

1. Provide a brief abstract or summary of your Honors in Action Project including the following components: academic research into and analysis of sources related to the Honors Study Topic, action that addresses a need in your community that was discovered through your research and analysis into the Society's current Honors Study Topic, and the impact of your project. (NOTE: Recommended word count for the abstract is no more than 300 words.)

Alpha Nu Sigma officers began by reviewing The Art and Science of Play Honors Program Guide. We chose different research topics and narrowed our focus to Theme 2: Economics of Play. To better conduct academic research, we attended a workshop with Horry-Georgetown Technical College's (HGTC) research librarian and completed Research Edge. Using the library guide created by our research librarian, we found sources indicating we tend to associate play with children, not with seniors. The Burr (2019) study indicated play is important throughout the lifespan. Continued active and passive play, especially for seniors, contributes positively to mental and physical health. Additional research showed seniors who engaged in both active and passive play activities have improved hand/eye coordination, improved brain activation, flexibility, greater muscle endurance, and delayed cognitive/physical disability. We planned a 90-minute event to inform and engage seniors in play activities illustrating the benefits of simple activities for cognitive, physical, and emotional health. We collaborated with a local senior center director and seniors attending the center on the day of our visit. They identified a need for items to engage in play, such as a karaoke machine and an electronic Bingo™ board. We applied for the Mellon grant and were awarded \$1,000, which paid for several electronic games for the center. On the day of our event, two advisors and eight students participated. We educated 20 seniors on the benefits of play and engaged them in three low-cost play activities, which our research indicated would be beneficial. We focused on games that were easy to recreate and encouraged physical movement and creativity, such as charades, a random box of play items, and a tallest tower competition with spaghetti and marshmallows. We demonstrated the economics of play can be achieved with little to no cost, regardless of age.

2. What theme in the current Honors Program Guide did your chapter focus on?

Theme 2 – Economics of Play

3. Summarize your research objectives. In other words, what did your chapter set out to accomplish in terms of its research?

We reviewed Honors Program Guide themes during officer training and identified areas of interest. At our next meeting, we shared preliminary research on the themes we found most interesting. We developed the following research objectives:

- Read the Honors Program Guide and choose a theme
- Attend an academic research workshop conducted by our college's research librarian
- Complete Research Edge
- Develop research question

- Review at least 30 academic sources related to our selected theme, including global perspectives
- Select 8 academic sources

4. Describe your academic research into the Honors Study Topic, your research question(s), your analysis of your research findings, and your research conclusions.

Officers investigated themes 2, 5, and 6 in the Honors Program Guide. Our initial research focused on nostalgic play and seniors, but we realized it would be difficult to develop a project. We then found research on play as a stress reducer, so we refocused and explored the effects of play on stress reduction with college students. We developed a survey assessing how our students manage stress. The results indicated most of our students practiced good stress-relieving habits, so there was no need for a project. We revisited our initial research and discovered the benefits of active play for seniors, which finally gave us a direction to develop an action component.

The Burr (2019) study was particularly enlightening. We tend to associate play with children, not with seniors. This study indicated play is important throughout the lifespan, and continued active and passive play, especially for seniors, contributes positively to mental and physical health. This new information led us to select theme two, Economics of Play, and develop our research question: How does engaging in active play benefit seniors, and what kinds of play activities are most beneficial?

One benefit of active play is reducing cognitive decline (Wion, 2020). Adcock's (2020) study indicated seniors who played exergames, such as Wii™, had higher cognitive functions. This was confirmed by the Torre (2022) study, which found benefits of Wii™ exergames also included improved global cognition, processing speeds, attention, and numerous physical benefits. In addition to exergames, low-cost games and activities can increase life expectancy and improve mental health (Moboraki, 2022). An additional important factor we had not considered was the importance of group play. Lindsay-Smith's (2020) study emphasized engaging in physical group activities improves both physical and mental health. Another unexpected finding was engaging in activities that decrease cognitive decline can reduce falls among the elderly (Zhao, 2020 and Levinger, 2022). A surprising finding from a 2002 British study revealed seniors who play Bingo™ have increased memory, better hand-eye coordination, and improved concentration compared to younger players (Winstone, 2002).

We learned from our research seniors who engaged in both active and passive play activities have improved hand/eye coordination, improved brain activation, flexibility, greater muscle endurance, and delayed cognitive/physical disability. Psychological benefits include increased happiness, reduced stress, and a sense of well-being. A common theme in our research was play in a group setting was more effective than individual play, and physical play was more effective than social activities on both physical and mental well-being. We recognized the impact this research could have on our local senior population and decided to share it with them through a presentation and day of play.

