



The Ethical Implications of Research, Measures Taken to Ensure Ethical Practices in Research, and Inspiration of Trust in Science*:

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*= (Some parts of the presentation have been borrowed from Dr. Rich Eva's presentation delivered at the PreMiEr-SEI Workshop).



Ethics, Character, and Actions:

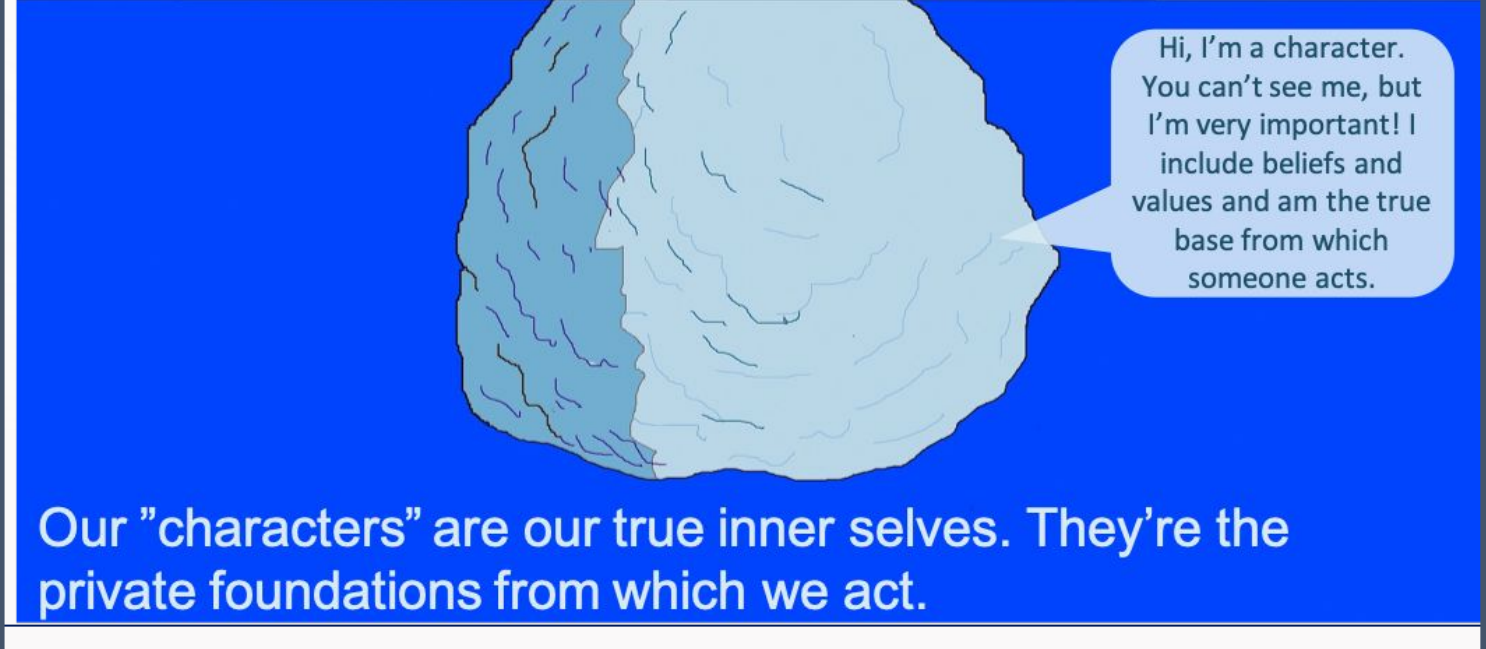
- **Ethics:** What you do when no one is watching; shaped by morals + social norms
- **Character:** Built by consistent habits and actions; shaped in community settings
 - “Character is what goes on beneath the surface and our action is what everyone else can see. However, it was what was below the surface that sank the Titanic, and thus, good character gives rise to good actions.” -Dr. Rich Eva, the lead of the Character Forward Initiative and Professor at the Duke Pratt School of Engineering (more on this on next slide)
- **Actions:** Visible choices/behaviors, may or may not reflect true character

Ethics, Character, and Actions Continued:

Our "personalities" are what we show the world



Hi, I'm a personality - I'm just a tiny part of the whole picture of who a person is!



Hi, I'm a character. You can't see me, but I'm very important! I include beliefs and values and am the true base from which someone acts.

Our "characters" are our true inner selves. They're the private foundations from which we act.

