ENSAIO • Pesquisa em Educação em Ciências | 2024 | e55294
DOI | http://dx.doi.org/10.1590/1983-21172022240198T

EDITORIAL

THE ROLE OF SCIENTIFIC JOURNALS IN RESEARCH ETHICS

Luciana Massi[5]
https://orcid.org/0000-0001-8761-3181

Rosana Louro Ferreira Silva[6]
https://orcid.org/0000-0002-5787-2331

Concern about research ethics dates to the period of World War II, with the emergence of the Nuremberg Code in 1971, indicated that this concern with ethical aspects should follow up research and lead to the continuous renewal of codes and guidelines for researchers. Factors such as rise of the internet and the open science movements suggest that scientific culture will change more in the next 20 years than in the past 200 (Bartling; Fiesike, 2014). More recently, the expansion of artificial intelligence use has further contributed to this.

Currently, the international literature adopts the terms academic integrity and scientific integrity to include ethical aspects and broaden the scope of concerns involved in the ethical conduct of research. In Brazil, scientific associations in the field of science education research have not produced their own reflections or documents. Since 2013, only the National Association for Research in Education (ANPEd)[1] has established a Research Ethics and Integrity Commission focused on studies and publications on the subject. The association states that academic integrity is a multidimensional concept that involves the entire university (including teaching, management, and expansion) and points to core values such as honesty, trust, responsibility, respect, fairness, and equity, as proposed by *The International Center for Academic Integrity* (ANPEd, 2023). The document also indicates that scientific integrity involves the entire research process, including misconduct (dishonesty, falsification, and fraud), as well as authorship and publications (which include concerns about intellectual property and conflicts of interest). The *European Code of Conduct for Research Integrity* and similar documents serve as essential guidelines for promoting good research practices. In Brazil, there are few guiding documents beyond those created by ANPEd, such as: the Basic Guidelines for Integrity in Scientific Activity of CNPq; FAPESP's Code of Good Practices; and Resolution 510/2016, of the National Health Council, which sets out the rules applicable to research in the Humanities and Social Sciences whose methodological procedures involve the use of data directly obtained from human beings. These documents make it clear that in Brazil, unlike in other countries, there is a separation of guidelines on scientific integrity and on ethical procedures relating to research participants. In the ethics code documents of the American Educational Research Association (AERA, 2017) and the British Educational Research Association (BERA, 2018), these aspects are addressed together, allowing for a broader and more transversal articulation of the ethical aspects and integrity of research in education.

According to Mainardes (2023), ethics in Brazil has been associated primarily with research ethics and the ethical review process, focusing mainly on the treatment of research participants. In contrast, integrity is linked to good research and publication practices, such as avoiding plagiarism, self-plagiarism, and ensuring proper authorship. Ethics related to participants is often understood in the context of research as synonymous with the Ethics Committee (CEP). In various university units, there are CEPs linked to the

National Research Ethics Commission (CONEP), which is connected to the National Health Council and the Ministry of Health – the same body that produced Resolution 510 as part of a specific commission for the Humanities and Social Sciences. CEPs are often seen nationally as bodies that accredit research and assess whether ethical concerns have been met. During the pandemic, the Prevent Senior[2] case dominated major news outlets as it involved a study that lacked approval from the Ethics Committee, leading to its perceived illegitimacy. Despite the common perception of CEPs as evaluative and legitimizing bodies for research, they are, under CONEP's guidance, designed to assist researchers in adopting responsible practices regarding the ethical treatment of research participants. Thus, by equating ethics with the CEP, we overlook various aspects of scientific integrity and good research practices that extend beyond participant considerations. CONEP is concerned with the ethical dimension of research involving humans – whether in the field of health or the humanities; therefore, it is the researcher's responsibility to address aspects of integrity, such as authorship, plagiarism, data management, and openness, among others related to conducting research.

