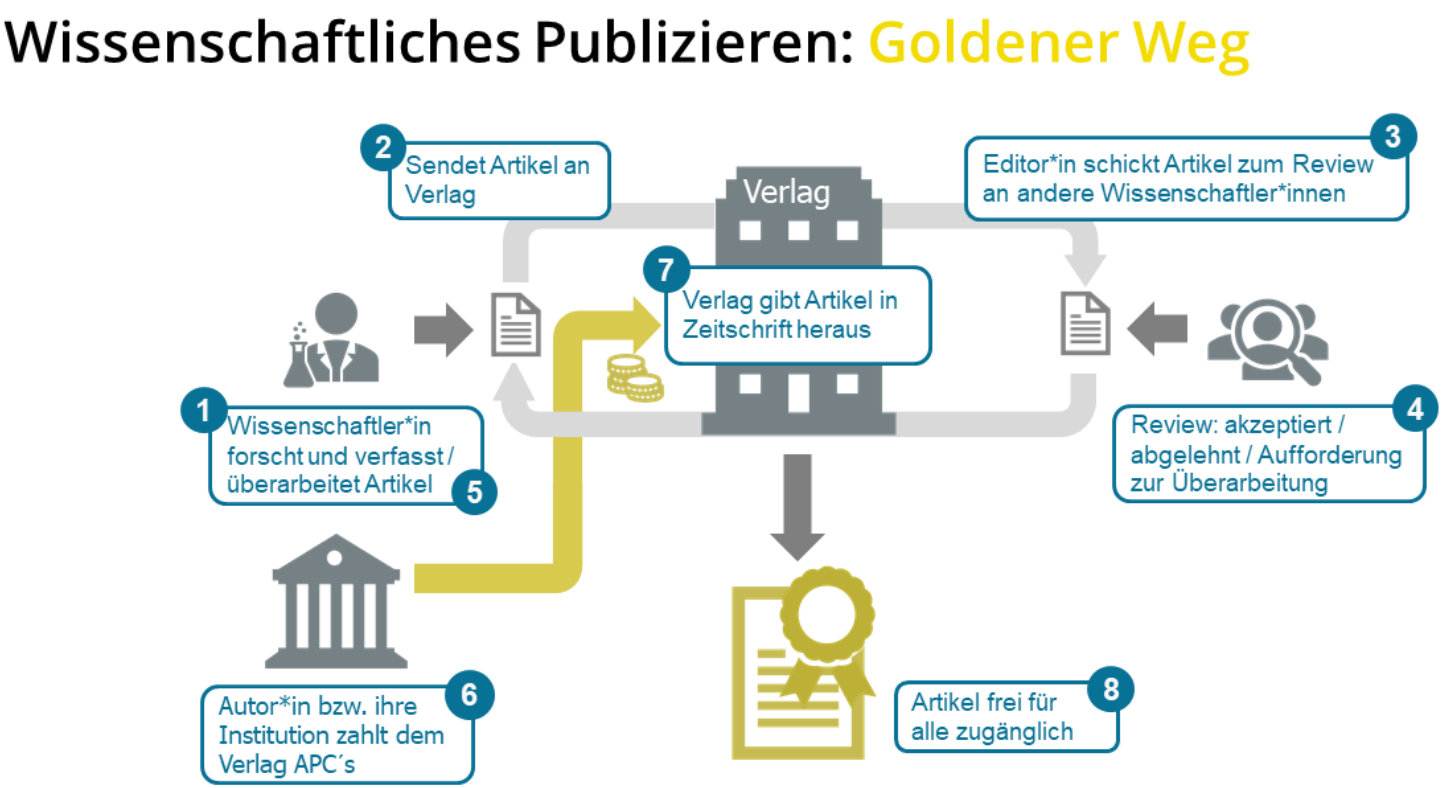
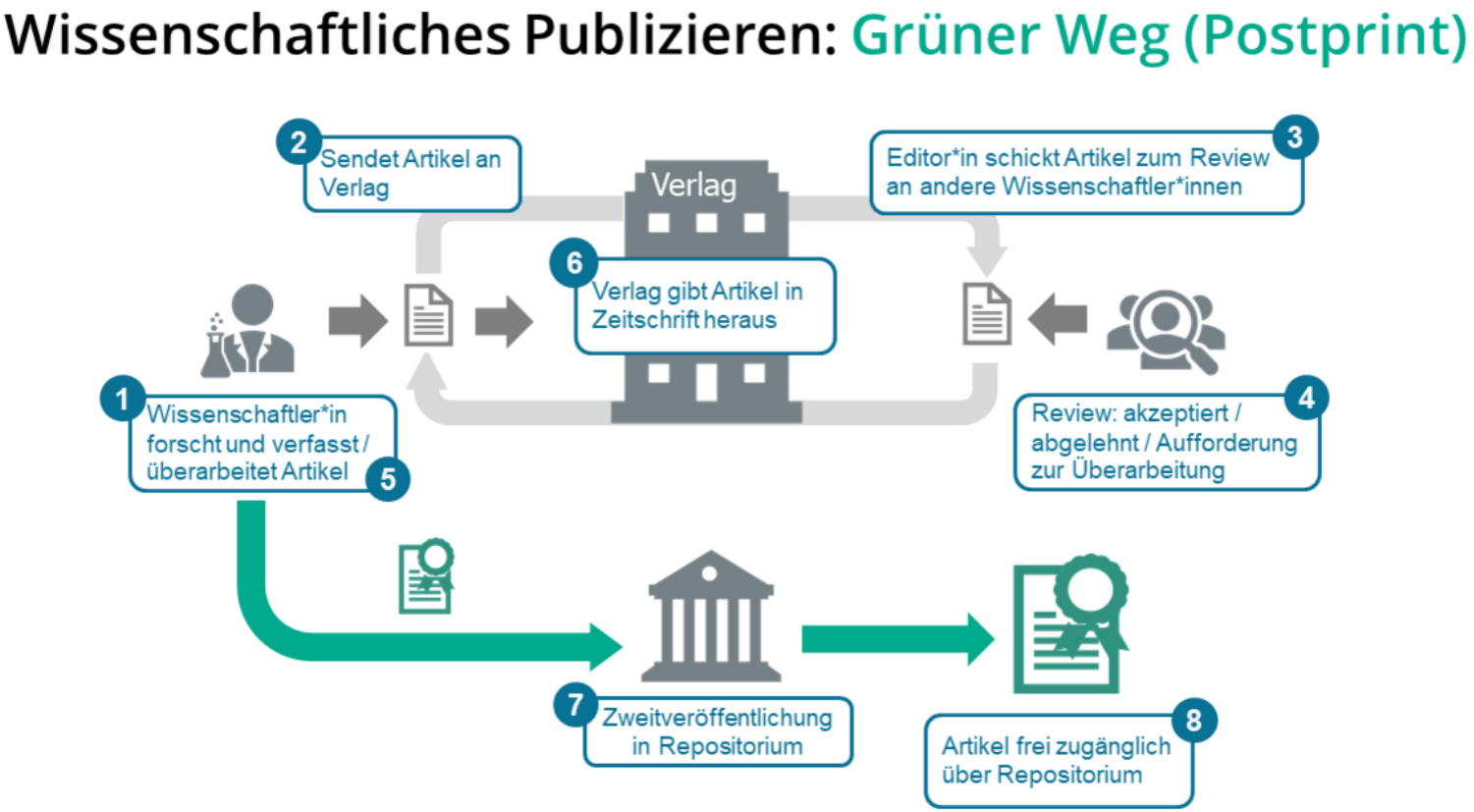