How You Can Conduct Your Research Ethically, and the Importance of Ethics in Research:

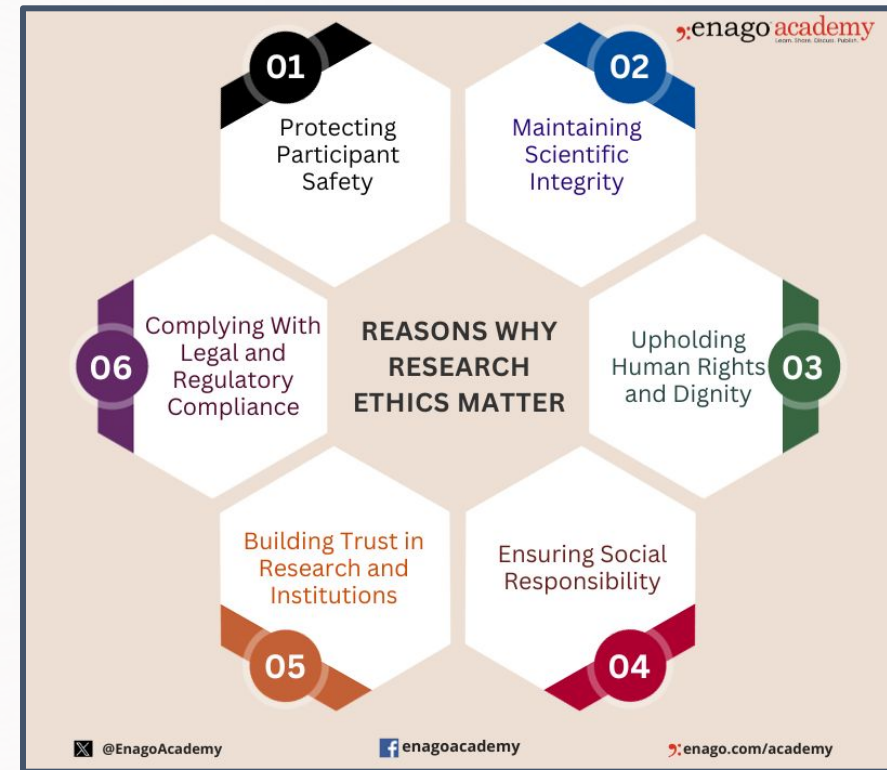
- Prevents harm & exploitation of test subjects and communities
- Builds and maintains **public trust** in science and innovation
- Ethical research = credible, reliable, and beneficial outcomes
- Asking **leading** (introducing subtle bias, for example, asking someone “Don’t you find this feature user-friendly?”) and **loaded** questions (introducing evident bias, for example, asking someone “How amazing is the user-friendliness of this feature?”) may also persuade individuals to join potentially dangerous research studies/ trials that they may not have previously wanted to join, resulting in such questions being indirectly unethical.

Leading vs. loaded questions

Criteria	Leading Question	Loaded Question
Intent	Guides towards a specific response	Provokes a predetermined answer
Bias	Introduces subtle bias	Imposes evident bias
Example	“Don’t you find this feature user-friendly?”	“How amazing is the user-friendliness of this feature?”
Impact on Research	May influence participant responses	Can significantly distort research outcomes

How You Can Conduct Your Research Ethically, and the Importance of Ethics in Research Continued:

- Ensure **informed consent** and treat participants with **respect**
- No direct/ indirect advancement of **eugenics** or discrimination
- Be transparent about **risks**, maintain fairness and equality



Ethical implications of that research, and the importance of considering those ethical implications:

