

This week, we looked into the ethical ideas of human-subject research and the technology that is emerging nowadays (such as BCI's). **Autonomy** means that the individual or person has complete control over their own body and their information, while **consent** means that the individual is making a decision without the influence of others while understanding the benefits and the risks of the choice they're making. **Beneficence** promotes the welfare of the participants or society which ties in together with **non-maleficence** as it focuses on avoiding any unnecessary harm. The four words almost melding together perfectly as advanced technology like BCI's or genetic engineering/editing can lead to temporary or lasting effects on a person. Justice is the final term and it focuses on the distribution of not only the benefits but also the burdens of advancing innovation so no one is exploited. The societal trade off with this is the rapid technological progress and social stability, how accelerating innovation in biotechnology will require balance when it comes to discovery and protection.

If the campus were to develop a policy which resulted in the use of BCI for something like tracking the classes attention in the classroom, I would be opposed to the idea if it were mandatory. I would argue that it should be something that the student can opt-in or out of once they are made aware of what the risks are, giving consent to the idea. Some students may feel like they're being pressured more with the presence of BCI's in the classroom and struggle with focus or fatigue if they were to have a headset on. The policy should also work on not punishing those who have opted out of the participation nor favor those who opted for it.

The ethical concern I see and this might be something that has been considered with the concept of biotechnology and how it's advancing. If someone were to consent to the neural data collection when they take the study, does the original consent hold if future developed tools can decode thoughts or emotional state that were taken then? Is this something that might reconsider an review in the ethical nature of biotechnics?

#### Relevance:

- With all the emerging tech, it's bound to blur the line between what could be medical research and what could be collection of personal data for malicious purposes.
- Neuralink is an example of this as it shows not only the autonomy but the beneficence for those who might benefit from it.
- It's something that should be considered that these programs remain focused on human progress while also keeping it ethically focused, but not barriered behind the latter.