Alongside these concerns, this journal has progressively implemented open science practices, initially focusing on open peer review and then including open data. (Mendonça; Franco, 2021; Mendonça *et al*., 2023; Azevedo; Mendonça, 2024). These practices have led us to reflect on scientific integrity, particularly in peer review processes (Mendonça *et al*., 2023) and authorship (Bizerra; Sá, 2022). The availability of data, discussed in a recent editorial (Azevedo; Mendonça, 2024), heightened our concern about the ethical aspects of research, as participants in open data studies should be aware of this availability and have their identity protected in data disclosure. On the other hand, the consolidation of this movement within the journal, including the creation of a data editorial, has increased our confidence in aspects of scientific integrity, such as transparency and responsibility in data management and analysis (Azevedo; Mendonça, 2024). Through this editorial work, we can question authors about which data should be made open and how this information was communicated to study participants; what can be shared once anonymized (such as transcripts with fictitious names or videos/photos with blurred faces); and what cannot be disclosed due to the risk of exposing participant.

Continuing the discussion from previous editorials, in this text, we aim to reflect on the issues surrounding ethics with research participants, particularly in Science Education research, and the role of scientific journals in this process.

In the field of Education, there is frequent criticism that CEPs do not adequately account for the specificities of the human sciences, due to their connection with the health sector. Although there are specific regulations for the Human Sciences (HS), such as Resolution 510/2016, authority still rests with the National Health Council, to which both CONEP and, by extension, the CEPs are linked.

The ANPEd Research Ethics Commission (2021; 2023) has facilitated discussions and produced three significant publications on research ethics, including issues of integrity, explicitly advising researchers not to submit their projects to CEP. In addition to the challenges of entering data into Plataforma Brasil, which is used by CEP and contains health-specific questions (such as hypothesis and sample size), Resolution 510/2016 indicated that the risk classification (minimum, medium, and maximum) specific to the Human Sciences would be published in a later document, which eventually happened with Resolution CNS No. 674, on May 6, 2022. However, there has been no adaptation of the platform or necessary dialogue with the field of human and social sciences, which has led ANPEd to declare that "ANPEd's position is that, in general, the CEP/CONEP system remains inadequate for the ethical evaluation of research in Education, as well as in other areas of Human and Social Sciences." This reaffirms the intention to continue working with the Forum of Humanities, Social Sciences, Applied Social Sciences, Languages, Linguistics, and Arts (FCHSSALLA) "to create an ethical review system specific to these areas" (ANPED, 2022, p. 1).

ANPEd has summarized, in biannual publications, three volumes of entries on ethics, in which each aspect (confidentiality, consent, authorship, plagiarism, etc.) is explored to clarify ethical dilemmas and guide researchers' decisions. Implicitly, we can understand that the intent of the material is to move beyond

the perspective of CEPs as an 'evaluative body' and adopt a more reflective stance, granting autonomy and responsibility to researchers to consider the various ethical aspects of their studies. It is worth noting that, although our primary scientific association is the Brazilian Association for Research in Science Education (ABRAPEC), the lack of discussions and guiding documents on ethics within this association has led us to turn to ANPED materials. We find that our ethical concerns align more closely with the field of Education than with the potential guidelines available in Chemistry, Physics, Biology, or Mathematics.

Another challenge for the field of education and teaching is the discursive nature of research activities, where, in certain epistemological approaches, data is co-constructed with participants rather than simply 'collected,' as is common in health research and other biological sciences. In these cases, data is also understood as a dialogical process with reality (Martins, 2006).

Given this context, we reflect on the role of *Revista Ensaio* and scientific journals in general in addressing the ethical dilemmas and concerns involved in scientific research. As Carvalho (2021, p. 65) highlights, ethics resonates in scientific production because it encompasses "every attitude, every conduct, every purpose, every action, every affection, and every response from everyone who shares the common sense of belonging to the scientific community", establishing a constant relationship between the bond of doing science and the act of making it public in a communal sense. Recognizing that caring for research participants is fundamental, but not sufficient for viewing scientific journals as disseminators of research results, we have dedicated ourselves to studying this topic within the editorial team of Ensaio. Although we do not engage in the proposal and development of research, we serve as the primary avenue for publicly disseminating results that may expose participants, displease co-authors, or contain fraudulent or plagiarized content, among other serious ethical and integrity issues for which we could be held co-responsible when publishing research. As discussed in the literature, our focus goes beyond mere concerns about accountability or penalties; we aim to adopt a formative approach to the topic within the editorial and authorship processes of the research we publish. Vilela and Londero (2023, p. 1) investigated the ethical principles adopted by 32 journals in the field of Science Education and concluded that:

