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# Social Engagement of Nursing Home Residents: A Comparison of Two Observation Methods

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# SOCIAL ENGAGEMENT OF NURSING HOME RESIDENTS: A COMPARISON OF TWO OBSERVATION METHODS

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Annika Gabbard

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SOCIAL ENGAGEMENT OF NURSING HOME RESIDENTS: A COMPARISON OF TWO OBSERVATION METHODS

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To my baby boy, Elijah James, may you always be sedulous in trying circumstances. To my husband, Nicholas, and my parents, thank you for providing the support and help that was necessary for my completion and success. In loving memory of Dr. Richard Dressler, who contributed greatly to this study.

## ACKNOWLEDGEMENTS

This thesis has not been without its challenges. Altering its original design at the onset of the COVID-19 pandemic and changes in committee members two times has taught me perseverance, to say the least. It could not have been accomplished without the constant support and advice of my committee members.

To my thesis chair, Dr. Weiler, thank you for stepping up to the plate and taking the job seriously when you were needed. You provided valuable and thorough input throughout, but especially when you were needed as chair, you took it in stride and I am forever grateful. I would like to thank Dr. Neils-Strunjas for being so heavily invested in designing my project and helping me get started. You have been so dedicated to updated literature that may be applicable to enhance my study and always available for me when I needed you. Dr. Crandall, thank you for committing your work to the older adult population and to Bingocize®. It has positively impacted so many and provided many avenues for student engagement and learning, I am thankful to be one of those. I am appreciative of your consistent and thorough input on my study. Last but not least, I am so thankful Dr. Green agreed to her time, energy, and knowledge to my project following unforeseen circumstances. Your willingness, input, and dedication are noticed and appreciated.

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In Kentucky, low levels of physical activity and social engagement negatively impact health. This problem led to the creation of Bingocize®, an exercise program that combines the game of Bingo with intermittent exercises in a group setting to increase levels of positive affect, physical health, and, the focus of this study, social engagement. Since clear benefits of social engagement have been established, measurement and documentation of this behavior can assist in determining the level of potential benefit from Bingocize®. The purpose of this study was to compare the opinions of healthcare workers who have experience with Bingocize® on two measures of social engagement, the Fun and Social Engagement (FUSE) instrument and the Engagement of a Person with Dementia Scale (EWPDS).

Using an online survey platform, a survey questionnaire with photos of and directions for each measure was sent to 218 qualified healthcare workers, and of those, 78 began the survey, 47 partially completed the survey, and 40 completed the survey in full. These participants provided demographic information, their opinion on the importance of different types of engagement, their impressions of each measure, and which measure they would be most likely to choose.

Paired sample t-tests completed for shared questions about both measures indicate that the FUSE's listed behaviors are more relevant to Bingocize® when compared to the behaviors on the EPWDS. The FUSE also received positive feedback regarding its user-

friendliness and length. The EPWDS received positive feedback about its comprehensiveness and dementia-specific aspects. Eighty-one percent of participants reported that, of the two measures, they would choose the FUSE to measure social engagement. Based on the study findings, a user-preferred social engagement measure is one that is concise, has an area specifically for dementia (or other common diagnoses in skilled nursing facilities; SNFs), and has clear instructions for ease of administration.

# Introduction

Bingocize® is an evidence-based falls prevention and health promotion program created for older adults who possess a wide range of physical and cognitive abilities. Bingocize® originated in Kentucky, where poor health and low levels of physical and social activity are the norm (Mendoza, 2019). Despite high Medicaid spending on health in Kentucky, high rates of smoking, obesity, and diabetes continue to negatively impact health (County Health Rankings & Roadmaps program, 2020). Similar to these characteristics, social engagement of older adults has also been a variable in an increasing number of studies that measure its impact on significant life-factors like mortality, cognitive functioning, and risk for dementia (Bath & Deeg, 2005). While dementia is not entirely preventable, some research concludes that older adults should participate in activities that include social engagement to maintain and/or improve health-related quality of life, decrease depressive symptoms, and decrease risk for cognitive impairment (Hajek et al., 2017; Glei et al., 2005). For this reason, it is important that the definition of social engagement is clearly understood.

Social engagement is an umbrella term that has been inconsistently defined for each applicable study (Bath & Deeg, 2005). For the purpose of this project, it will be defined as participation in activities with a social element, including but not limited to: formal social activities (e.g., church events, retirement events, class reunions, holiday gatherings), informal social gatherings (e.g., visits from friends and/or family), and community events (e.g., Bingo, trivia, interest-specific gatherings, book clubs, organized programs).

Bingocize® -- a combination of exercise and the game of Bingo – was created using the latest research on aging and physical activity (Crandall & Neils-Strunjas, 2019). Bingocize® is an approach to tackling poor health and well-being across the spectrum of care and is offered to older adults residing in the community and in long-term care. Bingocize® is currently implemented in 38 states in skilled nursing facilities (SNF), senior centers, assisted living facilities, and any other facilities where older adults can attend and may benefit from the program. The National Council on Aging approved the program as an evidence-based falls prevention program and the United States Department of Agriculture designated Bingocize® as an obesity prevention program, giving merit to this research-based game-play approach. Researchers found its impact on increasing handgrip strength, levels of social engagement, and positive affect, and improving the attitudes of students towards the older adult population (Dispennette et al., 2019; Stevens, 2019). Positive affect has been used as a measure of psychological health during Bingocize®, since it is defined as a reflection of the extent that someone feels enthusiastic, active, and alert. Furthermore, having a high positive affect has been associated with pleasurable engagements and positive overall well-being (Watson et al., 1988).