Oberländer, A. (2020). Open Access – Es ist nicht alles Gold, was glänzt. In: Open Science. Von Daten zu Publikationen. Zenodo. http://doi.org/10.5281/zenodo.4018594 (CC BY 4.0 International)

Anmerkung:

- APC steht für Article Processing Charges, Gebühren zur Abdeckung von Kosten für Redaktionsprozess, technische Struktur, Marketing, Verbreitung etc.



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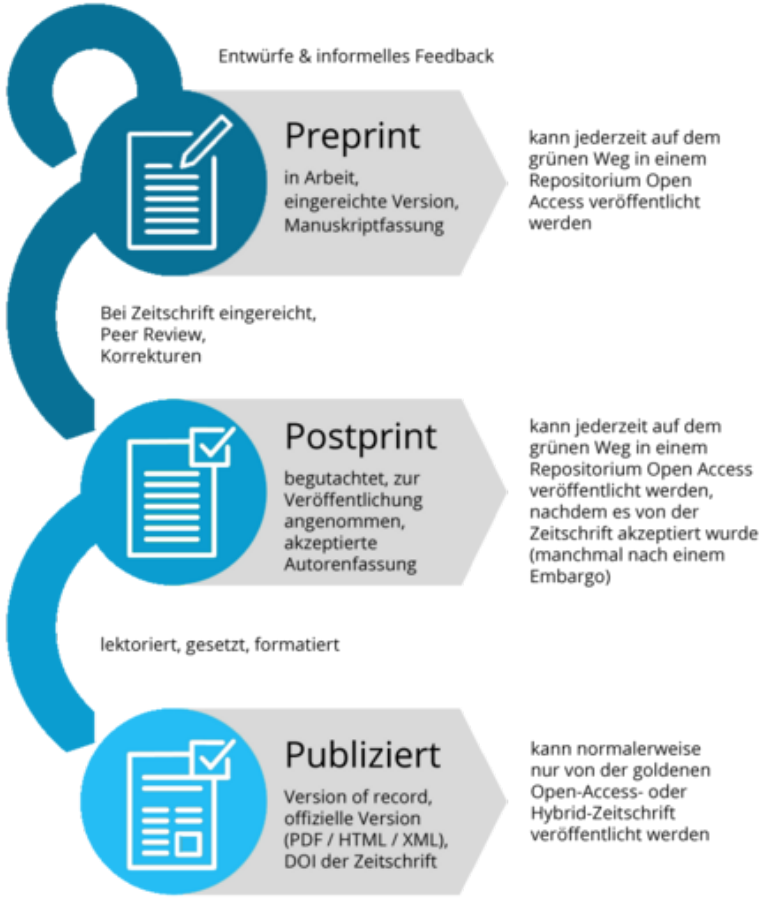
Wissenschaftliches Publizieren: Preprint und Postprint



aus "Open Access: grün und gold", open-access.network.de , verändert nach Thomas Shafee (2020) - (Wikimedia Commons)

Anmerkungen

- Es wird bei Postprints zwischen der *publisher's version* (*version of record*) und dem *author's manuscript* unterschieden.
- Bereitschaft von Verlagen, Zweitveröffentlichung zuzulassen unterschiedlich. Das Verzeichnis Sherpa Romeo gibt einen Überblick darüber, was welche Zeitschriften gestatten.
- Das deutsche Zweitveröffentlichungsrecht berechtigt Autor:innen, ihre Beiträge unter bestimmten Voraussetzung nach Embargofrist von 12 Monaten zweitzuveröffentlichen.

