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Ethics and Integrity in Research: Why Bridging the Gap Between Ethics and Integrity Matters

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Abstract

Ethics and integrity should be intertwined within the concept of Responsible Research. Integrity Officers should also be Ethics Officers, enforcing compliance with rules and norms, but also raising awareness on the meaning of ethics in researchers' daily work. Paul Ricoeur's definition of Ethics – "the aim of living a good life with and for others in just institutions" (Ricoeur in Oneself as Another. University of Chicago Press, 1994) –, points out the relational dimension of Ethics that matters to all the stakeholders in scientific research. The dialogical interaction between Ethics and Integrity can help to prevent researchers from assuming self-regulation as the only possible path to be followed. In this paper, the challenges and the opportunities posed by this approach will be outlined and discussed, mainly, the challenges of building trust bottom up, while setting up restrictions to comply with rules and norms top down. Concerning the opportunities, the focus will be on making better science and building a solid network among the various stakeholders of the research system.

Keywords Ethics · Integrity · Training · Self-regulation · Hetero-regulation

Introduction

Responsible research needs to set up a dialogical interaction between ethics and integrity. Based on the definition of ethics by Paul Ricoeur – "the aim of living a good life with and for others in just institutions" (Ricoeur, 1994) –, we argue that Integrity Officers should also be Ethics Officers, training researchers and raising their awareness on the role of Ethics & Integrity together. Only then can they grasp the meaning of good science, i.e. responsible and sustainable science. Only by addressing ethics and integrity together, can self-regulation be balanced with the highly important hetero-regulation of science.

Considering that ethics in research refers to the ethical fundaments of the relations among the different stakeholders, while integrity covers the procedural dimension of research, we propose that Integrity Officers should also be Ethics Officers, highlighting

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their role in researchers' training in responsible research (which covers both relational and procedural issues).

We argue that the division between ethics and integrity as two subfields of Responsible Conduct in Research, as advocated by Steneck (2006), is important, but only if it is viewed as deeply intertwined:

> The different role moral principles and professional standards play in research is important enough to justify dividing the study of professional research behavior into two subfields: research behavior measured in terms of and guided by moral principles versus research behavior measured in terms of and guided by professional standards. The former reasonably falls under research ethics (RE) and can be defined as the critical study of the moral problems associated with or that arise in the course of pursuing research. The latter falls under what the Office of Research Integrity (ORI) has called "research on research integrity" (RRI), where research integrity (RI) is defined as possessing and steadfastly adhering to professional standards, as outlined by professional organizations, research institutions and, when relevant, the government and public. (Steneck, 2006, p. 56)

Without reflection on the meaning of professional standards and how they relate to each individual researcher, norms and guidelines will fall short of their purpose. Moreover, it is highly important to address the role of mentors and institutional environment in fostering research integrity:

> Research mentors, laboratory directors, department heads, and senior faculty are responsible for defining, explaining, exemplifying, and requiring adherence to the value systems of their institutions. Administrative officials within the research institution also bear responsibility for ensuring that good scientific practices are observed in units of appropriate jurisdiction and that balanced reward systems appropriately recognize research quality, integrity, teaching and mentorship. (Steneck, 2006, p. 67)

Based on the example of a training model designed at a Portuguese Research Performing Organizations in the field of Health Sciences, we will discuss the challenges and the opportunities posed by an approach that integrates Ethics and Integrity of the research in policy and training. We will focus on three main challenges/opportunities: the need to build trust from a bottom-up approach to research ethics & integrity, while issuing integrity documents that impose top-down norms; the demand for networking among different stakeholders of the research ecosystem; and the promotion of good scientific practices with and for society.

Research Ethics and Integrity: Promoting Good Practices and Doing Good Science with and for Society

In 2019 the Portuguese National Council of Ethics for Life Sciences (*CNECV*) pointed out the need for a national framework for Portugal (Report on Portugal related to the National Research Integrity Landscape, published on the webpage of *The European Network of Research Integrity Officers* (ENRIO).