When implemented in a SNF, staff are trained to lead Bingocize® and often benefit from interaction with local universities and colleges. The program is implemented in SNFs by a lead facilitator (such as an activities director). A typical game of Bingocize® starts with the announcement of three bingo numbers, then exercises. This pattern alternates until the 45-minute session ends. Participants can earn prizes, which motivates them to attend and actively engage during the program. The program has relatively low

associated and ongoing costs compared to physical, occupational, speech, and other types of therapy and is built into the residents' typical activities schedule, providing them with more opportunities for social engagement (Wodchis et al., 2004).

A significant benefit of Bingocize® is the level of participation. Because of this, it is important to measure participants' level of social engagement during a Bingocize® session in order to gauge the benefits they may be able to gain from participating. Tak et al. (2015) recommended nursing home residents' activity engagement patterns are periodically evaluated in order to identify limitations, concerns, or problems affecting their engagement in activities. Evaluations can include types of activities, frequencies and attendance, tailoring an activity that matches residents' abilities, level of attention and engagement during the activity, and satisfaction with the activity expressed verbally or nonverbally. In addition, residents' involvement should be emphasized in the development of activity plans and then throughout the activity engagement process. Tak et al.'s study (2015) also suggested addressing the following question: what is the level of attention and engagement during activities? (e.g., dozing, not focused and distracted, passively engaged, actively engaged in the steps of the activity). Their study, along with others cited in the literature review, give merit to the importance of having a strong measure of social engagement in older adults, since social engagement impacts varying facets of health.

The primary purpose of the present study was to provide opinions from trained Bingocize® facilitators on two different methods of evaluating social engagement. A secondary goal of the study was to gain insight on trained Bingocize® facilitators' opinions about the importance of participation in social engagement and exercise for

older adults. They were also asked to provide typical levels of exercise participation, Bingo participation and social engagement seen during Bingocize® sessions. This secondary goal was pursued to establish the value a social engagement measure could hold and therefore the likelihood of it being implemented in the varying facilities surveyed.

The two methods evaluated were the Fun and Social Engagement (FUSE, Appendix I) instrument and the Engagement of a Person with Dementia Scale (EPWDS, Appendix III). Stevens (2019) at Western Kentucky University developed the FUSE instrument to measure level of engagement by observation as well as participant report of mood during Bingocize®. Jones and colleagues (2018) independently developed and validated a measurement tool, the EPWDS, in Australia that is similar to the FUSE. Research has established the content validity and psychometric properties of the EPWDS, which was designed to measure social engagement in nursing home residents with dementia. Interrater reliability has been established for the FUSE (Apelt, 2020). The two measures are similar in focusing on level of social engagement based on observation and list similar potential behaviors (participation, talking to others, facial expressions). One major contrast between the two is the subjective portion of the FUSE. Participants have an opportunity to subjectively report their feeling of happy or sad based on example photos (Appendix II), while the EPWDS is based solely on objective measures. The EPWDS provides a Likert scale to rate the extent of the behavior observed, while on the FUSE, behaviors are selected based on occurrence.

The purpose of the present study was to solicit the opinions of trained Bingocize® facilitators on the FUSE and EPWDS based on a first glance and with only the instructions listed on the forms. The primary research questions were:

1) What are the impressions of trained Bingocize® facilitators on the FUSE and EPWDS?
2) Which social engagement measure is more likely to be used by professionals involved in Bingocize®?

A secondary goal of the study was to gain insight on trained Bingocize® facilitators' opinions about the importance of participation in social engagement and exercise for older adults. They were also asked to provide typical levels of exercise participation, Bingo participation and social engagement seen during Bingocize® sessions. This goal was addressed by asking the following questions using Likert scale response choices:

1) How important do you think exercise is for the older adult population?
2) How important do you think social engagement is for the older adult population?
3) In your opinion, to what degree are residents engaged in **Bingo** during Bingocize®?
4) In your opinion, to what degree are residents engaged in **exercise** during Bingocize®?
5) In your opinion, to what degree are residents **socially engaged** with each other or the lead facilitator during Bingocize®?

# Literature Review

## Social Engagement Defined

Social engagement has been labeled as significant to all persons, young and old. Social engagement is an umbrella term that has had many different specific definitions, dependent on the context (Bath & Deeg, 2005). After reviewing several definitions, for the purpose of the present study, it will be defined as participation in activities with a social element, including but not limited to: formal social activities (e.g., church events, retirement events, class reunions, holiday gatherings), informal social gatherings (e.g., visits from friends and/or family), and community events (e.g., Bingo, trivia, interest-specific gatherings, book clubs).

## Significance of Social Engagement

Due to loneliness being a risk factor for physical and/or emotional health concerns, social engagement has been a variable in an increasing number of studies that measure its impact on significant life-factors like mortality, cognitive functioning, and risk for dementia (Bath & Deeg, 2005; Liu et al., 2019). Hajek and colleagues (2017) used the Visual Analogue Scale of the EQ-5D in order to gather data on self-reported health status and quality of life in the subjects. The EQ-5D is a family of instruments used by multiple disciplines to gather information to make informed decisions about the best plan of care moving forward. Using the applicable instrument from the battery, any of the following dimensions may be assessed: mobility, self-care, usual activities, pain/discomfort, anxiety/depression (EQ-5D Instruments, 2017). Following analysis of the data from this instrument, Hajek and colleagues (2017) concluded that adults should

participate in activities that include social engagement to maintain and/or improve health-related quality of life and decrease depressive symptoms.