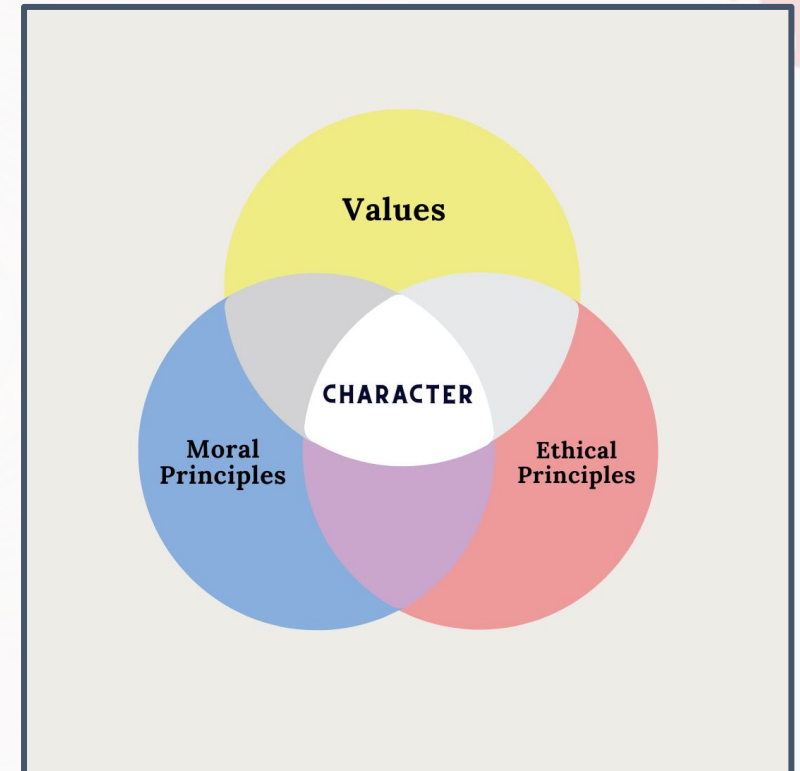


- Considering implications promotes **honesty** and **integrity**
- Encourages public involvement in **policy and accountability**
- Helps prevent misuse (e.g. CRISPR: disease cure vs. designer babies)
- Addresses real concerns like **data privacy, inequity**, etc.



The importance of Character:

- Reflection = recognition of harmful patterns → growth
- Strong character balances **moral principles** with **compassion**
- Real character = flexibility + empathy + authenticity
- Additionally, it is important to consider your moral compass in the context of a situation (example of why this is important on next slide)



The importance of Character and the application of Character to Research Continued: Consider the Following Scenarios

I close with a pair of true anecdotes that together, I hope, provide a parable about what ethics has achieved in the past twenty-five years. Both episodes occurred in hospitals. In each case I was present as an observer. The first episode occurred in 1970 in the bad old days before ethics had had its impact. A nurse was holding out a pen and a consent form, while shouting at a deaf, elderly woman who was due to have a surgical operation the next