Wissenschaftliche Begutachtung (Peer Review)

Was Peer Review als Qualitätssicherung leisten kann

- Durch konstruktive Kritik Verständlichkeit von Manuskripten erhöhen
- Erfüllung von fachspezifischen Standards bestätigen
- Prinzipielle Reproduzierbarkeit bestätigen

Was Peer Review als Qualitätssicherung nicht leisten kann

- Wahrheit der Resultate einer Studie etablieren
- Korrektheit der Resultate einer Studie etablieren
- Konkrete Reproduzierbarkeit bestätigen

Was Peer Review als Qualitätssicherung nicht leisten sollte

- Wichtigkeit (Impact) einer wissenschaftlichen Arbeiten bewerten
- Forschungsaktivitäten einfordern
- Destruktive Kritik

Journal Impact Factor

Maß der durchschnittlichen Anzahl an Zitationen von Artikeln einer Fachzeitschrift

$$\text{2-Jahres Impact Factor} = \frac{\text{Anzahl Zitationen von Artikeln in Journal i in Jahr j-1 und j-2}}{\text{Anzahl Publikationen von Artikeln in Journal i in Jahr j-1 und j-2}}.$$

- Seit 1975 von Unternehmen veröffentlicht, momentan von Clarivate Analytics.
- Zugriff zu aktuellem Journal Citation Report™ über Institutional Sign In > German Higher Education and Research > OVGU.
- Stark von der Größe eines Foschungsfelds abhängig.
- Oft als wissenschaftliches Qualitätsmerkmal missverstanden.
- Qualität $\neq$ Popularität.

San Francisco Declaration on Research Assessment (DORA)

Erklärung zur Revision der Forschungsevaluation

Eine Reihe von Empfehlungen, die Art und Weise, wie Ergebnisse wissenschaftlicher Arbeit bewertet werden, zu verbessern.

Generelle Thematiken:

- Abschaffung der Verwendung von auf Fachzeitschriften basierenden Kennzahlen, wie dem Journal Impact Factor, bei Abwägungen zur Finanzierung, Einstellung und Beförderung.
- Bewertung der Forschung selbst statt auf Grundlage der Fachzeitschrift, in der sie veröffentlicht wird.
- Nutzung der Möglichkeiten der Online-Veröffentlichung, die z.B. eine Lockerung der unnötigen Beschränkungen der Anzahl von Wörtern, Abbildungen und Literaturangaben in Artikeln.
- Untersuchung neuer Kennzahlen für die Signifikanz und Bedeutung.