Another study was conducted in Taiwan that provided a different set of data due to different cultural norms of living situations in elderly years. In western culture, older adults are often placed in staffed facilities or have a personal caregiver hired, whereas in Taiwan, cultural norms lead to more family-centered caregiving in the later years of life (Glei et al., 2005). A mental status questionnaire was given via interview to the subjects, beginning in 1985, then again in 1993, 1996, 1999, and 2000. The data from these longitudinal interviews provide significant evidence that social engagement has positive health benefits, including a decrease in the risk of cognitive impairment, such that with more social engagement, more benefits were gained (Glei et al., 2005).

Similarly, researchers in China used a questionnaire design to establish the relationship between social engagement and health based on self-perception in the older adult population. Results showed that level social engagement was a significant factor in the participants' self-perceived physical and mental health status, and that mental health status was rated higher in urban areas than rural areas (Liu et al., 2019). This suggests facilities should be providing more opportunities for older adults to have social engagement activities in rural areas, and that a questionnaire design is a valuable method of gathering information.

Kang's study (2012) found several correlates between social engagement of residents with dementia and lower levels of activities of daily living impairments, depression, and cognitive impairments. In order to measure social engagement levels, he utilized individual sections of multiple standardized measures. He emphasized the

importance of creating and implementing SNF programs for residents with dementia, tailored to their specific needs.

**Interventions for Social Engagement in Older Adults**

Although research suggests that social engagement benefits older adults, this population may have limited options to socialize. For this reason, Choi et al. (2015) tested the impact of a community exercise program as a social welfare program. In this way, the participants exercised and experienced social engagement that they might not have otherwise. The researchers measured depressive symptoms, metabolic syndrome, and blood vessel condition after participating for at least 6 months and found that depressive symptoms decreased by 33% overall. Exercise has also been found to reduce apathy in nursing home residents with dementia and was the only predictor for lower scores on a measure of apathy after 12 weeks of intervention in a study conducted in Finland (Telenius et al., 2015). While the control group maintained their level of apathy throughout the intervention period, the exercise group improved (reduced) their score and the difference between the groups was statistically significant. This evidence suggests that an exercise program implemented as a social welfare program can produce physical and psychological benefits. When one-on-one interaction during these types of programs is not available, group activities with low participant-staff ratio for residents with dementia can improve quality of life by enhancing mood (Materne et al., 2014).

Due to clear benefits provided by social engagement and exercise, but lack of programs available to provide opportunities for such to older adults, Dr. Jason Crandall created the health promotion and exercise program for older adults previously mentioned, Bingocize®. It is a program that combines the traditional game of Bingo with a wide

variety of exercises implemented throughout (Crandall & Steenbergen, 2015). While participating in Bingocize®, residents are also provided with social engagement with trained facilitators and peers. Dispennette and her research partners (2019) found an increase in positive affect following participation in Bingocize® for 12 weeks, specifically in a skilled nursing facility. They described the possibility of an increase in pleasurable engagement with the environment and an increase of positive emotions. Participation in Bingocize® may also provide an opportunity for intergenerational engagement, improving the attitude of university students towards the older adult population (Stevens, 2019).

**Measurements of Social Engagement**

As previously noted, many researchers recognize the importance of engagement levels as a factor in outcomes. There are many instruments measuring quality of life, mortality, and cognitive functioning, which can all be impacted by social engagement, but few measure levels of social engagement during an activity. There are several components to consider in the design or choice of an instrument measure, like temporal aspects, subjective versus objective outcomes, disease- or population-specific aspects, reliability, and validity (Velentgas et al., 2013).

When Camp (2010) was implementing a Montessori Program for Dementia, he realized engagement level to be the most significant aspect impacted by the program. Therefore, he developed a measure of social engagement levels from this program, the Menorah Park Engagement Scale (MPES). The MPES measures the highest level of engagement a person with dementia is capable of displaying during an activity but does not provide an opportunity to list or choose specific behaviors observed.

Contrastingly, Stevens (2019) developed and piloted the Fun and Social Engagement (FUSE) instrument to measure level of social engagement during Bingocize®. The FUSE instrument has an objective portion for the examiner to select behaviors observed during Bingocize® along with a subjective portion for participants to report their mood before, during, and/or after the Bingocize® session. This study yielded statistically significant results, with a moderate correlation between the observational and self-report sections of the FUSE (Stevens, 2019). Since then, it has been further tested and found to have adequate interrater reliability (Apelt, 2020). Jones and colleagues (2018) independently developed and validated a measurement tool (EPWDS) in Australia that is similar to the FUSE. Research established content validity and psychometric properties for their instrument, designed to measure social engagement in nursing home residents with dementia. The premise of their instrument development is that information about level of social engagement in those with dementia provides information about overall well-being, including physical, emotional, and cognitive health, which has also been supported by previously referenced literature.

This present study provides the opinion of trained Bingocize® facilitators about the FUSE and EPWDS across disciplines and professions. This will provide accurate representation of the positive and negative aspects of each and determine which is more likely to be chosen by those who would be implementing a social engagement measure in their day-to-day jobs. We hypothesize that the FUSE will receive positive feedback about its subjective portion and its shorter length, and the EPWDS will receive positive feedback regarding its level of detail and specificity. Furthermore, the FUSE could

receive negative comments about its lack of detail while the EPWDS may receive negative comments about its level of time commitment.

## Method

### Design

A method of collecting data that is efficient in determining the likelihood of a product or service being successful, providing information about self-perception on current practices, and gathering accurate demographic data is a questionnaire design (Harrison, 2015; Rodger et al., 2015). It is used in various disciplines as a valuable source of data (Salis et al., 2018; Harrison, 2015; Sprague-Jones et al., 2020).

