

Brain Boost: Games for Growth

Brendan Hotta Zoom February 27, 2025

For Today's Class...

- Please turn your camera ON
- Mute when you are not speaking
- Recording and screenshots





Brendan Hotta

- Program Associate
- Joined Keiro in August 2024
- Involved in:
 - Events
 - Classes
- Avid gamer, runs in the family







Our Mission

"To enhance the quality of senior life in Our Community"

How we deliver our mission is evolving







What Does Keiro Do?

Older Adults

Caregivers

Community







Quality of Life







Overview

- Neuroplasticity
- Brain Games
- Gaming with Others
- Game Time (Audience Participation!)



Goals

- Understand the benefits of neuroplasticity
- Learn about brain games and activities that can keep the brain active and healthy
- View brain games and their benefits as a means to stay connected with family and friends







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Neuroplasticity





Neuroplasticity

 The National Institute of Health (NIH) defines Neuroplasticity as: "A process that involves adaptive structural and functional changes to the brain. It is defined as the ability of the nervous system to change its activity in response to intrinsic or extrinsic stimuli by reorganizing its structure, functions, or connections..."





Neuroplasticity Cont.

- Neuroplasticity = The brain's ability to take in new information and apply it accordingly.
- Active and healthy brain + increases in cognitive functions



Stimulating Neuroplasticity

- How can we stimulate Neuroplasticity?
- Common exercises:
 - Learning a new language
 - Playing a musical instrument
 - Solving puzzles
 - Drawing or painting
 - Brain games





Brain Games





Brain Games

- When is a game a game vs brain game?
 - Differing opinions but looking at definitions from Harvard, Cambridge, and NIH:
 - A "brain game" is specifically designed to challenge and exercise your cognitive abilities, focusing on mental skills like memory, logic, problem-solving, and critical thinking
 - A "game" can refer to any interactive activity with entertainment value, which may or may not include elements of cognitive challenge depending on the genre





Brain Games: New York Times

- Wordle
- Connections
- Strands
- Mini Crossword

- Spelling Bee
- Letter Boxed
- Tiles
- Sudoku

Wordle has become more popular than the daily crossword!



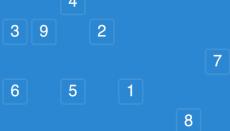
Brain Games: Human Benchmark

- Chimpanzee Test
- Sequence Memory
- Typing
- Verbal Memory

- Reaction Time
- Visual Memory
- Number Memory
- Aim Trainer

A game based on a study done by the University of Kyoto's Primate Research Institute, begged the question, "Are you smarter than a Chimp?"







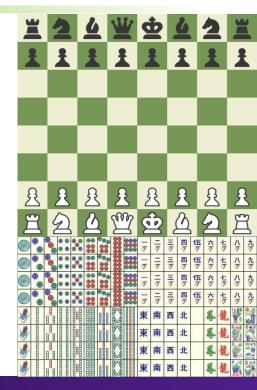


Brain Games: Board and Card Games

- Chess
- Go
- Gomoku
- Mahjong

- Hanafuda
- Poker
- Egyptian
- Big 3

Learning/evolving games vs. solved/completed games







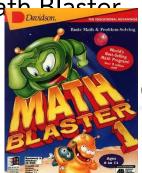
Brain Games: Video Games

- Tetris
- Professor Layton
- Nintendo Labo
- Wordscapes Educational video games have been around since 1968 with the creation of The Sumerian

- Brain Age
- Big Brain Academy

Portal

Math Blactor









Gaming with Others





Does anyone regularly play games?





"I don't think I would be very good at games"

"Video games have become too complicated"

"I'm too old to play video games"

"I've never played video games before"

"There are no games for me"





Meet the Matagi Snipers



Member / Matagi snipers. MATAGI SNIPERS / マタギスナイパーズ. (n.d.). https://matagi-snps.com/member/





Benefits of Gaming with Others

- Are there any benefits when gaming with others?
- How connected are you with others?
- Are you competitive?





Gaming with Others

- In 2023, there were over 3.2 billion gamers worldwide 190 million were from the US and 30% of those ~ 57 million were all over the age of 50
- 50% ~ 29 million social gamers
- Ikigai/Purpose & Intentionality



Game Time!