Wissenschaftliche Kommunikation

Standardstruktur empirisch-quantitativer Berichte

Selbstkontrollfragen

Standardstruktur empirisch-quantitativer Berichte

Title

Abstract

Introduction

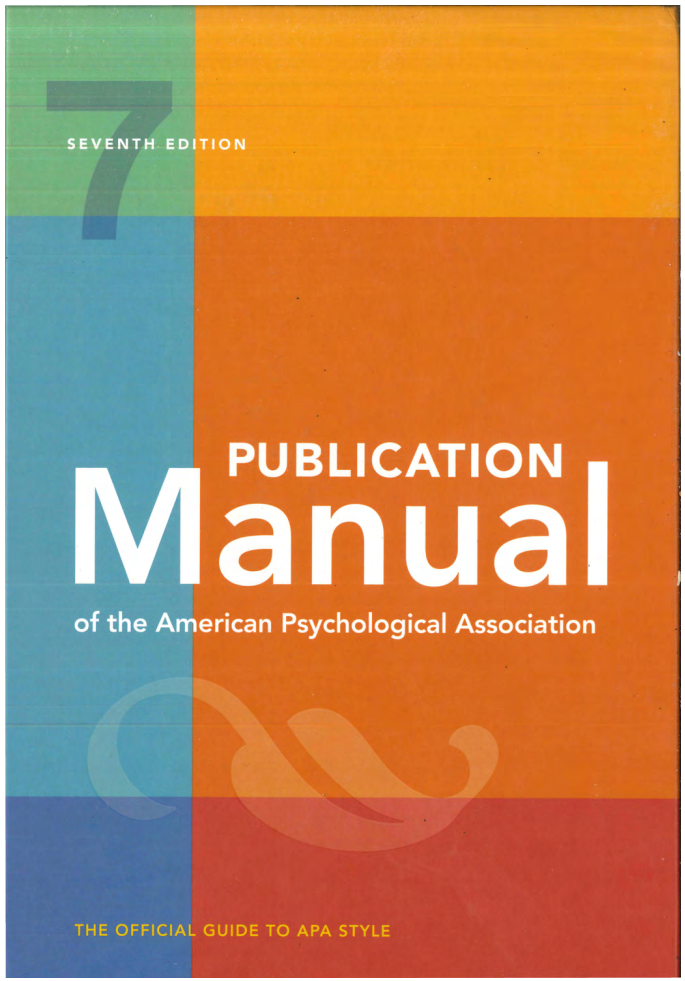
Methods

Results

Discussion

References

APA-Manual



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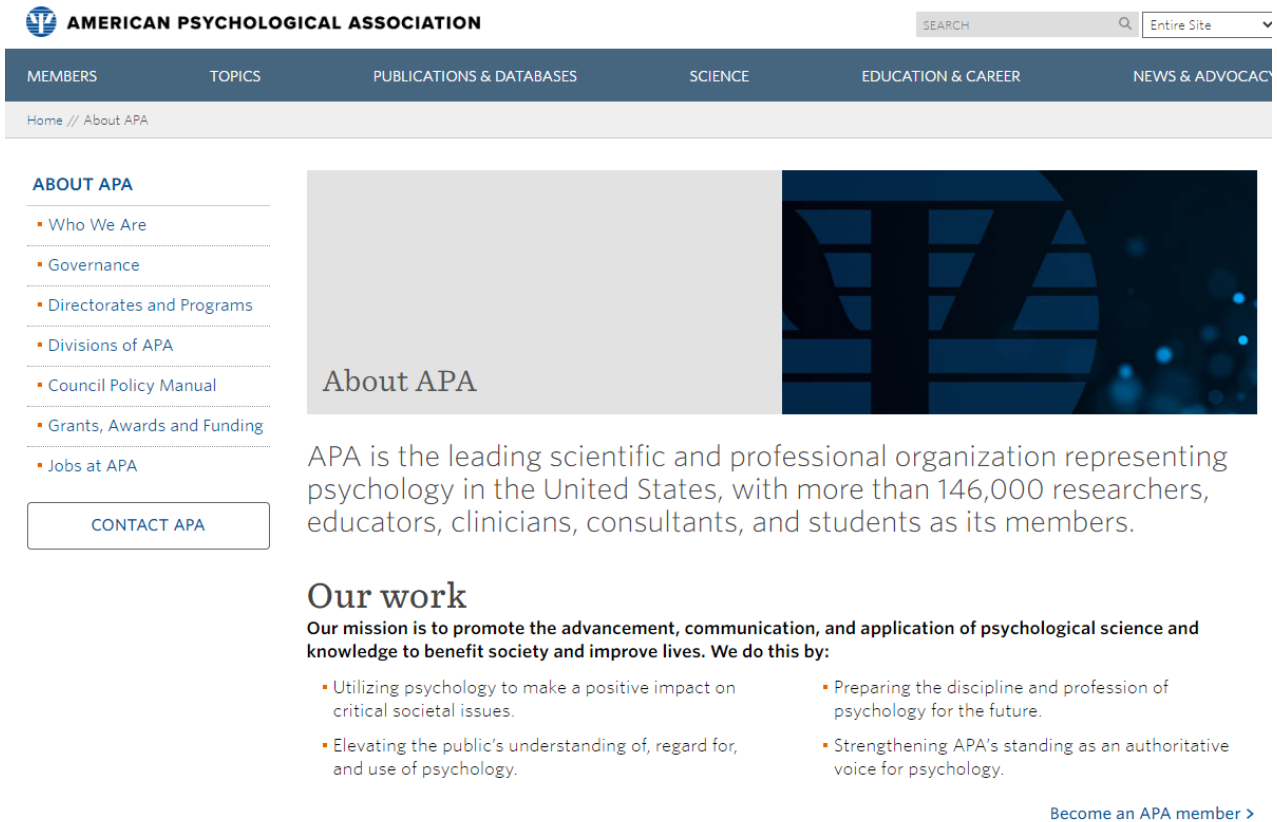
American Psychological Association (APA)



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American Psychological Association (APA)

APA STYLE

STYLE AND GRAMMAR GUIDELINES | PRODUCTS | INSTRUCTIONAL AIDS | BLOG

Home > APA Style Products > Publication Manual of the American...

Publication Manual of the American Psychological Association, Seventh Edition (2020)

Table of Contents | Supplemental Resources | Introduction (PDF)

Official Source for APA Style
The *Publication Manual of the American Psychological Association, Seventh Edition* is the official source for APA Style.

Widely Adopted
With millions of copies sold worldwide in multiple languages, it is the style manual of choice for writers, researchers, editors, students, and educators in the social and behavioral sciences, natural sciences, nursing, communications, education, business, engineering, and other fields.

Authoritative and Easy to Use
Known for its authoritative, easy-to-use reference and citation system, the *Publication Manual* also offers guidance on choosing the headings, tables, figures, language, and tone that will result in powerful, concise, and elegant scholarly communication.

Scholarly Writing
It guides users through the scholarly writing process—from the ethics of authorship to reporting research through publication.