When creating, adapting, and choosing methods of assessment, it is imperative to identify opinions of those directly involved since they could potentially implement the assessment. A related topic to this discussion is ecological validity, which examines whether the topic in question can be generalized to every day, real-life settings (Andrade, 2018). The two methods evaluated during the present study were the FUSE and EPWDS using an online survey platform, TypeForm (2019). The survey was emailed to 218 qualified individuals and of those, 78 began the survey, 47 partially completed the survey, and 40 completed the survey in full. Among the respondents who completed it in full, the survey took an average of 6 minutes to complete and provided the participants with photos of the blank forms and instructions for both methods being evaluated. The survey included demographic questions including job title, whether the participants have ever used an observation assessment, confirmation of involvement with Bingocize® (including number of sessions observed or led), and confirmation of involvement with the older adult population. Next, the survey asked participants their opinion on varying

aspects of the two methods: how clear are the directions, are the behaviors listed comprehensive, are the behaviors listed accurate for negative/positive behavior, user-friendliness, and how typical the listed behaviors are of Bingocize® using a variety of question types including Likert scale, open-ended, and yes/no (Appendix IV). Finally, the survey asked participants to choose which measure they would be most likely to use and provide reasoning for which they chose.

**Inclusion and Exclusion Criteria**

Any healthcare worker in any facility any where Bingocize® takes place, who completed Bingocize® facilitator training and therefore observed or led any number of sessions, qualified to participate in this study. Additionally, upper-level undergraduate students and graduate students who completed Bingocize® facilitator training were invited to participate in the survey. Participants were not required to have familiarity or experience with the FUSE or EPWDS. Professionals and students who have not completed the online Bingocize® facilitator training or have not observed or led any Bingocize® sessions were excluded from the study. There were no exclusionary criteria due to age, rage, ethnicity, or socioeconomic status.

**Statistical Analysis**

In order to present the results from the survey, demographic data are presented in tables and visual displays to give readers an understanding of the population who responded to the survey. Responses to questions with Likert scale answer choices are also presented visually using a bar graph. Qualitative responses were analyzed to identify common themes and paired sample t-tests comparing the two measures across participant ratings were used to test for significant differences.

## Results

The questions asked at the beginning of the survey provide information about the pool of participants in order to understand their level of involvement with and perspectives about Bingocize®. From survey results, the following demographic information about participants who completed the survey was obtained. Figure 1 provides a representation of self-reported job titles from participants who answered this question (n = 45). Figure 2 shows in which states survey participants report working among those who responded to this question (n = 45).

**Figure 1**

*Job Titles of Participants Who Provided this Information (n = 45)*

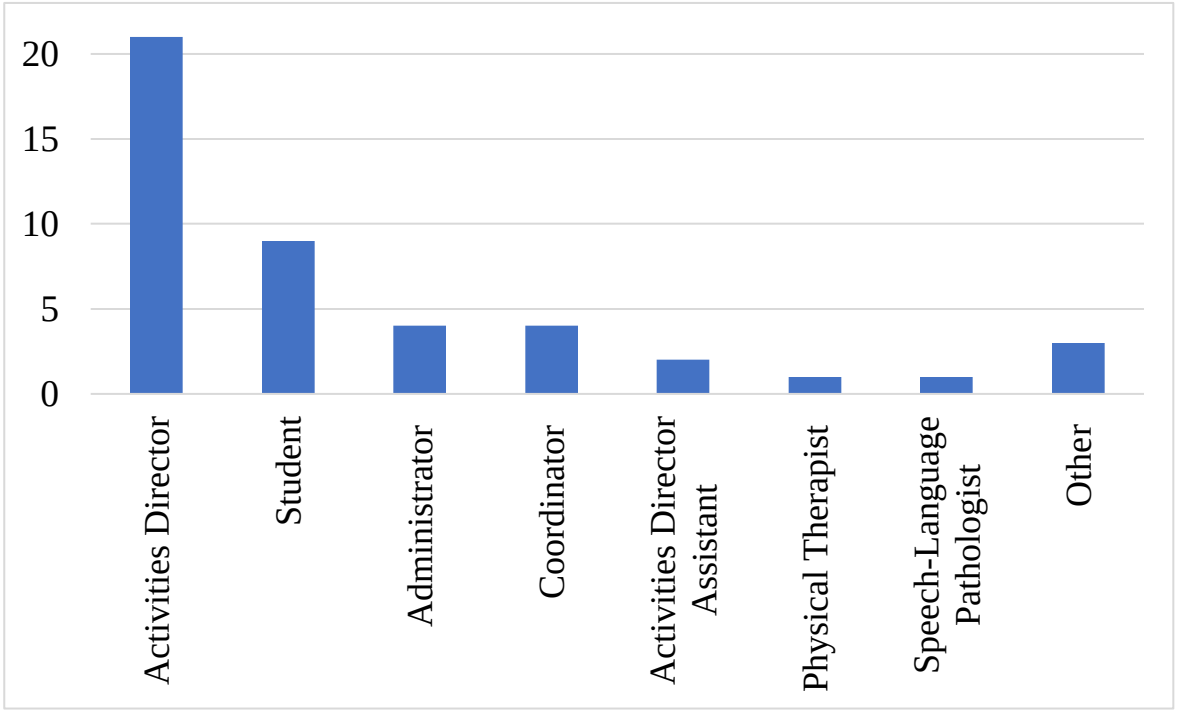
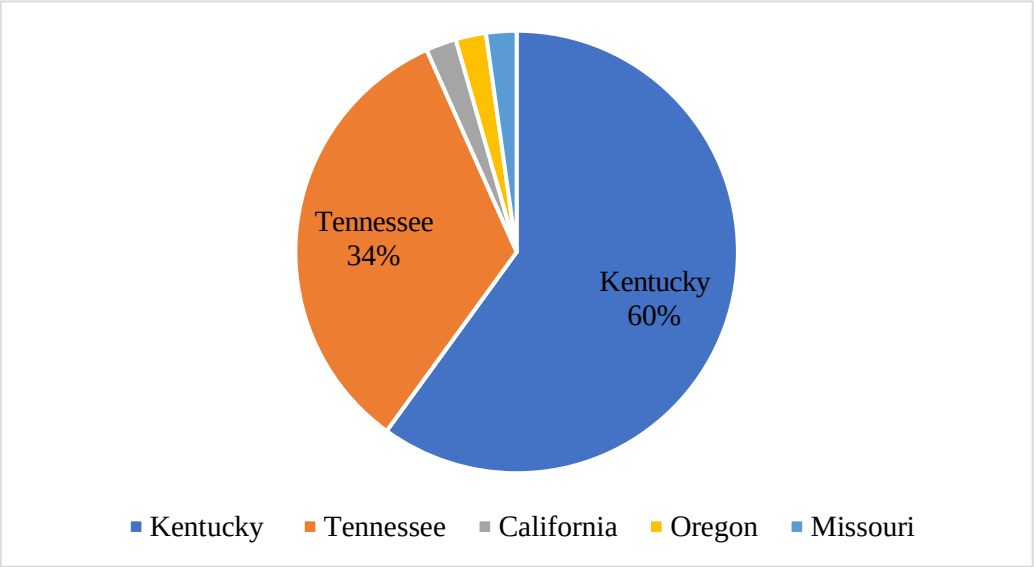