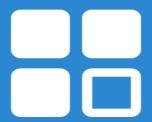












Are You Smarter Than a Chimpanzee?

Click the squares in order according to their numbers.

The test will get progressively harder.

Start Test

Chimpanzee Test







Conclusion

- Benefits of Games:
 - Stimulation of neuroplasticity
 - Active brain = healthy brain
 - Socialization
 - Intentionality matters
 - eSports





Works Cited

- Tang, D., Chen, J. and Xu, P. (2025), The Effect of Digital Era on Human Visual Working Memory. Brain Behav, 15: e70220. https://doi.org/10.1002/brb3.70220
- Partesotti, E., Feitosa, J. A., Manzolli, J., & Castellano, G. (2025). Stimulating neuroplasticity: Therapeutic applications of an extended digital musical instrument. *Nordic Journal of Music Therapy*, *34*(1), 62–80. https://doi.org/10.1080/08098131.2024.2445824
- Li, X., Nakagawa, T., Ren, X., & Gondo, Y. (2025). The Design of Visual, Cognitive, and Physical Modalities in VR Games for Older Adults: A Systematic Review. *International Journal of Human–Computer Interaction*, 1–26. https://doi.org/10.1080/10447318.2024.2439573
- Lv, G., Zhang, Y., Liu, S., Zhu, J., Chen, X., Wu, H., Liu, C., Chai, W., Lv, J., & Wang, R. (2025, January 21). *Effect of leisure activities on cognitive and memory function in older adults: A systematic review and meta-analysis of randomized controlled trials*. Journal of Clinical Neuroscience. https://www.sciencedirect.com/science/article/abs/pii/S096758682500027X
- Puderbaugh, M. (2023, May 1). Neuroplasticity. U.S. National Library of Medicine.
- Mattson, M. P. (2014, August 22). Superior pattern processing is the essence of the evolved human brain. Frontiers in neuroscience. https://pmc.ncbi.nlm.nih.gov/articles/PMC4141622/
- Knowles, E. A., & Danzi, B. A. (2025, January 21). *The role of online social support in mental health: Comparing rural and urban youth*. MDPI. https://www.mdpi.com/2227-9067/12/2/113
- *Member | Matagi snipers*. MATAGI SNIPERS / マタギスナイパーズ. (n.d.). https://matagi-snps.com/member/





Questions?





Keiro's Call to Action!

- Hopefully after today's class you can look at games a bit differently
- Please feel free to use the resource to try out some of the games mentioned today
- Try out a new game and reach out to us if you need any suggestions!



Thank you!







Thank You to Our Donors!

- Cheryl Tamada
- George Abe
- Louis Sakamoto
- Joyce Kunishima
- Eiko Masuyama
- Carol Uchida





Keiro Quality of Life Classes

March 2025

- Heritage Meets Healthy Eating with Kristine Yada, MS, RDN Thursday, March 6, 2025 | 10:30 - 11:30 a.m.
 - Caregiver Conference Insights &
- Takeaways

Thursday, March 27, 2025 | 2:00 - 3:00 p.m.

Visit keiro.org/qol to register for FREE and for class descriptions.









BEFORE IT'S TOO LATE:

DISCUSSING ADVANCE PLANNING

Keiro and Little Tokyo Service Center's Changing Tides present a panel discussion on the stressors that come with end-of-life decisions and how advance planning can help alleviate some of that stress.

DATE:

Saturday, April 19, 2025 12:00 - 1:30 p.m.

LOCATION:

Orange County Buddhist Church 909 S Dale Ave, Anaheim, CA 92804

*Event will also be streamed virtually.



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Register for **FREE** by scanning the **QR code** or by visiting **keiro.org/bitl2025**. Registration is **required** for both in-person and virtual attendance. In-person capacity is limited to the first 100 people. RSVP by **Friday, April 11 at noon** to guarantee your bento for in-person registration.

If you have questions, contact Keiro at programs@keiro.org or 213.873.5700.

Saturday, April 19
12:00 - 1:30 p.m.
In-Person & Virtual
Orange County Buddhist
Church
Register at
keiro.org/bitl2025



For more info and frequently asked questions:

English: keiro.org/survey

日本語: keiro.org/jp/survey





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