> (a) 40.6% of journals do not mention any ethical principles in their editorial policies; (b) 31.2% of journals indicate that ethical aspects must be included in the text submitted to the editors, 3.1% require the submission of a signed document, 25% require a copy of the approval from the Research Ethics Committee (CEP) of the institution and/or the approved Informed Consent Form (ICF), 12.5% imply that the study was conducted according to ethical norms, standards, or principles without requiring any type of information, and 43.8% do not provide any reference to the authors; (c) 34.4% do not include considerations about scientific misconduct; and (d) only 15% of journals include a section that explicitly addresses retractions for cases of misconduct.

Other authors, such as Fortunato and Neto (2018, p. 1), also note that "a significant number of journals provide superficial information in their submission guidelines regarding research involving people". They argue that only institutions linked to the CEP/CONEP system can ensure this, which overlooks the tensions between the health field and the humanities, as well as the fact that ethics extends far beyond CEPs. On the other hand, Alves and Teixeira (2020, p. 1) offer a comprehensive discussion of the controversies arising from the public debate between CONEP and actors in the Human and Social Sciences, highlighting the specificities of research in these fields and their implications for the ethical dimension: "argumentative, relational, and intersubjective logic, transparency, vulnerability, and protection for participants". They also note that "the alignment of researchers in the human and social sciences within the ethical regulatory network is weak", a point that is corroborated by the discussions in this article.

The editorial team of the journal Ensaio engaged in reflective practices and studies, alternating between requesting and not requesting approval from authors for their research through protocols in the CEP/CONEP system. At one point, we considered the possibility of expanding our understanding of the CEP to include any bodies not linked to CONEP. This possibility proved unfruitful, as there are few experiences in Brazil that diverge from the CEP/CONEP system.

Collectively, we understand that, in accordance with ANPED's guidelines, as well as the earlier described manifestations and tensions, it is more important **to emphasize the commitments made in research regarding good practices with participants and within the research field** than to seek approval from the CEP. We ask ourselves how the journal can contribute to ensuring that ethical care for participants is upheld, while also acknowledging the ongoing challenges and tensions in the field, as well as in the broader area of education, regarding the submission process via Plataforma Brasil. Thus, we included a question regarding the type of research and its submission to a specific type of CEP in our statement of responsibility, submitted by the authors at the time of their application. Additionally, we developed a document titled "Self-Declaration of Ethical Principles and Procedures in Research", comprising the following items:

( ) Respect for the privacy, autonomy, diversity, values, and dignity of the research participants was upheld;

( ) high research standards were employed, adopting ethical research procedures such as integrity, honesty, transparency, and truth;

( ) the participant provided their free and informed consent regarding participation in the research (in writing, audio, video, or other formats), and the researcher possesses these records;

( ) in the case of using images, there is a record of explicit authorization for the disclosure of this material in scientific publications, and the researcher has a record of this authorization. If such authorization is not available, the images have been treated to protect the anonymity of the participant;

( ) there was a guarantee of anonymity and care regarding confidentiality or consent that the identity of the participant will be revealed;

( ) the possible benefits and risks of participation in the research were explained to the participants, as well as ways to minimize them;

( ) the participant has access to the research team's contact information to clarify doubts, access research results, and, if desired, withdraw their consent;

( ) he provision of open access to research data was planned and recorded.

We recognize that the self-declaration fosters a commitment among authors to critically reflect on these aspects and address them within their articles. Possibilities arising from this reflective process may lead authors to refrain from submitting to the journal if they have not adhered to the indicated procedures, or to re-establish contact with participants. This consideration aligns with Resolution 510/1996, which states that "the researcher-participant relationship is continuously constructed throughout the research process and can be redefined at any moment in the dialogue between subjectivities, involving reflexivity and the construction of non-hierarchical relationships".