**Figure 2**

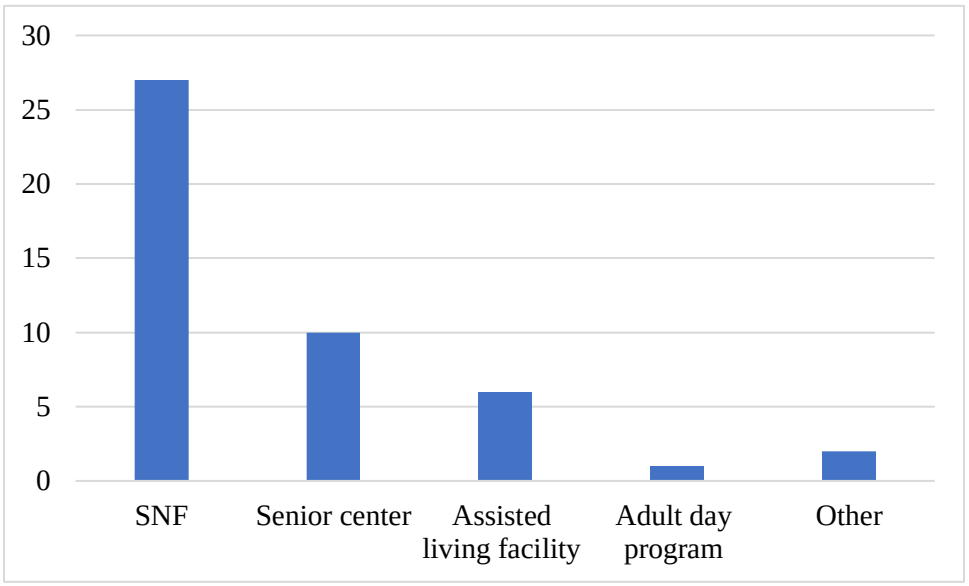
*Current Work Location of Participants Who Provided this Information (n = 45)*




To further describe the participants' experience with Bingocize®, they were asked to report the type of setting where they had observed or led a Bingocize® session (Figure 3). The participants were asked how many sessions of Bingocize® they observed or led, in order to gauge participants' level of familiarity and/or experience with the program. Figure 4 displays a visual representation of responses. When asked about level of experience with the FUSE and/or EPWDS, 75% of participants reported they had never used either the EPWDS or the FUSE, while 22.7% had previously used the FUSE, and 4.5% had previously used the EPWDS.

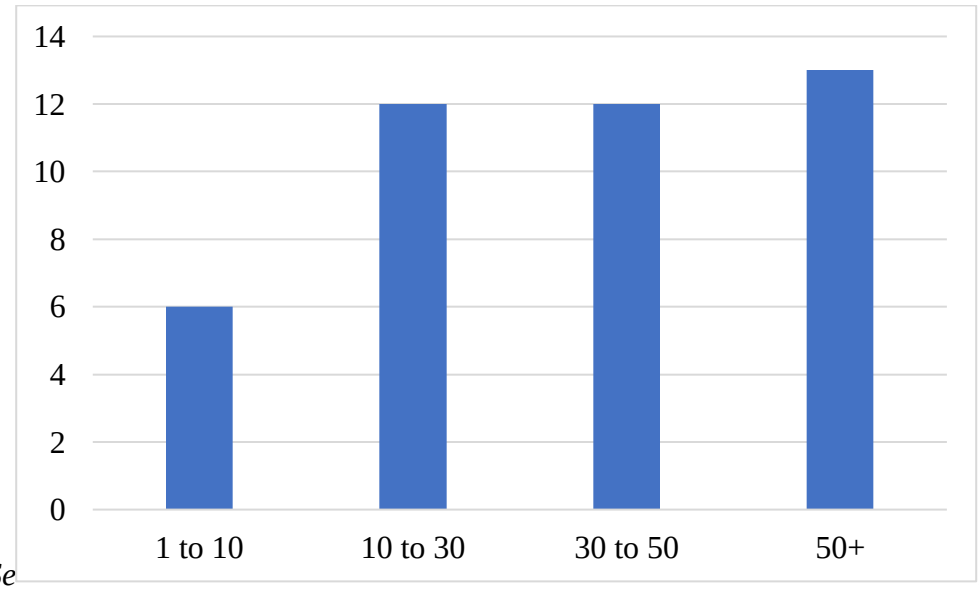
**Figure 3**

*Setting with Bingocize® Involvement from Participants who Provided this Information (n =46)*