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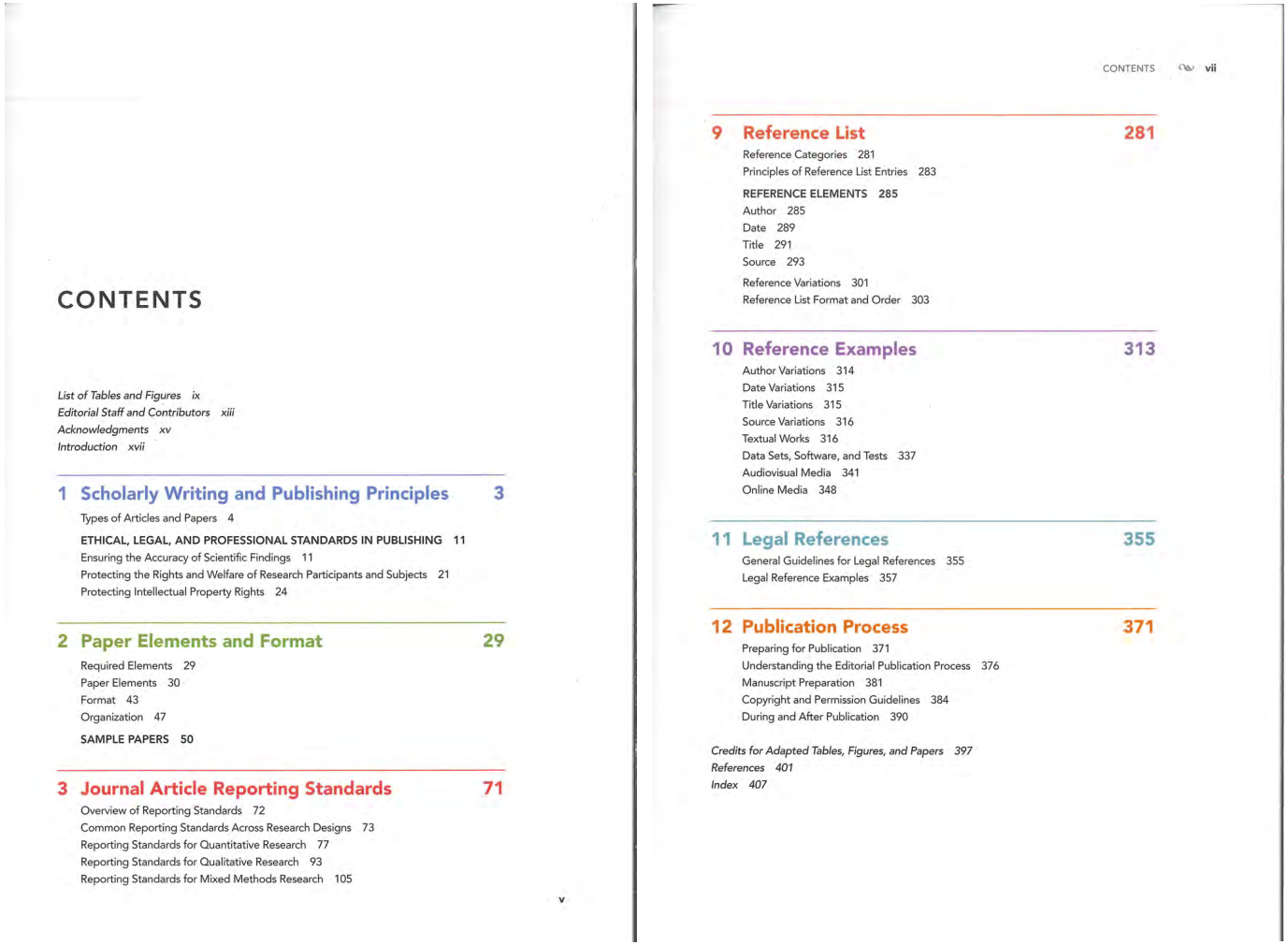
APA-Manual



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American Psychological Association (APA) (2020)

Journal Article Reporting Standards (JARS)

