

Annex 1: differences between research ethics and research integrity/misconduct

	Research ethics	Research integrity and misconduct	Reference(s)
Regulations	Regulations guiding research ethics for example the Nuremburg code, Declaration of Helsinki from which guidelines have been developed	Sources guiding research integrity include: professional codes, institutional regulations, government legislation, personal values, and responsibilities.	Braun <i>et al.</i> , 2020
Purpose/duty	Ensures: <ul style="list-style-type: none"> • The research is justifiable • The benefits outweigh the risks • Sound methodology • Participants are well protected • Minimize exploitation of research participants 	Ensures: <ul style="list-style-type: none"> • The research is reliable and objective • Impartiality and independence • Openness and honesty in analysis and reporting results • Upholding of duty of care to participants and colleagues • Transparency in declaring funding sources • Fairness in attributing authorship • Ownership of ideas and intellectual property 	Koocher and Keith-Spiegel, 2010
Core considerations	<ul style="list-style-type: none"> • Healthy collaborative partnerships • Social value • Research is scientifically valid • Subject select should be fair • Favourable risk benefit ratio • Informed consent • Protocol goes through an independent review • Obtain informed consent 	<ul style="list-style-type: none"> • Honesty • Rigour • Transparency and open communication • Care and respect for all participants and subjects of research • Accountability • Professional courtesy and fairness • Good stewardship 	Emanuel <i>et al.</i> , 2004; Singapore statement on research integrity, Marušić, 2010.
When research evaluation is done	Research projects are ethically evaluated and approved by the Institutional Review Board (IRB) and/or relevant research committees before research can begin.	Already performed research is evaluated and alleged cases of misconduct are handled (retrospective).	Braun <i>et al.</i> , 2020

<p>Main themes dealt with</p>	<ul style="list-style-type: none"> • Informed consent: permission given by participant after they have been given all necessary information about the research. Information about study rationale, benefits to the participant and their communities, risks, study length, result dissemination plans, and implication of results must be communicated. • Justice. • Beneficence and non-maleficence. • Confidentiality: participant identity and identifying information is only known by the researcher and all data must be anonymized. • Anonymity: Identity of participant is concealed from both the researcher and the reader. • Privacy: the right of an individual to keep their information from being disclosed. Researcher enters an agreement with participant not to disclose the participant's information. • Pseudonymisation: replacing any identifying data characteristics with a pseudonym. Giving the participant another identifier but he can still be identifiable to particular groups. • Privileged communication: communication between the researcher and the participant that the information remains confidential and is protected by a judicial system unless the right is waived by the individual. 	<ul style="list-style-type: none"> • Open communication: openness and collegiality in interactions with other researchers. • Fairness: acknowledge the contribution of others to your work. • Honesty. • Reliability. • Rigor. • Accountability. • Objectiveness. • Respect. <p>On the other side of the research integrity spectrum is research misconduct.</p> <p>Core research misconduct:</p> <ul style="list-style-type: none"> • Fabrication: making data up. • Falsification: manipulating and distorting data to make it completely different from the results that would have otherwise been reached with the correct data. • Plagiarism: appropriation of another individual's ideas, research, results, or words without giving appropriate credit to them. <p>Research practice misconduct:</p> <ul style="list-style-type: none"> • Violation of human rights • Dangerous research <p>Data related misconduct</p> <ul style="list-style-type: none"> • Failure to preserve primary data • Withholding data that could be beneficial to the population studied. <p>Publication related misconduct:</p> <ul style="list-style-type: none"> • Denying authorship, refuse to acknowledge someone who participated in the study • Undeserved authorship, giving credit and authorship to someone who was not involved in the study. • Publication proliferation, publishing same data and results in different journals. 	<p>Komić <i>et al.</i>, 2015; Yi <i>et al.</i>, 2019; Carling, 2019</p>
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