The national framework could set up the basis for research institutions to adhere actively to the ethical principles of the *European Code of Conduct for Research Integrity* (ALLEA, 2023) and to set up a common ground for research integrity after

consulting the main national stakeholders. Research institutions could then "(a) establish objective, transparent and clear procedural rules (b) monitor procedures (c) offer training, and (d) foster an institutional culture in which the aforementioned could be achieved" (ENRIO, 2019). The national framework for research integrity, as all national and international norms and guidelines, would need to address the issue of complexity, as well as the issue of individual interpretation of terms and concepts. According to Fanelli (2019), hard and soft sciences differ in two important dimensions:

> Complexity: moving across research fields from the physical to the social sciences, subject matters go from being simple and general to being complex and particular. This increase in complexity corresponds, intuitively, to an increase in the systems' number of relevant variables and the intricacy of their interactions.
> (…) Consensus: moving across research fields from the physical to the social sciences, there is a decline in the ability of scientists to reach agreement on the relevance of findings, on the correct methodologies to use, even on the relevant research questions to ask, and therefore ultimately on the validity of any particular theory. (Fanelli, 2019, pp. 65-66)

One of the relevant tasks of research integrity officers is to clarify the meaning of terms and concepts, which can be quite challenging. Currently we are faced with the replacement of objects with information (Undinge" (Han, 2021)), as if all living beings were information systems and communication could be restricted to an exchange of bits of information. To live in and with complexity, reductionism needs to be challenged. *Normosis* (the pathology of modernity, Weil et al., 2017) and binary thinking must be revisited and questioned by researchers. Setting up safe spaces for ethical reflection can be a good opportunity to promote critical and ethical thinking, Challenging assumptions and contexts implies critical revision of knowledge, self and the world as well as a multilayered approach to integrity issues and training, focused not only on knowing *what do do* and *how to think*, but also on knowing *how to be*.

According to The European Network for Academic Integrity (ENAI), the concept of integrity is defined as "integrity with ethical and professional principles, standards, practices and consistent system of values that serves as guidance for making decisions and taking actions" (Glossary for Academic Integrity in English, Tauginienė et al., 2018). Active adherence to values and principles also requires looking into the context of individuals and of research performing organizations. The *Code of Conduct for Scientific Integrity* issued by the Swiss Academies of Arts and Sciences (2021) reminds us that context matters and is one of the factors that contribute to the complexity of the research system. It is in each institutional and individual contexts that the idea of wholeness, of the untouchable, of completeness, is embedded: "scientific integrity is based on the observance of fundamental principles and their many different contextual actualizations. These principles guide scientists in their research and teaching and help them to deal with the practical, ethical, and intellectual challenges they are likely to encounter"(p. 15).

This definition appeals more to the researchers with whom we have interacted, since it provides a multilayered perspective of a concept that is quite often seen as a surface without depth. If we think of Integrity as wholeness, unit, coherence and essence, it is important to see the dimensions that coexist in research:

1. <u>The ethical dimension</u> – aiming at good life, with and for the others, in just institutions. This dimension is rooted in the relationship between Oneself and Other, requiring reflection on one's own and other's actions, based on values that justify one's own preferences.
2. <u>The moral dimension</u> – the norms that guide one's actions within a certain cultural context, that are passed on from one generation to another, focusing on procedures, on how to act, and not necessarily on the reasons justifying the right conduct.
3. <u>Procedural / Self-regulatory</u> –the codes of conduct and the guidelines on responsible research can be perceived as the path for the self-regulation of the community of researchers, without external/social control. The increase of regulation on research integrity, which is positive in itself, can lead to the erosion of ethics, shifting the focus from agency and behavior to procedures.

The concept of integrity can thus be interpreted from two different and complementary perspectives:

- from an ontological perspective, as the characteristic of our human condition, aiming to be a unified identity, a whole sum of bio-psycho-social-cultural-spiritual characteristics, underlined by one's own narrative;
- from an epistemological perspective, as the knowledge on the value of Integrity and on the different approaches to its fulfillment: deontological, consequentialist, virtue-based, deliberative.

Integrity officers are required to be aware of these different meanings and approaches whenever they provide training, act as conflict mediators or contribute to the issuing of policy documents in their institutions. Their work must be implemented under what we call the three R's of research: responsibility, respect and reciprocity.

