Artificial Intelligence and Traumatized Latino Communities

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Research Question:

Will the mental health infrastructure of Latino communities be improved by incorporating Artificial Intelligence?

Background:

Artificial intelligence is defined as intelligence demonstrated by machines, in which case they are able to learn from mistakes over time.

The advancement of Artificial intelligence creates new possibilities in every field. However, the curiosity grows as many wonder if it can be applied in mental healthcare.

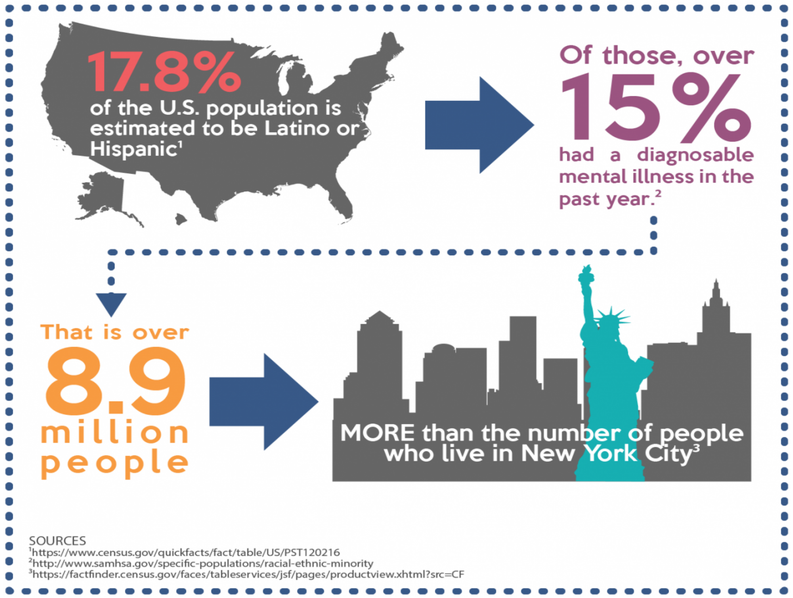
According to the National Alliance on Mental Illness (NAMI), approximately 47.6 million adults within the US were diagnosed with a mental illness in 2018; this averages with approximately 1 in 5 US adults suffering from clinical mental illnesses. This becomes more problematic when NAMI lists that approximately 16.9% of the adults effected are Hispanic/Latino. This in return means that 8.5 million Hispanic/Latino adults suffer from clinical mental illnesses within 2018 alone.

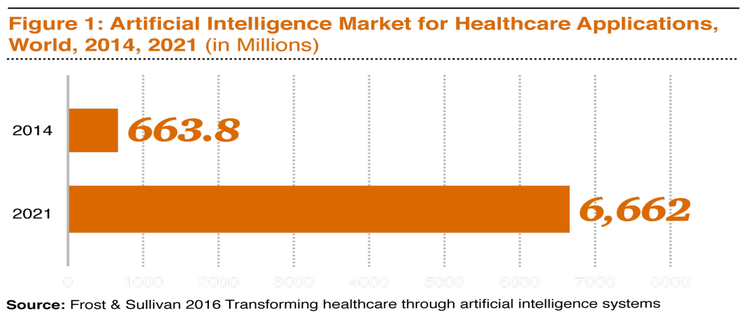
Furthermore, this issue becomes even more relevant when considering the lives of Latino children. Studies have shown that children within the age range of 12-17 are susceptible to severe traumatic events within the US (Cleary 1055). This study had analyzed children who were born both within the US and those who immigrated before reaching adulthood. This in return means that children of Latino communities are specifically vulnerable to mental trauma due to various factors.

Methods of Inquiry:

- References to official databases
  - CDC.gov (Centers for Disease Control)
  - NAMI.gov (National Alliance on Mental Illness)
  - NIG.gov (National Institute of Mental Health)
- Peer reviewed journals (Bibliography)

Results of Research:





Source: Frost & Sullivan 2016 Transforming healthcare through artificial intelligence systems

Conclusion:

The emergence of AI may be the next boundary to break in order to advance mental healthcare. While not only providing more accessible form of support, it also gives rise to new forms of research that wasn't available through exploratory medical research (Tai 10).

Moreover, AI could be implemented with Latino communities without much disruption and with potentially great results. To illustrate this, the study done by Gabrielle Carson describes that cultural differences don't block the effectiveness of technology (Carson 44). In other words, the theoretical implementation of AI into mental infrastructure isn't bound to create cultural divides.

On that note, for future applications the most important factor to keep in mind would be to approach the Latino audience without any forms of clash/bias. Treating every individual as the same would be the best approach to expanding the accessibility of this new technology. This is critical to address, as current studies of AI do not incorporate data sets that can be easily compared to other cultures. In other words, there aren't trials of AI that indicate how specific Latino cultures could be more effected by its implementation as compared to others.

While this may seem misleading, the important thing to keep in mind is that AI is still being developed to suit our needs in the healthcare sector. As time goes on, tests on numerous cultures will be required, which allows AI to bridge the gaps that were previously mentioned.

Bibliography:

- Andrade Lopez, Gabriela G. "Integrating Technology to Improve Health and Well-being in the Latino Population." Order No. 10602650 Azusa Pacific University, 2017. Ann Arbor: ProQuest. Web. 17 Apr. 2020.
- Carson, Gabrielle S. "Prevalence and Correlates of Posttraumatic Stress Disorder in Latino Trauma Survivors [Dissertation]." 2011. ProQuest. Web. 17 Apr. 2020.
- Chedid, Nicholas. "Medically Applied Artificial Intelligence: From Bench to Bedside." Order No. 13814483 Yale University, 2019. Ann Arbor: ProQuest. Web. 17 Apr. 2020.
- Cleary, S.D., Snead, R., Dietz-Chavez, D. et al. Immigrant Trauma and Mental Health Outcomes Among Latino Youth. J Immigrant Minority Health 20, 1053–1059 (2018). https://doi.org/10.1007/s10903-017-0673-6
- Moore, Joshua R., and Robert Caudill. "The Bot Will See You Now: A History and Review of Interactive Computerized Mental Health Programs." Psychiatric Clinics of North America, Elsevier, 1 Oct. 2019, www.sciencedirect.com/science/article/abs/pii/S0193953X19300772?via%3Dihub.
- Mouchabac, Stephane. "e-PTSD: an Overview on How New Technologies Can Improve Prediction and Assessment of Posttraumatic Stress Disorder (PTSD)." Taylor & Francis, 2017, www.tandfonline.com/doi/full/10.1080/20008198.2018.1424448?scroll=top&needAccess=true.
- Tai, Andy M.y., et al. "Machine Learning and Big Data: Implications for Disease Modeling and Therapeutic Discovery in Psychiatry." Artificial Intelligence in Medicine, vol. 99, 2019, p. 101704., doi:10.1016/j.artmed.2019.101704.