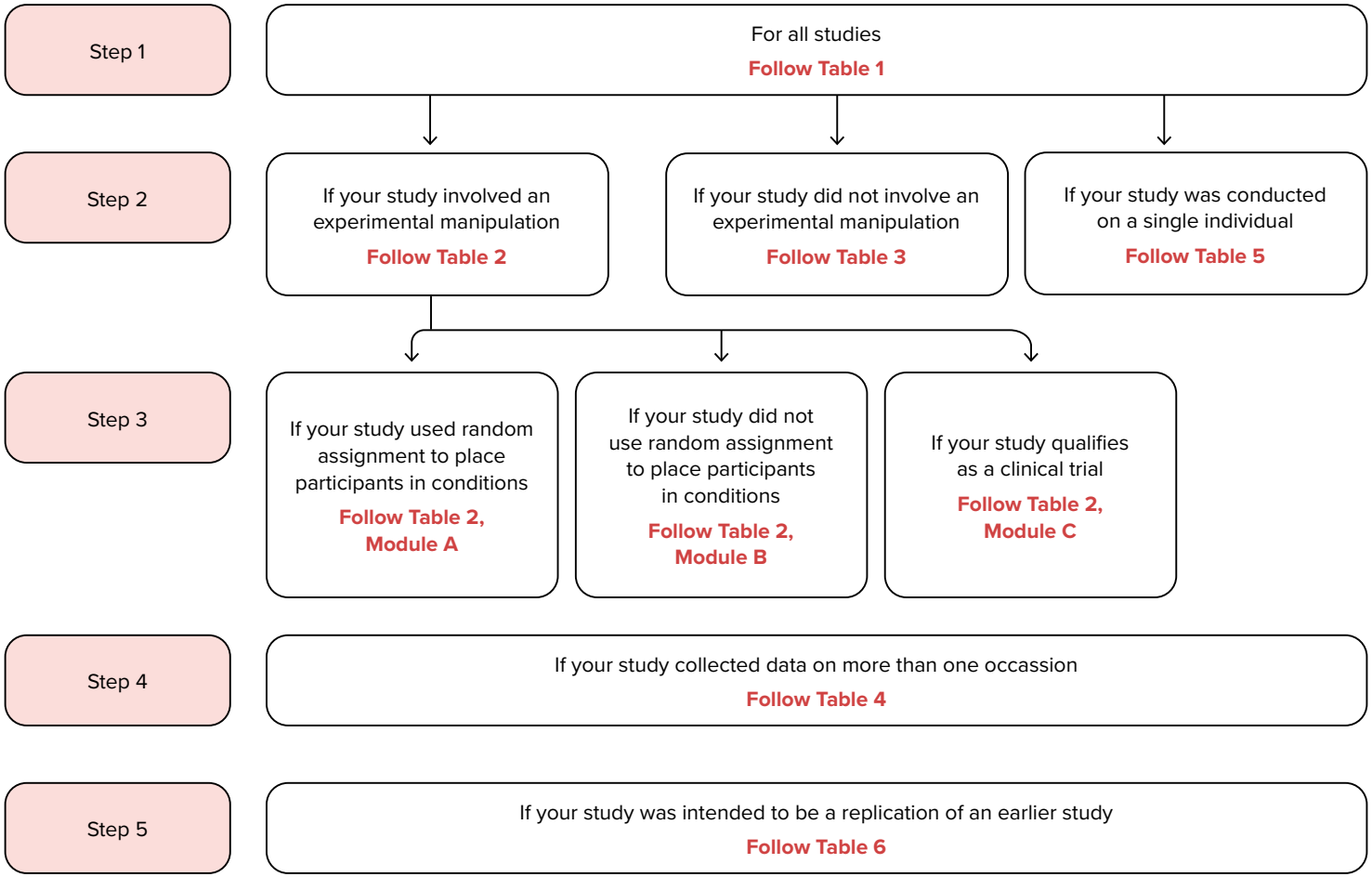
https://apastyle.apa.org/jars

American Psychological Association (APA) (2024)

APA Style JARS - Decision Flowchart für empirisch-quantitative Berichte

APA Style JARS
Journal Article Reporting Standards

JARS-**Quant** | Figure 1
This flowchart helps with choosing the appropriate JARS-Quant table, depending on research design.



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www.apastyle.org/jars

American Psychological Association (APA) (2024)

APA Style JARS - General quantitative reporting standards (Table 1)

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

American Psychological Association (APA) (2024)

APA Style JARS - General quantitative reporting standards (Table 1)

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.

American Psychological Association (APA) (2024)

APA Style JARS - General quantitative reporting standards (Table 1)

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.

American Psychological Association (APA) (2024)

APA Style JARS - General quantitative reporting standards (Table 1)

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.

American Psychological Association (APA) (2024)

APA Style JARS - Experimental Designs (Table 2)

Method

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

American Psychological Association (APA) (2024)

APA Style JARS - Experimental Designs (Table 2)

JARS–**Quant** | Table 2

Reporting Standards for Studies With an Experimental Manipulation (In Addition to Material Presented in Table 1)

General Principles

Method

Experimental Manipulations

- Provide details of the experimental manipulation(s) intended for each study condition, including comparison conditions, and how and when experimental manipulations were actually administered, including
  - content of the specific experimental manipulations (if experimental manipulation is part of a clinical trial, address JARS–Quant Table 2: Module C)
    - › summary or paraphrasing of instructions, unless they are unusual or compose the experimental manipulation, in which case they may be presented verbatim
  - method of experimental manipulation delivery
    - › description of apparatus and materials used and their function in the experiment
      - › specialized equipment by model and supplier
  - deliverer: who delivered the experimental manipulations
    - › level of professional training
    - › level of training in specific experimental manipulations
  - number of deliverers, and in the case of experimental manipulations, the *M*, *SD*, and range of number of individuals–units treated by each
  - setting: where the manipulations or experimental manipulations occurred
  - exposure quantity and duration: how many sessions, episodes, or events were intended to be delivered and how long they were intended to last
  - time span: how long it took to deliver the experimental manipulation to each unit
  - activities to increase compliance or adherence (e.g., incentives)
  - use of language other than English and the translation method
  - sufficient detail to allow for replication, including reference to or a copy of the manual of procedures; if the manual of procedures is available, describe how others may obtain it

Units of Delivery and Analysis

- State the unit of delivery (how participants were grouped during delivery).
- Describe the smallest unit that was analyzed (and in the case of experiments, that was randomly assigned to conditions) to assess experimental manipulation effects (e.g., individuals, work groups, classes).
- Describe the analytical method used to account for this (e.g., adjusting the standard error estimates by the design effect or using multilevel analysis) if the unit of analysis differed from the unit of deliver.

Results

Participant Flow

- Report the total number of groups (if experimental manipulation was administered at the group level) and the number of participants assigned to each group, including
  - number of participants approached for inclusion
  - number of participants who began the experiment
  - number of participants who did not complete the experiment or crossed over to other conditions, with reasons
  - number of participants included in primary analyses
- Include a figure describing the flow of participants through each stage of the study (see JARS–Quant Participant Flowchart).

Treatment Fidelity

- Provide evidence on whether the experimental manipulation was implemented as intended.

