ncoa
Center for Healthy Aging

Contact: K. Jason Crandall, Ph.D.
Associate Professor
Director, Western Kentucky University Center for Applied Science in Health and Aging
2413 Nashville Road Ste. 123
Bowling Green, Ky. 42101
270-745-2077
Bingocize@wku.edu

- **Website:** www.Bingocize.com

- **Program Synopsis**
  - Bingocize® is an evidence-based 10-week program that combines a bingo-like game with exercise and health education. The unique addition of bingo addresses many of the barriers to older adults' participation because the game is fun, familiar, and done in a group setting (Beauchamp, 2019; Picorelli, Pereira, Pereira, Felicio, & Sherrington, 2014; Taylor & Pescatello, 2016). The program has been shown to increase older adults' functional fitness, health knowledge, and social engagement in a variety of settings. A mobile app version is also available.

- **Program goals:**
  - The overall goals of the program are to help older adults:
    - Improve and/or maintain mobility and independence,
    - Learn and use health information focused on falls reduction and other health-related behaviors, and
    - Socially engage with other older adults.

- **Reasoning behind the program design and elements:**
  - A significant barrier to improving the health and well-being of sedentary older adults is getting them to adhere to an exercise-based health promotion program (Picorelli et al., 2014).
  - Older adults enjoy and are more likely to participate in programs that are game-centered, interactive, and socially engaging.
  - Multimodal interventions (targeting multiple aspects of physical and/or cognitive health, such as health education and exercise) are most likely to produce improvements (Park et al., 2011).

- **Target population**
  - The program targets sedentary older adults at all ability levels in a variety of settings including certified nursing facilities, assisted living, independent living, and community senior centers.

- **Essential program components and activities:**
  - Participants (Bingocizers©) complete a series of strategically inserted exercises designed to

increase or decrease the intensity and volume of exercise. Health education questions are also inserted into the game. Participants rest while numbers are called for the bingo game, complete more strategically inserted exercises or health education questions, rest during number calling, and so on. This pattern is continued until a Bingocizer© wins the game. Small prizes (not included with program) are awarded to winners. Additional games are played until all planned exercises are completed.

- **Length/Timeframe of program**
  - Participants play Bingocize® for one hour 2 times per week for 10 weeks OR
  - The program is even more beneficial if played on an ongoing basis.

- **Recommended class size**: 8-20; >20 requires two certified leaders

- **Desired outcomes**
  - Improved lower/upper body strength, gait, balance, and range of motion,
  - Improved aspects of cognition (executive function),
  - Increased social engagement,
  - Improved knowledge of falls risk reduction and other important health topics, and
  - Improved patient activation.

- **Measures and evaluation activities**
  - Recommended pre-participation forms include STEADI patient referral form, demographic questionnaire, health history, informed consent, and physician's release. Recommended outcome measures are functional reach, chair stand, Tinetti Falls-Efficacy Scale (Tinetti, Richman, & Powell, 1990), PACES-8 (Mullen et al., 2011), and the WHOQOL-BREF (Skevington, Lotfy, & O'Connell, 2004). All forms and outcome measure instructions are available on the online training website. Certified leaders complete an evaluation of the training, and participants complete an evaluation of the program.

- **Health outcomes and evidence supporting health outcomes:**
  - Community-dwelling physically inactive older adults (N=85) participated for approximately one hour, twice per week, for 10 weeks. They played in groups and were randomly assigned to either an experimental (Bingo + Health Education + Exercise; n =47) or control (Bingo + Health Education; n = 38) group.
    - Upper body strength improved for both groups, $F(1, 81) = 11.40$, $p < .01$, but the improvement was significantly greater for the experimental group (interaction), $F(1, 81) = 4.78$, $p = .03$.
    - Lower body strength improved for both groups, $F(1, 80) = 13.38$, $p < .01$, but the improvement was significantly greater for the experimental group, $F(1, 81) = 4.44$, $p = .04$.
    - As expected, health knowledge on fall risk and osteoarthritis showed a main effect, such that both groups improved their knowledge of the topics, $F(1,83) = 275.56$, $p < .001$, suggesting the program can be effective for improving health knowledge with or without including the exercise component.
    - Health activation values significantly increased from pre- to post-intervention for both groups, $p < 0.05$. Attendance was high (>93% in both groups) (Crandall et al., In Review).