5. List in alphabetical order the 8 academic/expert sources that were most enlightening regarding multiple perspectives of the Honors Study Topic theme you selected. Briefly explain why these were the most important sources and what you learned from each of them as you researched your theme.

o Use full, formal APA citations for each source.

o Bold, italics, and underlining are not available in the application software.

o The list of sources should be alphabetized by the last name of the first author of each work

Adcock, M., Fankhauser, M., Post, J., Lutz, K., Zizlsperger, L., Luft, A. R., Guimarães, V., Schättin, A., & de Bruin, E. D. (2020). Effects of an In-home Multicomponent Exergame Training on Physical Functions, Cognition, and Brain Volume of Older Adults: A Randomized Controlled Trial. *Frontiers in Medicine*, 6, 321. <https://doi.org/10.3389/fmed.2019.00321>

This research showed to maintain brain health, active interaction involving sensory, motor, and cognitive systems is necessary. The group of older adults who used exergames showed improvement in higher older adult cognitive functions. We included this information in our presentation, and it was a factor of our donation of Nintendo Switch™ and Nintendo Switch™ Sports Games.

Burr, B., Atkins, L., Bertram, A. G., Sears, K., & McGinnis, A. N. (2019). "If you stop playing you get old": investigating reflections of play in older adults. *Educational Gerontology*, 45(5), 353–364. <https://doi.org/10.1080/03601277.2019.1627058>

Play activities such as exercising, working in the yard, playing board games, and doing crossword puzzles are activities for enjoyment, but are also important ways to stay physically and mentally active. This study helped us understand play is not just for children and can have lasting benefits as we age. It influenced our selection of activities to engage seniors.

Levinger, P., Dunn, J., Panisset, M.G., Haines, T., Dow, B., Batchelor, F., Biddle, S., Duque, G., & Hill, K.D. (2022). The Effect of the ENJOY Seniors Exercise Park Physical Activity Program on Falls in Older People in the Community: A Prospective Pre-Post Study Design. *Journal of Nutrition, Health & Aging*, 26, 217–221. <https://doi.org/10.1007/s12603-021-1724-1>

This Australian study focused on parks containing outdoor exercise equipment designed for older adults. Participants reported improved physical health, and those who engaged in a regular exercise routine dramatically reduced the risk of falls. We included this finding in our presentation.

Lindsay-Smith, G., Eime, R., O'Sullivan, G., Harvey, J., & van Uffelen, J. (2019). A mixed-methods case study exploring the impact of participation in community activity groups for older adults on physical activity, health and wellbeing. *BMC Geriatrics* 19, 243. <https://doi.org/10.1186/s12877-019-1245-5>

This case study explained group physical activities can maintain good physical and mental health. We shared the information with seniors, and it influenced our game purchases and play activities.

Mobaraki, N., Esfahani, M., Azimkhani, A., Azizi, B. (2022). Investigating the Relationship between Quality of Life and Adherence to Physical Activity with Life Expectancy at Leisure Time in the Elderly. *Eurasia Journal of Sports Sciences and Education*, 4(1), 56-66. <https://doi.org/10.47778/ejsse.1108793>

This Iranian study concluded engaging in low-cost physical activities, being aware of the benefits of physical activity, and support of friends and acquaintances, increases life expectancy and improves physical and mental health. We incorporated low-cost games and included this information in our presentation.

Torre, M. M., & Temprado, J.J. (2022). Effects of Exergames on Brain and Cognition in Older Adults: A Review Based on a New Categorization of Combined Training Intervention. *Frontiers in Aging Neuroscience*, 14. <https://doi.org/10.3389/fnagi.2022.859715>

This French study provided an analysis of several previous studies on the physical and cognitive effects of various gaming systems, such as Wii™ Sports. Benefits of Wii™ exergames included improved global cognition, processing speeds, and attention. Physical benefits included improved physical strength, balance, aerobic capacity, and motor coordination. This information was shared in our presentation and led us to purchase the Nintendo Switch™ game system because Wii™ is no longer being produced.

Wion, R. K., Hill, N. L., Mogle, J., Bhargava, S., Berish, D., & Kolanowski, A. (2020). Scoring of Leisure Activities for Older Adults According to Cognitive, Physical, and Social Components. *Research in Gerontological Nursing*, 13(1), 13–20. <https://doi.org/10.3928/19404921-20191022-01>

Engagement in cognitive, physical, and social leisure activities, especially those requiring higher levels of effort, may prevent cognitive decline and reduce the risk of dementia in older adults. Activity engagement has shown promise in reducing the risk of cognitive decline. This study led us to seek a setting with a social aspect for our action component.

Zhao, D., Li, J., Fu, P., Hao, W., Yuan, Y., Yu, C., & Jing, Z., Wang, Y., & Zhou, C. (2020). What Role Does Activity Engagement Play in the Association between Cognitive Frailty and Falls among Older Adults? Evidence from Rural Shandong, China. *Gerontology*, 66(6), 593-602. <http://dx.doi.org/10.1159/000510639>

This Chinese study explained falls are a major public health issue that is related to cognitive frailty. It found engaging in a variety of activities can improve balance and functional mobility, which play a protective role against falls. This information led us to incorporate activities involving movement, balance, and coordination in our action component.

6. Summarize your project action and collaboration objectives. In other words, what did your chapter set out to accomplish in terms of its collaborations and action?