What Really Matters to Researchers: A Plea for Listening

Unpredictability and uncertainty may make it more difficult to find the right decision and the best course of action. Researchers' personal experience of ethical and integrity issues are embedded within social and academic contexts, making decision making more complex. *Phronesis*, as the knowledge that gives direction to action in a concrete situation and requires deliberation, should be trained in research performing organizations by providing safe spaces for ethical reflection, stimulating reflection on <u>who one is</u> and <u>not only what one knows or does</u>:

> Phronetic knowledge describes an inward state of professionalism – it is something practitioners are, not what they have or do. This can only come about through critical self-reflection – making an honest assessment of strengths, limitations and professional motivation. Finally, *phronesis* is the ability to act in the concrete situation, which involves engagement with real cases and interaction with peers and other professionals. It cannot be done theoretically, it can't even be prepared for, because it is action in a new situation. (Tyreman, 2000, p.121)

Phronesis, practical wisdom, can only be enacted by promoting trial by error opportunities as well as narrative friendly settings. Revisiting Ricoeur's definition of ethics mentioned before, we believe that policy makers and ethics/integrity bodies are required to

integrate the meaning of goodness and justice into their deliberative and decisional making procedures. From the macro to the micro level, from the abstract norms and generalizable scientific knowledge to the unique and singular narrative, integrity in research can only be meaningful if it addresses what really matters to each individual researcher.

It is only when research integrity officers regularly interact with researchers, instead of restricting these interactions to conflict situations or to policy making, it is only then that they can actually see the layers and get to know the integrity/ethics issues that are a matter of concern for real life scientists. In the first two editions of the course in Research Ethics & Integrity at a Portuguese research performing organization, open to in house and external researchers, participants (from different career levels) were asked to share their perspectives on the following prompt: *Provide up to three examples of breaches of research ethics/integrity you have already experienced or heard about.* According to the answers provided to the prompt, the research misconduct practices that were mostly mentioned were:

- poor supervision
- chasing after good results
- doing research to publish, instead of publishing because one does research
- conflicts of interest
- lack of compliance with GDPR;
- plagiarism
- lack of collaborative work
- not sharing research results
- lack of compromise with assumed responsibility
- not publishing negative results
- lack of confidentiality and lack of respect for the other's autonomy
- lack of balance between professional/personal life

Almost all of the eighty researchers participating in the two editions of the course in research ethics/integrity pointed out that authorship issues negatively affect their professional life, having had to include people in the author list who had not contributed to the paper. It was argued that the inclusion of gift authors was due to previous negotiations between the PI and third parties, without informing the team. More than half of the researchers considered that the pressure to publish contributes to biases in data analysis and in the reporting of results, making them, sometimes, state conclusions that go beyond what the results would allow them to do. What these narratives reveal is that for the researchers participating in the two editions of the ethics and integrity course, the field of responsible research is perceived as multilayered, with ethical, moral and procedural dimensions. Apart from the prompts provided to guide self-reflection on individual and personal experience, fictional scenarios were also used as input for thinking <u>about</u> and thinking <u>with</u> ethical and integrity issues. The concept of thinking *about and with* ethics is inspired by the concept of thinking *about* and *with* stories proposed by Morris (2001, p. 55):

> Thinking with stories is meant to oppose and modify (not replace) the institutionalized Western practice of thinking about stories. Thinking about stories conceives of narrative as an object. Thinker and object of thought are at least theoretically distinct. Thinking with stories is a process in which we as thinkers do not so much work on narrative as take the radical step back, almost a return to childhood experience, of allowing narrative to work on us.

By using the third person of fictional case studies and movies, ethics and integrity issues are open the path for sharing ideas and clarifying doubts. Imaginary scenarios take away the burden of moral judgments as well as the fear of retaliation for speaking up. The Dilemma Game produced by the Virt2UE project, Embassy for Good Science, the videos and cartoons included in the pedagogical materials issued by the Integrity Project are good examples of tools available for reflecting upon "fictional" narratives. Following the script for reflective writing provided by Charon et al. (2016), researchers were invited to:

- Read/Watch closely the plots presented in written and visual support. According to Charon et al. (2016, p. 4), "until a perception is captured in a representation, it is evanescent and unavailable for consideration by the perceiver and others. But, once form has been conferred on it—written, sculpted, painted, photographed, dramatized—the "immaterial" thing becomes "material" and can be communicated to oneself and to others." In the case of narratives or movie scenes, the items that are highlighted during this interpretative process are (Charon et al., p. 9):