morning: "You have to sign this paper, dear, or we can't do your operation tomorrow." The woman replied "Please, let me read it through before I sign it." The nurse replied "You are just wasting my time, dear. I can't wait around while you take your time reading. Sign it!" She did.

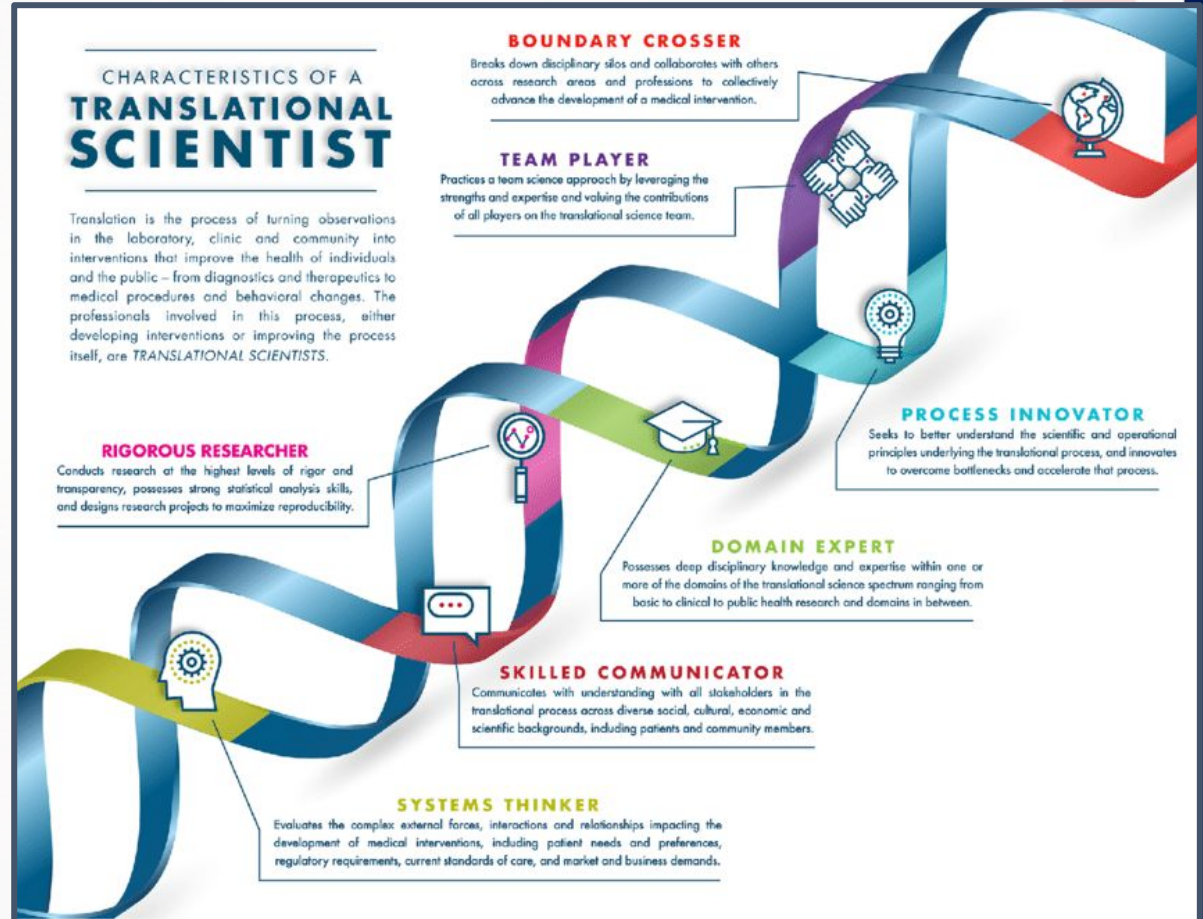
The second episode occurred in the 1980's after the introduction of an enlightened ethics of informed consent. It too involved a nurse and a woman patient due to have an operation. This time the nurse, who had just awakened the patient, began: "Here is an informed consent form for your operation, dear. I am going to go through it with you paragraph by paragraph and, when I am sure that you have understood it all, you will have to decide whether to sign it." The patient replied: "Nurse, I am in a good deal of pain and I am feeling extremely ill. Please let me sign it immediately and then try to get back to sleep." To which the nurse responded: "No, that would be wrong. Please attend closely to the wording of each paragraph, so that I can explain anything that you do not understand." Patient: "I don't want to understand. I want to get to sleep." Nurse: "I have my duty to do, whether you like it or not."