Baseline Data

- Describe baseline demographic and clinical characteristics of each group.

Adverse Events and Side Effects

- Report all important adverse events or side effects in each experimental condition. If none, state so.

Discussion

- Discuss results, taking into account the mechanism by which the experimental manipulation was intended to work (causal pathways) or alternative mechanisms.
- Discuss the success of, and barriers to, implementing the experimental manipulation; fidelity of implementation if an experimental manipulation is involved.
- Discuss generalizability (external validity and construct validity) of the findings, taking into account
  - characteristics of the experimental manipulation
  - how and what outcomes were measured
  - length of follow-up
  - incentives
  - compliance rates
- Describe the theoretical or practical significance of outcomes and the basis for these interpretations.

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APA Style JARS - Experimental Designs, Random Assignment (Table 2A)

JARS–**Quant** | Table 2

Reporting Standards for Studies With an Experimental Manipulation (In Addition to Material Presented in Table 1), continued

Module A: Reporting Standards for Studies Using Random Assignment

Method

Random Assignment Method

- Describe the unit of randomization and the procedure used to generate the random assignment sequence, including details of any restriction (e.g., blocking, stratification).

Random Assignment Implementation and Concealment

- State whether and how the sequence was concealed until experimental manipulations were assigned, including who
  - generated the assignment sequence
  - enrolled participants
  - assigned participants to groups

Masking

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

Statistical Methods

- Describe statistical methods used to compare groups on primary outcome(s).
- Describe statistical methods used for additional analyses, such as subgroup comparisons and adjusted analysis.
- Describe statistical methods used for mediation or moderation analyses, if conducted.

American Psychological Association (APA) (2024)

APA Style JARS - General quantitative reporting standards (Table 1)

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., *df*s, 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

American Psychological Association (APA) (2024)

APA Style JARS - General quantitative reporting standards (Table 1)

Results

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.

American Psychological Association (APA) (2024)

APA Style JARS - Numbers and Statistics guide

APA STYLE

7th Edition

Numbers and Statistics Guide

Numbers

see *Publication Manual* Sections 6.32–6.35 for guidelines on using numerals vs. words

- **Use numerals** (1, 2, 3, etc.) for the following:
  - numbers 10 and above; see exceptions in the next section
  - numbers used in statistics (e.g., 2.45, 3 times as many, 2 x 2 design)
  - numbers used with units of measurement (e.g., 7-mg dose, 3-in. increments)
  - times (e.g.,1 hr 34 min), ages (e.g., 2 years old), and dates (e.g., March 6)
  - scores and points on a scale (e.g., score of 6, 5-point Likert scale)
  - exact sums of money (e.g., $10 in compensation)
  - numbers used as numerals (e.g., the numeral 4 on the chart)
  - numbers denoting a place in a numbered series (e.g., Grade 6, Items 2 and 3, Row 4)
  - parts of books (e.g., Chapter 1)
  - table and figure numbers (e.g., Figure 1, Table 2)
- **Use words** (zero, one, two, three, etc.) for the following:
  - numbers zero through nine (e.g., five members); see exceptions in the previous section
  - numbers beginning a sentence, heading, or title (e.g., Sixty participants volunteered for)
  - common fractions (e.g., one half, one fifth, a two-thirds majority)
  - universally accepted phrases (e.g., Twelve Apostles, Five Pillars of Islam)
- **Combine numerals and words** to express back-to-back numerical modifiers (e.g., ten 7-point scales, 2 two-way interactions).
- **Commas in numbers**
  - Use commas between groups of three digits in most figures of 1,000 or more.
  - Do not use commas in page numbers, binary digits, serial numbers, degrees of temperature, degrees of freedom, and acoustic frequencies above 1000.
- **Plurals of numbers**
  - Add "s" or "es" (without an apostrophe) to form plural numerals or words (e.g., fours, sixes, 1950s, *Ms*, *ps*).
  - Do not make symbols or measurement abbreviations plural (e.g., 3 cm, not 3 cms).

Decimals

see *Publication Manual* Section 6.36 for guidelines on decimal places

- Put a zero before the decimal point when a number is less than 1 but the statistic can exceed 1.
- Do not use a zero before a decimal when the statistic cannot be greater than 1 (proportion, correlation, level of statistical significance).
- In general:
  - Report means and standard deviations for data measured on integer scales (e.g., surveys and questionnaires) to one decimal.
  - Report other means and standard deviations and correlations, proportions, and inferential statistics (*t*, *F*, chi-square) to two decimals.
  - Report exact *p* values to two or three decimals (e.g., $p = .006$, $p = .03$).
  - However, report *p* values less than .001 as "$p < .001$."
- Keep in mind that these are general guidelines and that the most important consideration when deciding the number of decimal places to use in reporting results is the following: **Round as much as possible while considering prospective use and statistical precision.** See *Publication Manual* Section 6.36 for additional guidelines.