  - *"Observation: Details, descriptions, sensory aspects of the scenes.*
  - *Perspective: Were multiple perspectives represented, explored, guessed at? How were these perspectives conveyed?*
  - *Form: What is the genre—story, cartoon, screenplay, parable, cautionary tale, black comedy? Notice any use of metaphor or imagery. Describe the temporal structure of the text/video—are events told in chronological order, in reverse, in chaotic sequence?*
  - *Voice: Whose voice tells the story? Is the narrative told in a first-person, second-person, or third-person voice?*
  - *Mood: What is the mood of the text? What mood does it leave you in?*
  - *Motion: Does the story bring you somewhere in its course?*" – Identify the ethical/integrity issues; comment on courses of action chosen by the characters and deliberate on what they themselves would have done if they were in that particular situation;

Based on the previous items, participants were requested to relate their own interpretation to the European Code of Conduct for Research Integrity (ALLEA), identifying intersections and gaps. They were also invited to articulate their own reflections with the policy documents available at their own institutions regarding responsible conduct in research. As this process took place, there was a movement from the fictional context to the real daily life in the lab and from guidelines and norms to ethical decisions made in their own context.

Whistleblowers Protection from Legal and Ethical Perspectives: Harassment and Retaliation

Poor supervision and lab bullying are also one of the most mentioned ethical issue in the reflective activity previously mentioned, with some researchers underlining the experience of retaliation following a speaking up situation: for example, lack of personal investment by the PI; negative inter personal relationships, bad environment, no support for career progression. Guidelines and norms have been issued covering the various dimensions of integrity in research, namely the Singapore Statement (2011), the Montreal Statement (2013), the Hong Kong Principles (2019) and the revised European Code of Conduct for Research

Integrity (2023). Many authors have been discussing the threats to research quality, including highly competitive system, publish or perish dictate, poor mentoring/supervision and an assessment system based on metrics, which can lead to ethical disengagement strategies. However, writing about unethical conduct does not mean that integrity will be put back at the core of the system. The meaning of integrity for the different stakeholders in research is not homogeneous, since one's own experience, training and work environment make a difference. Bearing in mind the challenges and the opportunities that Integrity Officers currently face, we argue that without transversal life-long training in ethics & integrity, integrity officers will hardly achieve their aims.

Tackling the problem of **the reproducibility crisis** by promoting sound methodology and better peer reviews is important but it is not enough. First, we need to address the meaning of good science and good researcher and set up a framework based on responsibility rather than on integrity. The Portuguese reproducibility network that is currently being set up can make the difference by providing not only a network of resources to be implemented in our research institutions, but also by raising awareness of the importance of promoting safe spaces for individual and group reflection **on the ethical meaning of doing research with integrity**.

The recent Law 93/2021 on whistleblower protection, which requires the creation or adaptation of internal whistleblowing channels in organizations with 50 or more employees, has definitely made the topic of retaliation emerge, not only as a integrity issue but above all as an issue in the area of ethics in all kind of organizations. In fact, it is not enough to implement an efficient channel for whistleblowing, even if in complete regulatory integrity. Something much more difficult is needed, it is necessary (to know) to identify the risk of retaliation, to which is now added, by legal means, the risk of external report, in case the whistleblower considers that there is, among others, the risk of internal retaliation. Retaliation has been, and continues to be, a source of concern, globally, even in organizations with effective ethical performance management and reporting systems.

In the Portuguese Act No. 93/2021, retaliation is defined as the act or omission (including threats and attempts) that, directly or indirectly, occurring in a professional context and motivated by an internal or external whistleblowing or public disclosure, causes or may cause the whistleblower, in an unjustified manner, to suffer material or non-material damage. According to the *Global Business Ethics Survey* (2023), the levels of retaliation have remained unchanged compared to the results of 2021, which does not necessarily mean good news: "Retaliation remains at an all-time high, with almost half of employees globally (46%) indicating that they experienced retribution for reporting observed misconduct. (…) Retaliation, as perceived by employees when they report wrongdoing, is one of the most intractable obstacles to achieving higher reporting levels and reducing risk for an organization. The current retaliation rate is of major concern because of its silencing effect within an organization, which tends to precede the erosion of culture" (p. 7). In another study, carried out by Garrick and Buck (2020), based on in-depth interviews with 72 former whistleblowers, some traumatic effects of whistleblowing are highlighted: marginalisation (78% definitively felt), gaslighting (49% were sure of it), shunning (96% felt alienated from or ignored by others at least some of the time) and devaluation (60%), namely with lower performance evaluations and denial of promotions. (pp. 82, 83, 84, 85)

Each person may perceive witness or feel retaliation in very different ways, regardless of whether they report it or not. It is therefore crucial to go deeper, to make known what is happening inside of us, to promote the experience of narrating and being listened to, feeling that narratives count. The norms and protocols focused on the construction of an ethical environment need to be reviewed so that they can be effectively integrated in the

professional routine. Narrative requires openness to change, curiosity, the ability to move forward and backward in the plot in order to grasp the meaning of the story as a whole.