Our goal was to educate seniors about the benefits of specific play activities and to engage with them in play. We developed the following action objectives:

- Identify a local senior center for collaboration
- Visit senior center to determine its needs
- Collaborate with centers' director and seniors to determine action component
- Apply for Mellon grant
- Plan a play day at the senior center
- Brainstorm activities to do with seniors
- Design PowerPoint to share research
- Prepare goodie bags
- Conduct exit survey

We collaborated with:

- HGTC Research Librarian
- Senior center director
- Seniors attending center

7. Describe the service or "action" components of this Honors in Action Project that were inspired by and directly connected to your Honors Study Topic research. (Action can also include promoting awareness and advocacy.) Be sure to include information about the people and/or groups with whom you collaborated, why you chose these collaborators, and the impact they had on the outcomes of the project.

Our college research librarian created a library guide based on our chosen themes. We collaborated with him to acquire difficult-to-find sources and to learn how to use the library guide effectively.

We planned a 90-minute event to inform and engage seniors in play activities to illustrate the benefits of simple cost-effective activities for cognitive, physical, and emotional health. HiA team members presented a PowerPoint based on our research about the benefits of play.

We reached out to local senior centers for opportunities to promote play with seniors and only one responded. We met with the South Strand Senior Center director and toured their facility. We collaborated with seniors to explore how they engage in play activities. They stated they have difficulty hearing and remembering called Bingo™ numbers and expressed a desire for a large electronic Bingo™ board. Additionally, they stated a karaoke machine would be fun, as would a putting mat. They also mentioned their Wii™ was broken and several seniors longed to bowl again. We researched the cost of the items and applied for the Mellon grant. After collaborating with the senior center director, we scheduled a day to visit the center, educate seniors about how play is beneficial, and engage them in a variety of play activities. At a subsequent chapter meeting, members brainstormed low-cost play items and created charade cards, such as pilot, ballerina, swimming, and fishing. We also collected random items for a play box and created goodie bags for each senior.

At the event, seniors selected a card and acted out the activity which chapter members had to guess. During the tallest tower competition with spaghetti and marshmallows, we created three groups and chapter members assisted each (attached). Seniors selected a random item from the play box and were asked to share how to use it in an unexpected way. They were quite creative using a loofah for a hair bow, a Pringles® can and pen as a noise maker, and a deflated beach ball as a sailor's hat. We donated a golf putting mat, golf balls, and putters to the center to encourage active play. We surprised them with play items purchased with Mellon grant funds, including a karaoke machine. A chapter member and a senior engaged everyone with a rousing rendition of "I Will Survive," which brought much laughter and enjoyment. Officers connected the Nintendo Switch™, and two seniors bowled several frames after we taught them how to work the controllers. A 100-year-old senior was overjoyed to be able to bowl again (attached). Our grand finale item was the electronic Bingo™ system, which we connected and demonstrated. Thirty-four people enjoyed Bingo™ the following week (attached). After the activities, we conducted our exit survey to assess what the seniors learned.

8. What are the quantitative and qualitative outcomes of your project? What impact did your project have on the problem addressed and on opportunities for chapter members and others to grow as scholars and leaders?

After completing Research Edge and the research workshop created by our college research librarian, members developed academic research skills for lifelong learning. We learned how to better research by using the right search terms and filtering through results to find relevant sources.

On the day of our event, two advisors and eight students educated 20 seniors on the benefits of play and engaged them in three low-cost play activities our research indicated would be beneficial. We purchased an electronic Bingo™ board, Nintendo Switch™, and a karaoke machine totaling \$1200. We donated a putting mat, three putters, and ten golf balls. We provided 30 goodie bags, containing large print puzzle books, lip balms donated by a chapter officer, hand sanitizers, and gripper socks. These items cost \$100, and chapter funds were used to pay for them. We donated three \$25 local restaurant gift certificates which the Center Director would use as a Bingo™ grand prize. Two advisors, who are also seniors, were so inspired by our research they each bought a Nintendo Switch™ for personal use.

According to our exit survey, seniors benefitted from our event. They shared the following comments:

- "I had no idea Bingo™ improved hand and eye coordination."
- "Charades were easy and fun and easy to re-create."
- "Now everyone can enjoy Bingo™! No one will be missing numbers because they couldn't hear or couldn't remember what numbers had been called."
- "The teamwork with the tall towers was great."

Through our research, we learned many ways play can benefit seniors. One member commented how she could use the information to enjoy play with her grandparents. We also

learned the value of sharing time with seniors. Upon reflecting on our event, we learned play can be fun without spending a great deal of money. We were amazed to see the variety of spaghetti and marshmallow structures and surprised at the level of creativity seniors displayed using random items. One officer stated, "On a personal level, after all the effort put forth in the research and planning stages, I did not attend the event to truly see the fruits of our labor, and I regret that. I let my insecurities of being in social settings, and around the aging population, influence my decision not to go. I missed out on not only an opportunity for personal growth but also the blessing of seeing the joy our event brought to the seniors." The senior center director sent us this note: "A huge thank you to Phi Theta Kappa, they blessed us with some awesome toys, a Nintendo Switch™, an electronic Bingo™ board, a karaoke machine, and a putting green. They also played some simple but fun games, plus each member got a special gift bag to take home. But nothing beats the smiles, laughter, and joy they brought to us today. Thank you so much!" We also received a hand-written thank you note signed by all of the seniors.