Reflective Essay  
 [Author Name(s), First M. Last, Omit Titles and Degrees]

[Institutional Affiliation(s)]

Author Note

[Include any grant/funding information and a complete correspondence address.]

**Reflective Essay**

The book “Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy” of Cathy O’Neil highlights the fact according to which organizations, businesses, and even governments rely on the mathematical prototypes to reflect their choices (O’Neil, 2016). The book focuses on the underlying threats that are invisible to us. Considering the aspect of mathematics, a book seems to run a little dry, but the author has tried to engage the audience the best way she could. Despite the audience it addresses, the book applies to all of us whether the mathematical prototypes are utilized by us, or they are utilized on us. After reading the book “weapon of math destruction” by Cathy O’Neil, I must admit that I did not grasp her draft first time completely. Her article was disjointed at best. Because of her slightly skewed approach to the topic, the article came off as being “high-sounding” versus just getting to the point.

In her book, Cathy has evaluated the mathematical models based on three elements: Opacity, Scale, and Damage. Throughout the book, she indicates the wide variety of mathematical prototypes that are influencing the lives of individuals in various instances, such as finding a suitable job, taking loans, getting admission into a college or university, and going to prison (O’Neil, 2016). She has given a logical explanation for her claims by giving examples from such situations. The model is developed to evaluate the potential hires according to which undesirable scores are being labeled as "bad performance." The models developed for predicting crime in a poor community while paying no attention to the lawbreakers in a rich neighborhood. The models developed for advertising the for-profit colleges who promise to facilitate the students but end up drowning the poor people in debts (O’Neil, 2016). One of the quotes that the author made was about tailored advertising that is for-profit coverage. To find single black mothers responsible, it was necessary to find their main points and promise them a better life if they signed up online courses. The result was that it put them in debt and gave them a worthless education. This tailored advertising example pointed out the ugly practice of targeting people less fortunate than others and then blatantly taking advantage of them in pursuit of putting money into the pockets of salacious money-grabbers.

Through these examples, Cathy has depicted the central idea of her book that such mathematical prototypes and algorithms have significantly impacted the poor and deprived while facilitating the lives of the rich. Moreover, she develops the idea that due to society’s putting immense trust in the innovation and new technology, individuals refuse to accept the unauthenticity and irregularity of a model just because it is computational. I completely agree with her in this aspect, as there is a possibility that the prototype is poorly deliberate. Apart from being poorly designed, it might be more biased than disoriented, as indicated in the examples above. Even though the computer scientists who develop such threat translating calculations do not grasp either the convenience of its outcomes or the tangible benefits of their utilization. (“Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy | Center for Digital Ethics & Policy,” n.d.). Similarly, people with strong judgment-making power for whom the models were developed do not completely comprehend the probability metrics included or the computational prediction’s vulnerability. Furthermore, the models based on the machine learning system can have characteristic prejudices.

For instance, if Silicon Valley wants to hire engineers with few or no females, for their new business, they use an algorithm that is based on previous evaluations of engineers who were efficient and dedicated. This will unintentionally develop an algorithm that is inherently biased towards hiring females. Therefore, in the scenario of a conceptual framework developed to forecast loan shark targets, individuals with limited incomes, mainly black, that reside in some neighborhoods; are continually being feasted on, meaning that they are never released from their plight. They have now become a survivor of their condition. One of the vilest revelations was the AURA - a true example of W of MD (Weapons of Math Destruction). One powerful insight was "what if these scores were simply elevated, simply because someone happened to be black or happened to be poor," the fact that she referred to her situation as a child, was particularly touching (O’Neil, 2016).

The book features a convincing collection of case studies demonstrating how Weapons of Math Destructions can emerge with the application of cloud computing technology to everyday situations. The next assertion she made (where is ever so true) was how the corrupt politicians use polls to sway elections (O’Neil, 2016). Precision-targeting machines used during elections that enable candidates to give specific citizens tailor-made messages. She concluded that "if nobody did polls or talked about them, simply addressed the issues of the campaign, we'd have a much better democracy" (O’Neil, 2016). For prototypes specifically categorizing people as per their political tendencies that Cathy defines as a "merging of politics and consumer marketing," the possibility seems to be that representatives will be able to submit themselves to various groups in ways that threaten sheer dishonesty. Coming towards the software focused on pupil standardized test scores to evaluate teacher’s performance, Yes, Cathy, it is a slap in the face of the Freedom of Information Act. Weapons of Math Destruction was summed up by her illustrative dynamic: a message that all people who have a moral tone in their body, should heed.

Cathy has changed my perspective on a subject about which I was entirely unaware. The book focuses on a rich and diverse collection of instances that abuse computational models and have harmful impacts. All that being said, Cathy is not reflecting on either of the promising results provided by computational models and deep learning. According to my perspective, the use of deep learning and mathematical decisions has generated disadvantages that far exceed the positives found. Although, it has contributed to the creation at previously unimaginable levels of more acceptable and reliable results accomplished. Ultimately, the analysis of Cathy does not lead me to think slightly about the potential advantages or positive effects of computing and simulations. Nonetheless, the descriptions she gives, demonstrating the abuse of such effective tools, helped me understand the need for regulations in this context.

Another of the recurring problems I can see with computational judgment-making frameworks that are becoming troublesome is that many of those using the frameworks cannot fully comprehend the deep workings of the computational models or whatever they are assessing. This discrepancy is possible as those with technical expertise and judgment-making authority are not the people who create the prototypes. Whilst the world keeps growing in sophistication; this will only intensify this disconnection. Nonetheless, closing the disparity incomprehension between the model developers and those using them is a huge challenge. Therefore, performance control is a good starting point. Like humans, machines require guidelines and supervision. This is a shame and, therefore, must be addressed to avoid using computational constructs to promote racism, injustice, and prejudice. It is no longer feasible to accept complex algorithms used only to confuse and tarnish the rights guaranteed in the statute. As our ancestors established a system of reasonable and stable rules to govern all citizens, it is necessary to oversee the use of machine learning and software to guarantee equitable consideration for all citizens.

**References**

O’Neil, C. (2016). *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy*. Crown.

Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy | Center for Digital Ethics & Policy. (n.d.). Retrieved December 24, 2019, from https://www.digitalethics.org/reviews/weapons-math-destruction-how-big-data-increases-inequality-and-threatens-democracy