

# Science must respect the dignity and rights of all humans

New ethics guidance addresses potential harms for human population groups who do not participate in research but may be harmed by its publication.

**A**lthough academic freedom is fundamental, it is not unbounded. The same ethical considerations should underlie science about humans as apply to research with human participants.

Well-established ethics frameworks govern the conduct of studies with human participants. Research ethics bodies use these frameworks to examine prospectively whether research projects involving human participants align with ethical principles.

However, these frameworks apply to research involving the participation of humans and do not generally consider the potential benefits and harms of research about humans who do not participate directly in the research. Such research is typically exempt from ethics review.

Yet, people can be harmed indirectly. For example, research may — inadvertently — stigmatize individuals or human groups. It may be discriminatory, racist, sexist, ableist or homophobic. It may provide justification for undermining the human rights of specific groups, simply because of their social characteristics.

Along with other Springer Nature colleagues, we led the development of new guidance that addresses these potential harms and is incorporated in our [research ethics guidance](#). This guidance extends consideration of the principles of ‘beneficence’ and ‘non-maleficence’ — key elements of all ethics frameworks for research with human participants — to any academic publication.

In creating this guidance, we took as a starting point the first article of the Universal Declaration of Human Rights — humans are “free and equal in dignity and rights”<sup>1</sup>. We drew on the several covenants and conventions of the United Nations (for example, refs. <sup>2,3</sup>); existing frameworks for research with human participants (for example, refs. <sup>4,5</sup>); and the ethics codes of disciplines such as sociology<sup>6,7</sup> and anthropology<sup>8</sup>, which have traditionally considered harms that arise for communities or human groups beyond those directly involved in a research project.

Editors, authors and reviewers will hopefully find the guidance helpful when considering and discussing potential benefits



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and harms arising from manuscripts dealing with human population groups categorized on the basis of socially constructed or socially relevant characteristics, such as race, ethnicity, national or social origin, sex, gender identity, sexual orientation, religion, political or other beliefs, age, disease, (dis)ability or socioeconomic status.

In this guidance, we urge authors to be respectful of the dignity and rights of the human groups they study. We encourage researchers to consider the potential implications of research on human groups defined on the basis of social characteristics; to be reflective of their authorial perspective if not part of the group under study; and to contextualise their findings to minimize as much as possible potential misuse or risks of harm to the studied groups in the public sphere. We also highlight the importance of respectful, non-stigmatizing language to avoid perpetuating stereotypes and causing harm to individuals and groups.

Advancing knowledge and understanding is a fundamental public good. In some cases, however, potential harms to the populations studied may outweigh the benefit of publication. Academic content that undermines the dignity or rights of specific groups; assumes that a human group is superior or inferior over another simply because of a social characteristic; includes hate speech or denigrating images; or promotes privileged, exclusionary perspectives raises ethics concerns that may require revisions or supersede the value of publication. For example, the guidance helps in considering whether it is ethically

appropriate to question a social group’s right to freedom or cultural rights, above and beyond any considerations of scientific merit.

We also developed two specific sections — on race, ethnicity and racism; and on sex, gender identity/presentation and orientation — that clarify issues with these constructs and explain that racism and discrimination on the basis of gender identity or sexual orientation should have no place in science.

There is a fine balance between academic freedom and the protection of the dignity and rights of individuals and human groups. We commit to using this guidance cautiously and judiciously, consulting with ethics experts and advocacy groups where needed. Ensuring that ethically conducted research on individual differences and differences among human groups flourishes, and no research is discouraged simply because it may be socially or academically controversial, is as important as preventing harm.

Science has for too long been complicit in perpetuating structural inequalities and discrimination in society. With this guidance, we take a step towards countering this. The guidance is printed in full below and we encourage our readers to contact us with their comments and feedback.

## Principles of scholarly freedom and scholarly responsibility

Researchers should be free to pursue lines of inquiry and the communication of knowledge and ideas without fear of repression or censorship. At the same time, they have the ethical obligation to uphold intellectual integrity and avoid preventable harms that may arise in the course of research or its communication.

## Benefits and harms of research

Research should respect the dignity and rights of human research participants; of individuals or groups connected either with the research participants or the research topic; and of the communities in which research is carried out. Research should also respect the rights of non-human life, tangible and intangible heritage, natural resources, and the environment.