However, the self-declaration is insufficient in the case of research involving indigenous peoples, which is governed by a broader set of regulations, such as Resolution CNS No. 304 of 2000.[3] This resolution outlines the protocols for conducting research with these populations, particularly regarding the process of obtaining and recording the Free and Informed Consent Term (TCLE), ensuring adherence to the cultural and linguistic peculiarities of those involved and respect for their authorities. Therefore, such research cannot be evaluated solely by local Ethics Committees and must also be submitted to the National Commission on Ethics in Research. Additionally, if the research requires access to indigenous land, authorization from the Presidency of FUNAI is necessary, as established by Brazilian legislation and Instruction Normative No. 001/PRESI/1995,[4] which outlines specific requirements for researchers, such as the need for updated vaccinations.

We recognize that the ethical dimension extends beyond the aspects of publication; however, scientific journals have formative responsibilities toward the field. We note a lack of clear discussion in science education research regarding the themes of open data and research ethics, and we emphasize the need to expand this debate in our events and journals. Therefore, this text contributes to editorials that express concerns

about the integrity and ethics of research in science education, discussing its particularities and challenges within the field of Human and Social Sciences. Likewise, the journal is aware of the increasing number of Ethics and Research Committees in universities with representatives from the Human and Social Sciences, particularly in the field of science education. These committees can contribute to thinking about ways to participate more actively in the debate with scientific associations and society, valuing the methodological pluralism of the field, the diversity of research participants, and the responsibilities of researchers and scientific journals in defending human rights and social justice.

REFERENCES

AERA. Código de ética: American Educational Research Association – AERA (Associação Americana de Pesquisa Educacional). *Práxis Educativa*, Ponta Grossa, v. 12, n. 3, p. 1041-1065, set./dez. 2017. DOI: https://doi.org/10.5212/praxeduc.v.12i3.021

Alves, D. A. de ., & Teixeira, W. M.. (2020). Ética em pesquisa em ciências sociais: regulamentação, prática científica e controvérsias. *Educação E Pesquisa*, *46*, e 217376. https://doi.org/10.1590/S1678-4634202046217376

AZEVEDO, N. H.; MENDONÇA, P. C. C.. DADOS ABERTOS NA PESQUISA EM EDUCAÇÃO EM CIÊNCIAS: PERSPECTIVAS, DESAFIOS E POSSIBILIDADES. *Ensaio Pesquisa em Educação em Ciências* (Belo Horizonte), v. 26, p. e51515, 2024.

BIZERRA, A. F.; SÁ, L. P.. VAMOS CONVERSAR SOBRE AUTORIA?. *Ensaio Pesquisa em Educação em Ciências* (Belo Horizonte), v. 24, p. e39592, 2022.

CARVALHO, A. F. Ética na publicação científica. *Ética e pesquisa em Educação:* subsídios – vol 2. Rio de Janeiro: ANPEd, 2021. p. 64-70 https://www.anped.org.br/sites/default/files/images/etica_e_pesquisa_em_educacao_v._2_agosto_2021.pdf

COMISSÃO NACIONAL DE ÉTICA EM PESQUISA DA ANPED. *Ética e Pesquisa em Educação* [recurso eletrônico]: subsídios. vol. 1. Rio de Janeiro: ANPED, 2019.

COMISSÃO NACIONAL DE ÉTICA EM PESQUISA DA ANPED. *Ética e Pesquisa em Educação* [recurso eletrônico]: subsídios. vol. 2. Rio de Janeiro: ANPED, 2021.

COMISSÃO NACIONAL DE ÉTICA EM PESQUISA DA ANPED. *Ética e Pesquisa em Educação* [recurso eletrônico]: subsídios. vol. 3. Rio de Janeiro: ANPED, 2023.

BARTLING, S.; FRIESIKE, S. *Opening Science*: The evolving guide on how the internet is changing research, collaboration ans scholarly publishing. Springer Open, 2014.

BERA - British Educational Research Association (2018) *Ethical Guidelines for Educational Research.* fourth edition, London. https://www.bera.ac.uk/researchers-resources/publications/ethicalguidelines-for-educational-research-2018

CONSELHO NACIONAL DE SAÚDE. *Resolução 510/2016* **http://conselho.saude.gov.br/resolucoes/2016/Reso510.pdf**

FORTUNATO, I.; NETO, A. S. Reflexões de editores de periódicos da área de Educação e Ensino sobre a Resolução CNS 510/2016. *Horizontes*, v. 36, n. 2, 2018.