*Note.* SNF = skilled nursing facility

**Figure 4**




*Sessions Observed or Led from Participants who Provided this Information (n = 43)*

To answer the first research question, *what are the impressions of trained Bingocize® facilitators on the FUSE and EPWDS?,* participant responses to survey questions that addressed the clarity of instructions, ease of administration, comprehensiveness of listed behaviors, and relevance of behaviors to Bingocize® were considered. Paired sample t-tests were completed to compare participant responses to four such questions asked about both the FUSE and EPWDS (Table 1). These questions were analyzed by assigning number values (1-5) for Likert scale responses. Responses were only used from participants who answered the question for both the FUSE and EWPDS (*n*s = 40 to 43 per question). As shown in Table 1, one of the questions yielded a significant difference ($p < .01$) between the measures, while the other three questions yielded non-significant differences. Higher mean values are indicative of more favorable impressions of the measure, since on the Likert scale used, 5 was the most positive response choice (Appendix IV).

**Table 1**
*Paired Sample t-test Results*

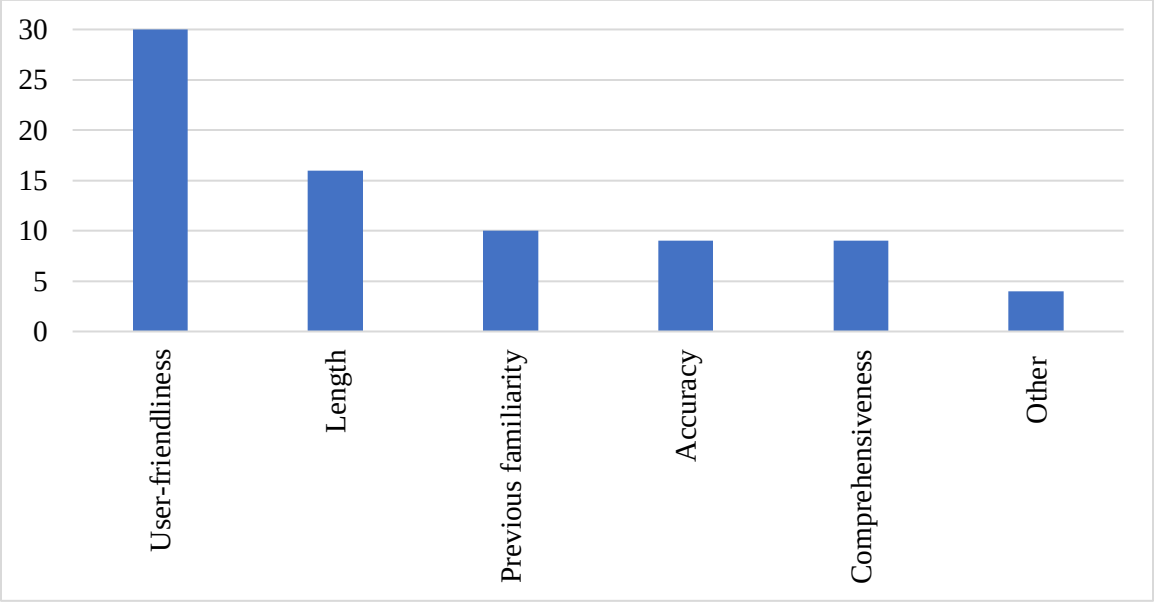
| Question (# of Responses) | Mean (Standard Deviation) | *p* value |
|---|---|---|
| How clear are the instructions? (40) | FUSE: 4.40 (.78)<br>EPWDS: 4.18 (.84) | 0.22 |
| How easy would it be to administer? (43) | FUSE: 3.91 (1.21)<br>EPWDS: 3.44 (1.2) | 0.08 |
| Are the listed behaviors a comprehensive representation to describe a participant's level of engagement? (43) | FUSE: 4.05 (.92)<br>EPWDS: 4.15 (.85) | 0.62 |
| Are the behaviors listed typically seen during Bingocize®? (41) | FUSE: 4.19 (.93)<br>EPWDS: 3.60 (1.18) | 0.01* |

*denotes significance ($p < .01$)

To answer the second research question, *which social engagement measure is more likely to be used by professionals involved in Bingocize®*?, participants were asked to choose which measure they would be more likely use to measure social engagement during Bingocize®. Overall, 81% of participants reported they would choose to use the FUSE, while 18% would choose the EPWDS. Of the 18% who chose the EPWDS, half of those (4/8) reported their job as an activities director, while 2 reported being activities coordinators, and 2 were students. Figure 5 provides a visual summary of reasons for the measure they chose, with participants being encouraged to select as many reasons as were applicable. Participants who selected "other" manually typed the following responses (survey choice in parenthesis): *better fit for patrons* (FUSE); *we are a long-term care facility with a large percentage of dementia* (EPWDS); *I don't work with dementia* (FUSE); *both measures would take too long due to low number of staff to complete* (FUSE).

**Figure 5**

*Survey Respondents' Reasons for Chosen Measure*



Participants were then asked to rate the importance of social engagement and exercise for older adults. This information provides an understanding of the extent to which survey respondents value exercise (Figure 6) and social engagement (Figure 7) in the older adult population.