Harms can arise as a direct result of the conduct of research — for instance, injury to human participants in the course of participating in a research project; unnecessary suffering of non-human animals as a result of experimentation; material compromise of tangible heritage; ecosystem disruption etc. Harms can also arise indirectly, as a result of the publication of a research project or a piece of scholarly communication – for instance, stigmatization of a vulnerable human group or potential use of the results of research for unintended purposes (e.g., public policies that undermine human rights or misuse of information to threaten public health).

Non-maleficence and beneficence are two fundamental principles in research ethics requiring the maximization of benefits and minimization of potential harms. These principles form a core part of general frameworks for the ethical conduct of research across the sciences and humanities (for example, [The World Medical Association Declaration of Helsinki](#); [The Belmont Report](#); the [International Ethical Guidelines for Health-related Research Involving Humans](#); [Ethics in Social Science and Humanities](#)).

Advancing knowledge and understanding is a public good and, as such, a key benefit of research, even when the research in question does not have an obvious, immediate, or direct application. Although the pursuit of knowledge is a fundamental public good, considerations of harm can occasionally supersede the goal of seeking or sharing new knowledge, and a decision not to undertake or not to publish a project may be warranted.

Consideration of risks and benefits (above and beyond any institutional ethics review) underlies the editorial process of all forms of scholarly communication in our publications. Editors consider harms that might result from the publication of a piece of scholarly communication, may seek external guidance on such potential risks of harm as part of the editorial process, and in cases of substantial risk of harm that outweighs any potential benefits, may decline publication (or correct, retract, remove or otherwise amend already published content).

### Research on human populations (including reporting standards)

For studies involving humans categorized by race, ethnicity, national or social origin, sex, gender identity, sexual orientation, religion, political or other beliefs, age, disease, (dis)ability, socio-economic status, or other socially constructed or socially relevant groupings, authors should:

- Explicitly describe their methods of categorizing human populations
- Define categories in as much detail as the study protocol allows
- Justify their choices of definitions and categories, including for example whether any rules of categorization were required by their funding agency
- Explain whether (and if so, how) they controlled for confounding variables in their analyses

Additionally, we require that all content submitted for publication be respectful of the dignity and rights of individuals and human groups. Researchers are asked to carefully consider the potential implications (including inadvertent consequences) of research on human groups defined by attributes of race, ethnicity, national or social origin, sex, gender identity, sexual orientation, religion, political or other beliefs, age, disease, (dis)ability or other status, to be reflective of their authorial perspective if not part of the group under study, and contextualise their findings to minimize as much as possible potential misuse or risks of harm to the studied groups in the public sphere.

Finally, authors should use inclusive, respectful, non-stigmatizing language in their submitted manuscripts. Authors should ensure that writing is free from stereotypes or cultural assumptions. We recommend avoiding the use of descriptors that refer to attributes such as race, ethnicity, national or social origin, sex, gender identity, sexual orientation, religion, political or other beliefs, age, disease, (dis)ability or other group descriptors unless they are relevant. We advise that authors writing in English follow the guidance on [bias-free language](#) provided by the American Psychological Association when preparing their manuscripts for submission.

Regardless of content type (research, review or opinion) and, for research, regardless of whether a research project was reviewed and approved by an appropriate institutional ethics committee, editors reserve the right to request modifications to (or correct or otherwise amend post-publication), and in severe cases refuse publication of (or retract post-publication):

1. Content that is premised upon the assumption of inherent biological, social, or cultural superiority or inferiority of one human group over another based on race, ethnicity, national or social origin, sex, gender identity, sexual orientation, religion, political or other beliefs, age, disease, (dis)ability, or other socially constructed or socially relevant

groupings (hereafter referred to as socially constructed or socially relevant human groupings).

2. Content that undermines — or could reasonably be perceived to undermine — the rights and dignities of an individual or human group on the basis of socially constructed or socially relevant human groupings.
3. Content that includes text or images that directly or indirectly disparage a person or group on the basis of socially constructed or socially relevant human groupings.
4. Submissions that embody singular, privileged perspectives, which are exclusionary of a diversity of voices in relation to socially constructed or socially relevant human groupings, and which purport such perspectives to be generalisable and/or assumed.