MAINARDES, J. Política Institucional de Ética em Pesquisa e integridade. In: ANPEd - Comissão de Ética em Pesquisa. (Org.). *Ética e Pesquisa em Educação*: subsídios - v. 3. Rio de Janeiro: Anped, 2023, v. 3, p. 234-256.

MARTINS, I. Dados como diálogo: construindo dados a partir de registros de observação de interações discursivas em salas de aula de ciências. In: Santos, F.M.T. & Greca, I. M. (org.) *A pesquisa em ensino de Ciências no Brasil e suas metodologias*. Ijuí (RS): editora Unijuí, 2006. p. 297 - 321

MENDONÇA, P. C. C.; FRANCO, L. G.. A CIÊNCIA ABERTA E A ÁREA DE EDUCAÇÃO EM CIÊNCIAS: PERSPECTIVAS E DIÁLOGOS. *Ensaio Pesquisa em Educação em Ciências* (Belo Horizonte), v. 23, p. e29175, 2021.

MENDONÇA, P. C. C. *et al.*. EXPERIÊNCIAS DA REVISTA ENSAIO PESQUISA EM EDUCAÇÃO EM CIÊNCIAS COM AVALIAÇÃO POR PARES ABERTA. *Ensaio Pesquisa em Educação em Ciências* (Belo Horizonte), v. 25, p. e42617, 2023.

VILELA, L. Z. L.; LONDERO, L. Ética na Pesquisa em Educação em Ciências: Análise da Política Editorial de Periódicos Brasileiros. *Revista Brasileira de Pesquisa em Educação em Ciências,* [S. l.], p. e40283, 1–29, 2023. DOI: 10.28976/1984-2686rbpec2023u271299. Disponível em: https://periodicos.ufmg.br/index.php/rbpec/article/view/40283. Acesso em: 4 jun. 2024.

Luciana Massi
Professora Associada da Faculdade de Ciências e Letras de Araraquara, Universidade Estadual Paulista - UNESP.
E-mail: luciana.massi@unesp.br

Rosana Louro Ferreira Silva
Professora Associada do Instituto de Biociências da Universidade de São Paulo - IBUSP. Bolsista de produtividade do CNPq - nível 2.
E-mail: rosanas@usp.br

Institutional Address:
Luciana Massi
Universidade Estadual Paulista UNESP
Rod. Araraquara-Jaú Km 1 - Campos Ville
Araraquara - SP | Brasil
CEP 14800-901

Rosana Louro Ferreira Silva
Instituto de Biociências da Universidade de São Paulo - IBUSP
Rua do Matão, travessa 14, no 101 - Cidade universitária
São Paulo - SP | Brasil
CEP. 05508-090

Contact:
Centro de Ensino de Ciências e Matemática de Minas Gerais – CECIMIG
Faculdade de Educação – Universidade Federal de Minas Gerais
revistaepec@gmail.com

CECIMIG would like to thank National Council for Scientific and Technological Development (CNPq) and Research Support Foundation of the State of Minas Gerais (FAPEMIG) for the funding forediting this article.

NOTES

1 https://anped.org.br/comissao-de-etica-em-pesquisa/

2 https://ufmg.br/comunicacao/noticias/caso-prevent-senior-pauta-discussao-sobre-etica-em-pesquisas

3 https://conselho.saude.gov.br/images/comissoes/conep/documentos/NORMAS-RESOLUCOES/06._Resolu%C3%A7%C3%A3o_304_2000_Povos_Ind%C3%ADgenas.PDF

4 https://www.gov.br/funai/pt-br/arquivos/conteudo/cogedi/pdf/legislacao-indigenista/pesquisa/001-instrucao-normativa-1995-funai.pdf

5 Universidade Estadual Paulista, Faculdade de Ciências e Letras de Araraquara, Araraquara, SP, Brasil.

6 Universidade de São Paulo, Instituto de Biociências, São Paulo, SP, Brasil.