Human Subjects in Research

History is replete with stories of successful research involving human subjects, but there are also horrific stories that demonstrate unethical practices. The following are examples of human subjects used as research that led to the formulation of regulations and codes of ethics to protect participants:

- **Unit 731**
  - This was a Japanese military unit that was designed to conduct medical experiments on prisoners of war and Chinese women and children. The researchers were physicians who conducted experiments on bacterial inoculation, induction of epidemics, human vivisection, dismemberment, and a host of other brutal procedures. These were conducted without the consent of the human subjects.

- **Nazi concentration camp experimentation**
  - These experiments caused thousands of human subjects to suffer and die and inevitably led to the indictment of 23 physicians for war crimes. This example is often cited as the reason that regulations regarding the protection of human subjects should be mandatory.

- **British mustard gas experiments**
  - These experiments were designed to examine the different effects of exposure to mustard gas. The effects were tested on the British soldiers' skin as opposed to the skin of Indian soldiers.

- **Guatemalan sexually transmitted disease study**
  - In the 1940s, there were numerous Guatemalan mental patients who were infected with sexually transmitted diseases. This was a collaborative effort between scientific researchers from the United States Public Health Service and the Guatemalan government. The human subjects were injected with gonorrhea and syphilis, and many of them were encouraged to pass the disease along to others. The Obama administration recently apologized for the role that the United States played in these experiments.

- **Tuskegee syphilis experiment**
  - This is one of the most infamous cases from the United States. Poor, rural black men who had previously contracted syphilis were enrolled in the study designed to determine the progression of the disease. They were never told they had syphilis, nor were they treated for it (even though penicillin was discovered to be effective halfway through the study).
Researchers only documented the progression of the disease. The following outcomes resulted from this experiment:

- 399 men were used as subjects
- 28 died of syphilis
- 100 died of related complications
- 40 of the subjects' wives were infected with syphilis
- 19 of the subject's children were born with congenital syphilis

- **The Milgram experiment**
  - This experiment used an authority figure to administer electric shock to unaware human subjects if study questions were not answered correctly. Many of the participants were traumatized as the researchers discovered that they were capable of administering electric shocks up to the lethal level of 450 volts.

- **The Stanford prison experiment**
  - This experiment recruited subjects who were either prison guards or prisoners. Many participants became violent and abusive toward each other.

- **The Monster Study**
  - This study was conducted at the University of Iowa; its subjects were 22 orphaned children. Half of the children were praised for their speech fluency, and the other half were criticized and ridiculed for their speech impediments. Many normal speakers developed a stutter that lasted the rest of their lives.

Although the research design varies among these studies, they all share a disregard for the basic rights of human subjects. In their zeal to explore, describe, explain, or evaluate human phenomenon, these researchers went too far. They convinced themselves that their desire to know the results outweighed the rights of the participants.

It is the responsibility of every professional and researcher to hold themselves to the highest possible standard regarding the use of human subjects in research. The federal government of the United States and many other governments throughout the world, in collaboration with researchers and research institutions, have developed standards of conduct in this area. However, these standards are only adequate if researchers and professionals who consume research are committed to adhering to them.