**Race, ethnicity and racism.** Race and ethnicity are sociopolitical constructs. Humans do not have biological races, at least based on modern biological criteria for the identification of geographical races or subspecies.

Studies that use the constructs of race and/or ethnicity should explicitly motivate their use. Race/ethnicity should not be used as proxies for other variables — for example, socioeconomic status or income. For studies involving data collected from human participants, researchers should explain:

- who provided the classification terms (the participants, the researchers or third parties)
- what the classification terms are
- how racial/ethnic identity was determined (by the participants, the researchers or third parties)

Biomedical studies should not conflate genetic ancestry (a biological construct) and race/ethnicity (sociopolitical constructs): although race/ethnicity are important constructs for the study of disparities in health outcomes and health care, empirically established genetic ancestry is the appropriate construct for the study of the biological aetiology of diseases or differences in treatment response. If race/ethnicity are used in the context of disease aetiology due to the unavailability of genetic ancestry data, this should be done with caution and clarification.

Racism is scientifically unfounded and ethically untenable. Editors reserve the right to request modifications to (or correct or otherwise amend post-publication), and in severe cases refuse publication of (or retract

post-publication), racist content. Editors use the guiding criteria I–IV set out in the section *Research on human populations* (see above) to identify content that potentially undermines the equal dignity and rights of humans of all races/ethnicities.

**Sex, gender (identity/presentation), and sexual orientation.** Researchers are encouraged to follow the ‘[Sex and Gender Equity in Research – SAGER – guidelines](#)’ and to include sex and gender considerations where relevant (overview can be found [here](#)). We recommend consulting the full guidelines when designing research studies and before submission. These guidelines apply to studies involving humans, vertebrate animals and cell lines.

Authors should use the terms sex (biological attribute) and gender (shaped by social and cultural circumstances) carefully in order to avoid confusing both terms.

**Working definitions (adopted/adapted from the SAGER guidelines and other sources).** Sex — refers to currently understood biological differences between females and males, including chromosomes, sex organs, and endogenous hormonal profiles. Sex is usually categorized as female or male, although there is variation in the biological attributes that constitute sex.

Gender — refers to socially constructed and enacted roles and behaviours which occur in a historical and cultural context and vary across societies and over time. Gender is usually incorrectly conceptualized as a binary (man / woman or feminine/masculine) factor. In reality, there is a spectrum of gender identities and expressions defining how individuals identify themselves and express their gender

Gender identity — an individual’s conception of self as being a man, woman, masculine, feminine, nonbinary, ambivalent, etc., based in part on physical, psychological and social factors. It is the internal experience of a gender role. There is a broad range of gender identities including, but not limited to, transgender, gender-queer, gender-fluid, non-binary, gender-variant, genderless, agender, nongender, bi-gender, trans man, trans woman, trans masculine, trans feminine and cisgender

Gender presentation — how a person publicly expresses or presents their gender identity. This can include behaviour and outward appearance such as dress, hair, make-up, body language and voice. A person’s chosen name and pronouns are also common ways of expressing gender. Others perceive a person’s gender through these attributes. Another term is ‘gender expression’.

‘Gender’ refers to a set of cultural norms and expectations and not a ‘biologically defined variable’. Such norms are not fixed but evolve across time and space. As such, definitions will require frequent revisiting, as the exercise of defining gender (and sexuality) is under constant flux and evolution, as is the area of study in itself.

Researchers are encouraged to promote equality between men and women in their academic research, which by nature should be grounded on the recognition of merit, competences and creativity, regardless of any other personal attributes or orientation.

Sexist, misogynistic and/or anti-LGBTQ+ content is ethically objectionable. Regardless of content type (research, review or opinion) and, for research, regardless of whether a research project was reviewed and approved by

appropriate ethics specialists, editors may raise with the authors concerns regarding potentially sexist, misogynistic, and/or anti-LGBTQ+ assumptions, implications or speech in their submission; engage external ethics experts to provide input on such issues as part of the peer review process; or request modifications to (or correct or otherwise amend post-publication), and in severe cases refuse publication of (or retract post-publication) sexist, misogynistic, and/or anti-LGBTQ+ content, using the guiding criteria I–IV in the section *Research on human populations* (see above). □

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