The costs to society related to unethical behavior at work, specially harassment and retaliation, include hospitalizations, prescription of medication, sick leave and disability (permanent or periodic), but also unemployment and early retirement. According to Kenny et al. (2019, p. 804), "retaliatory tactics can lead to anxiety and feelings of isolation (Bjørkelo, 2013) and in some cases suicidal feelings (Lennane, 1993). These negative mental health symptoms appear following disclosures, with many whistleblowers described as previously 'high-achieving, respected' and committed employees (Rothschild, 2013, p. 653)."

There is still a fundamental question, without an obvious answer, and which requires a dialogic approach between ethics and integrity, mainly, how to define the frontier between stress and harassment at work. The difficulty is such that some even call it "the chicken and the egg dilemma":

> The management of stress in mobbing proceedings creates considerable legal uncertainty for the employer. At the same time, it does not offer the employee a protective mechanism as effective as that of harassment. The combination of the two opens up an avenue for action that remains to be explored in future research. (Deharo & Point, 2017, p. 50).

There are effectively many grey areas, i.e. situations that may be unethical, undesirable or uncomfortable, but which are not serious enough to configure a legal action or a report. A healthy conflict is based on a problem related to collaborative tasks, framed by clearly defined roles, in healthy organizational contexts, in which there is room for open discussions, transparent communication and seeking resolution of occasional confrontations. Harassment situations usually occur in contexts of unclear role allocation and lack of collaborative spirit and supervision, framed by unhealthy organizational environment, characterized by evasive communication and the preservation of unethical behaviour in the light of pathological normalcy. There are many examples of what may be perceived as moral harassment, namely (ACM, pp. 8-9):

– Persistently undervaluing the work of colleagues or hierarchical subordinates;
– Fostering social isolation of co-workers or subordinates;
– Directly or indirectly using physical or psychological characteristics to humiliate co-workers or subordinates;
– Repeatedly threatening to fire subordinates;
– Systematically define aims impossible to achieve or setting deadlines that are not feasible;
– Recurrently assigning functions that are not compatible or adequate to the professional category;
– Leaving the worker without any functions;
– Using others' ideas, projects and work without identifying the author.

Given all these ethical and legal issues present in various contexts, it is often claimed by (mainly young) researchers that moral harassment and retaliation have not been seriously considered in research performing organizations, as if they were immune to this kind of problem.

Conclusion

Ethics and Integrity should be integrated in the drafting of policy documents and in the design of training in responsible conduct in research. The integration of these two dimensions can prevent researchers and the scientific system from adopting an exclusively procedural and self-regulated approach, which does not serve good science, i.e., science that ensures the goodness of its aims and impacts. Normative action can be perceived as repressive when dictated exclusively by law without a prior ethical consensus; but once this is achieved through a dialogic approach, both in policy drafting and in training, law can provide security to the researcher and confidence to society.

The revised edition of the European Code of Conduct for Research Integrity (2023) reminds the academy and the research environment that organizations play a key role in the prevention and detection of unethical behavior:

> "Research institutions and organizations actively support researchers who receive threats and protect bona fide whistleblowers, taking into account that early career and short-term employed researchers may be particularly vulnerable; Institutions protect the rights of bona fide whistle-blowers during investigations and ensure that their career prospects are not endangered." (pp. 6; 11)

Assuming self-regulation as the desirable path – "the primary purpose of this European Code of Conduct is to help realize this responsibility and to serve the research community as a framework for self-regulation" –, it states the importance of all stakeholders in the implementation of good research practices, upholding the principles that underpin them. Self-regulation may fall short of ensuring the responsibility of the all the actors in the research system. History has revealed the need for hetero-regulation within an interdisciplinary environment, which would serve better the need for sustainable, ethical and compliant science. We therefore consider that only within a top-down and bottom-up dialogic approach can ethics and integrity in research be meaningful to each individual scientist, making changes in the daily actions and attitudes and building up a different system. The aim is to raise scientists' awareness and promote their accountability for the strong and broad impact of their work, respecting high standards of scientific integrity that researchers themselves have been setting.

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Declarations

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