**Figure 6**

*Survey Responses (n = 44) to: "How important do you think **exercise** is for the older adult population?"*

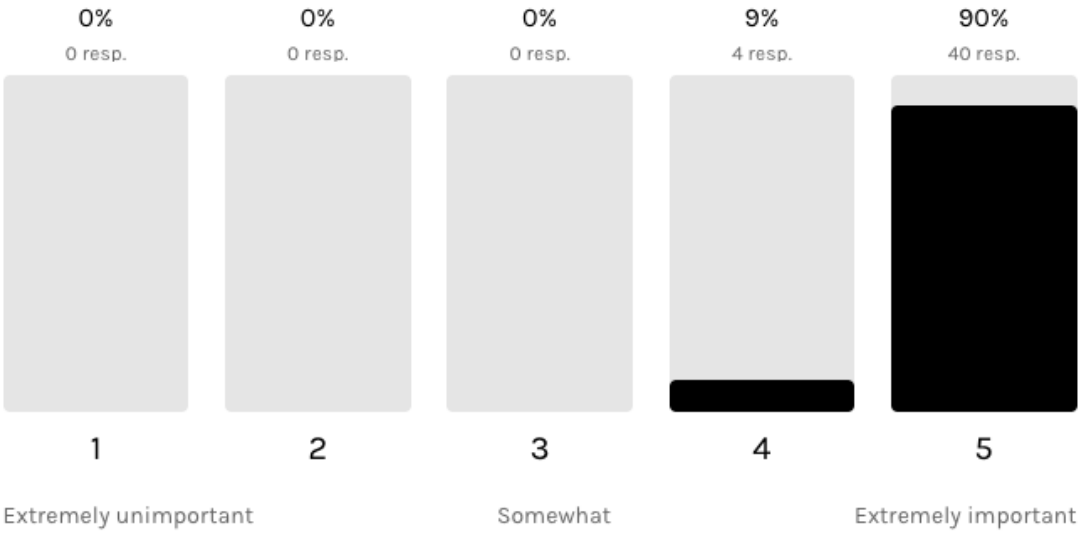
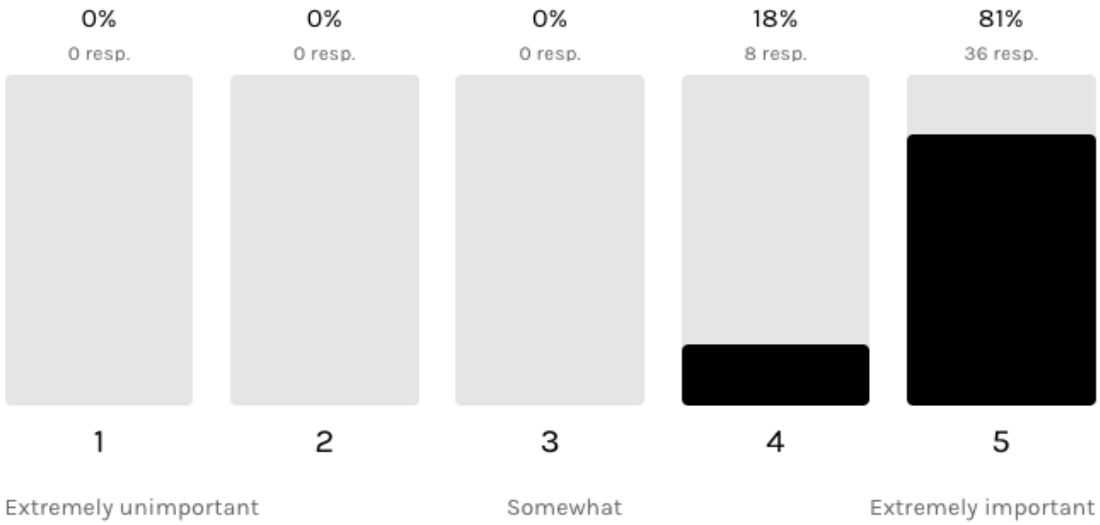


**Figure 7**

*Survey Responses (n = 44) to: "How important do you think **social engagement** is for the older adult population?"*




Furthermore, survey participants were asked to report their opinion on the Bingocize® participants' level of engagement during Bingocize® in playing Bingo, exercising, and socializing with each other or the lead facilitator. This provides information on how much data would be available in the case that a social engagement measure was used during a Bingocize® session. Inspection of the response distributions in Figures 8 and 9 suggest that older adults are more engaged in Bingo than in exercise, although the majority do engage in exercise, according to participant responses. The majority of participants noted that residents are socially engaged with each other or the lead facilitator (Figure 10). Additionally, 74% of the survey participants reported that it is important to document the level of engagement during Bingocize® (Figure 11).

**Figure 8**

*Survey Responses (n = 44) to: "In your opinion, to what degree are residents engaged in* ***Bingo*** *during Bingocize®?"*