Scenario 1

Scenario 2

How your character traits will help you in your research:

- **Honesty** → builds credibility & public trust
- **Dedication** → helps overcome challenges in research
- **Innovation** → enables creative, interdisciplinary solutions
- **Humility** → promotes learning from mistakes & improving design



How your research helps shape and strengthen your character:

Research fosters:

- **Empathy** (through working with living subjects)
- **Critical thinking** (through evaluating multiple perspectives)
- **Self-awareness** (through repeated design evaluation → personal reflection)



Careerism and the two philosophies regarding ethics and work:

- **Aristotle:** Contentment (via wealth/material goods) → good character
 - Risk: If wealth is gained unethically, true character is compromised
- **Plato:** Ethical living is **the reward itself** — morality > material success
- **Both philosophers** linked happiness with being a good person
- **Careerism** today stifles curiosity, creativity, & ethics
 - Fear of failure limits innovation, risks, and ethical reflection
 - Ex) Katalin Karikó



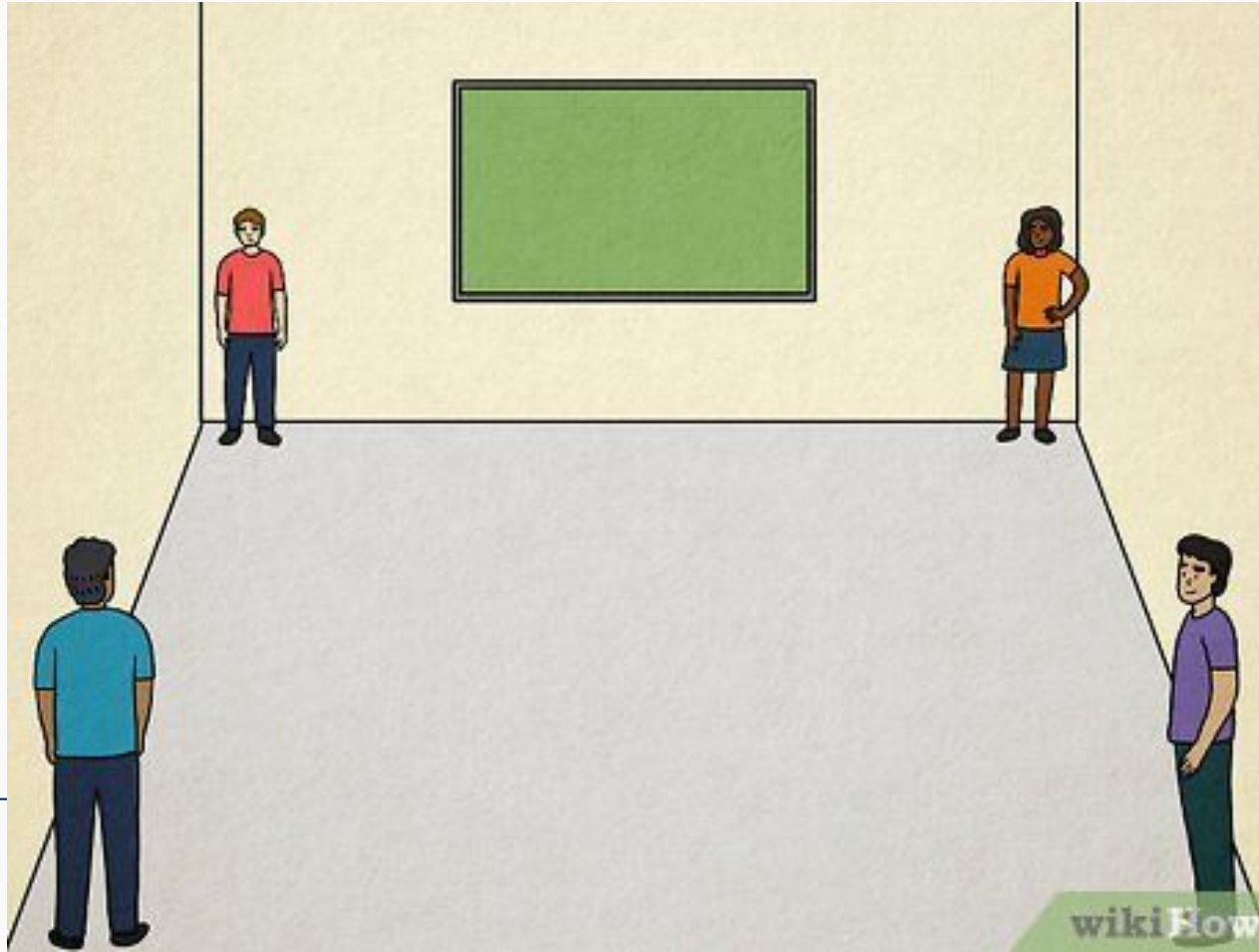
Tying everything together:

- Ethics inspire **public trust** and **policy development**
- Historical injustices (e.g., medical racism) create **mistrust**
- Acknowledge implications to avoid harm and regain trust
- True character and ethical commitment ensure science serves **all people equitably**



Activity!

Four Corners



1) You are considering joining a drug trial. To aid in making your decision, you ask your friend (who also happens to be one of the lead researchers for the trial you're interested in joining) to tell you more about the trial. She says "It will be a wonderful experience! How do you like the amazing benefits the trial offers to its participants? And solely based on looking at those benefits, how come you haven't decided to join yet?"

- a) **True or False? The following is an example of a leading question, which is ethically incorrect to use as it may lead to persuasion of an individual (previously considering avoiding partaking in the study) to join a potentially dangerous drug trial:**

False! This is an example of a **loaded question**, as it introduces evident bias in her questions.

2) What is Informed Consent?

- a) Informed consent is a legal process by which patients or participants of a study are provided with all necessary information (such as details about procedures, treatments, research participation, risks/ benefits/ alternatives to the study or trial, etc.) to eventually help inform a decision on whether or not those individuals want to sign an official consent form to officially be a part of the trial or study, ensuring the ethical “induction” of individuals.
- a) Informed consent is a legal process by which patients are enrolled in a trial or study and are remunerated for their time and participation. They may be provided some information about the trial being conducted but the risks/ benefits may not be discussed.
- a) Informed consent is a way in which research trials and studies solicit participants and there is no legal obligation to disclose or release information about previous trials’ success or failure or incurred risks/ side effects in participants before obtaining the said consent.
- a) Medical physicians or medical health professionals can consent on behalf of their patients.

The correct answer is “A”.

3) True or False: Once a research trial has started, the participant cannot change their minds and request the researchers to exit the trial because that would reduce the intended sample size of the researchers' experiment, thereby skewing the results of the trial. Thus, scientists have the right to persuade these hesitant participants to stay, so as to avoid the potential skewing of data.

This is **false**. Anytime over the course (or before) a research trial has begun, all participants have the option to leave the moment they begin to feel uncomfortable (or for any other reason), and it is unethical for researchers to try and persuade those participants to stay and continue when the participants are weary or may be worried about/ may be feeling adverse side-effects via the study/ trial.

This Presentation was created in hopes to inform on the topic of Research Ethics.

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Thank You!

Questions? Comments?

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