Statistics

see *Publication Manual* Sections 6.40–6.45 for guidelines on reporting statistics

- Do not repeat statistics in both the text and a table or figure.
- In tables and figures, report exact *p* values (e.g., $p = .015$), unless *p* is < .001 (instead write as "<.001").
- Put a space before and after a mathematical operator (e.g., minus, plus, greater than, less than). For a negative value, put a space only before the minus sign, not after it (e.g., –8.25).
- Use the symbol or abbreviation for statistics with a mathematical operator (e.g., $M = 7.7$).
- Use the term, not the symbol, for statistics in the text (e.g., "the means were").
- Use italics for letters used as statistical symbols or algebraic variables (e.g., contained 587 *t*-test *p* values; $R^2 = .12$)
- However, use standard (nonitalic) type for Greek letters. See *Publication Manual* Table 6.5 for specific examples.
- Do not define symbols or vabbreviations that represent statistics (e.g., *M*, *SD*, *F*, *t*, *df*, *p*, *N*, *n*, *OR*) and abbreviations or symbols composed of Greek letters. See Table 6.5.
- Define other abbreviations (e.g., AIC, ANOVA, BIC, CFA, CI, NFI, RMSEA, SEM). See Table 6.5.

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More information on APA Style can be found in the *Publication Manual of the American Psychological Association* (7th ed.) and the *Concise Guide to APA Style* (7th ed.)

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American Psychological Association (APA) (2022)

APA Style JARS - General quantitative reporting standards (Table 1)

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

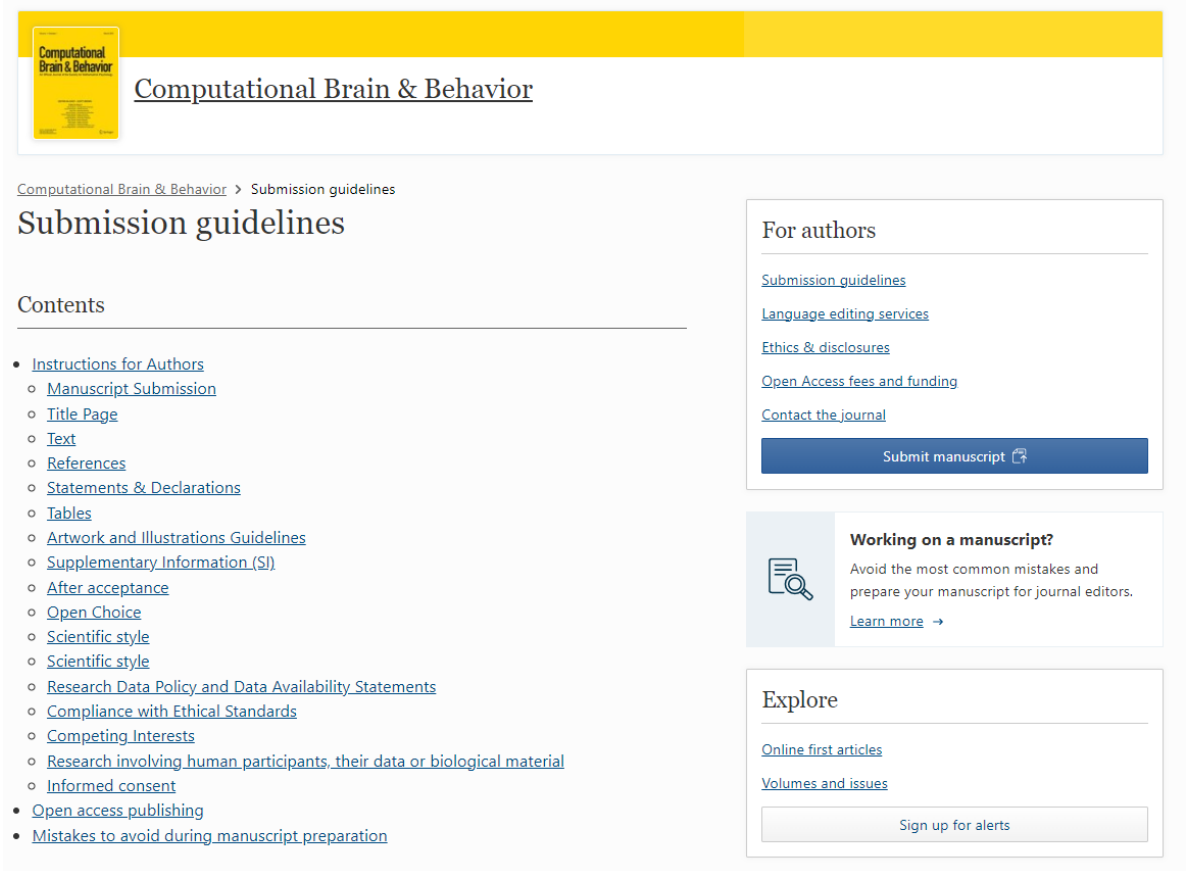
- Discuss generalizability (external validity) of the findings, taking into account
  - target population (sampling validity)
  - other contextual issues (setting, measurement, time; ecological validity)

Implications

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

American Psychological Association (APA) (2024)

Aber: Jedes Journal und jede Konferenz haben ihre eigenen Guidelines!



Computational Brain & Behavior

Computational Brain & Behavior › Submission guidelines

Submission guidelines

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Standardstruktur empirisch-quantitativer Berichte

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Selbstkontrollfragen

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Referenzen

American Psychological Association (APA). 2020. *Publication Manual of the American Psychological Association: The Official Guide to APA Style*. Seventh edition. Washington, DC: American Psychological Association. https://doi.org/10.1037/0000165-000.

American Psychological Association (APA). 2022. "APA Style Numbers and Statistics Guide." 2022. https://apastyle.apa.org/instructional-aids/numbers-statistics-guide.pdf.

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