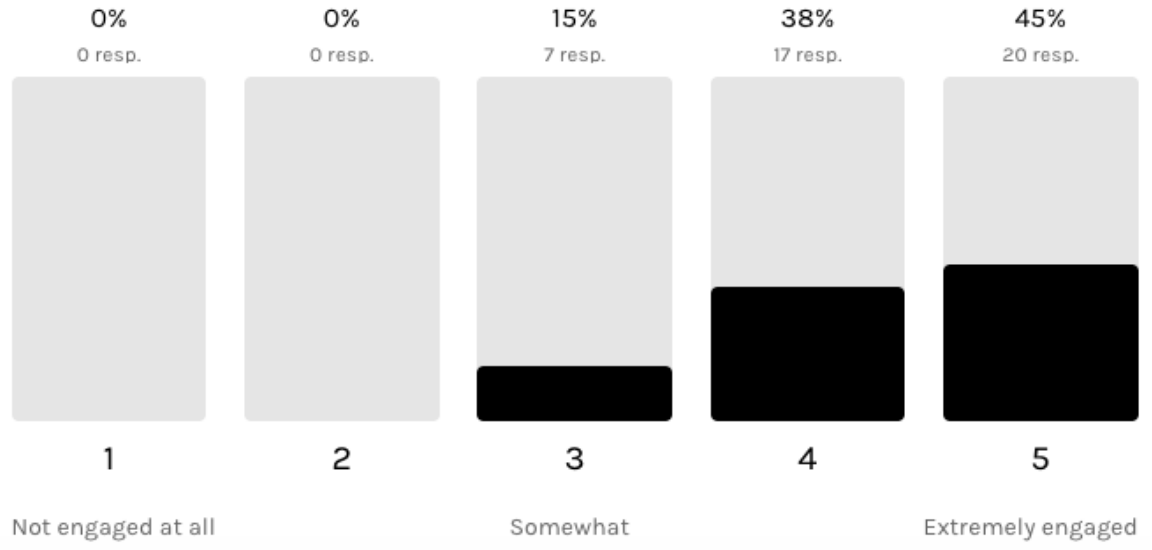



**Figure 9**

*Survey Responses (n = 44) to: "In your opinion, to what degree are residents engaged in* ***exercise*** *during Bingocize®?"*

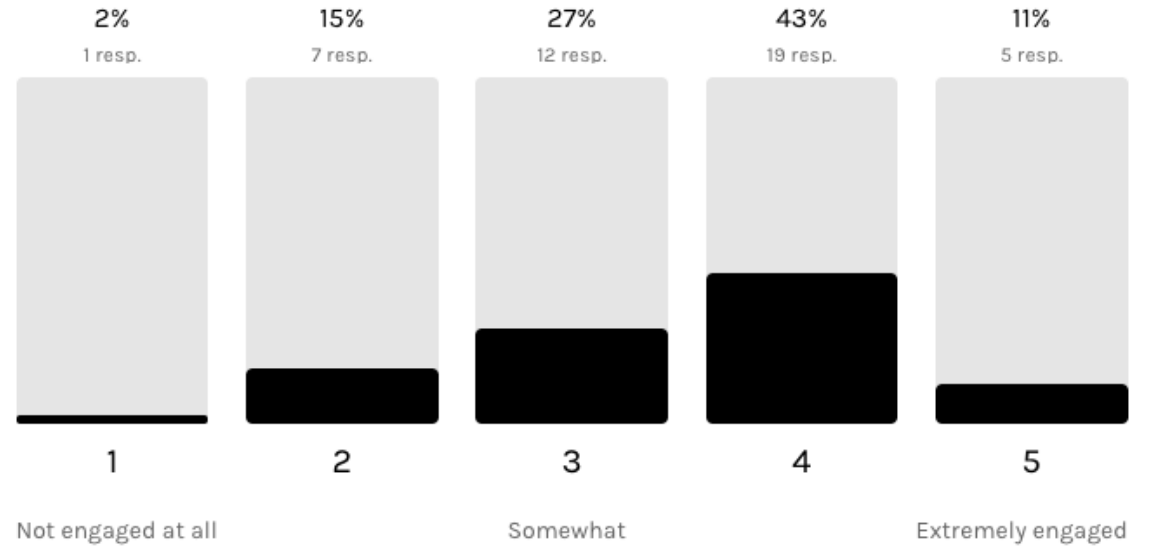


**Figure 10**

*Survey Responses (n = 44) to: "In your opinion, to what degree are residents **socially engaged** with each other or the lead facilitator during Bingocize®?"*

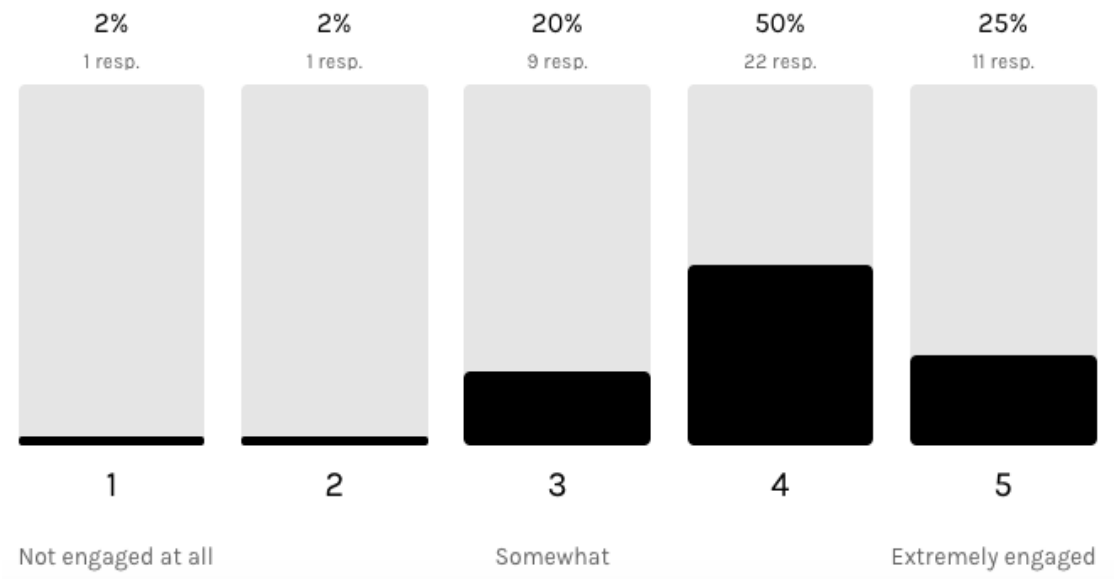
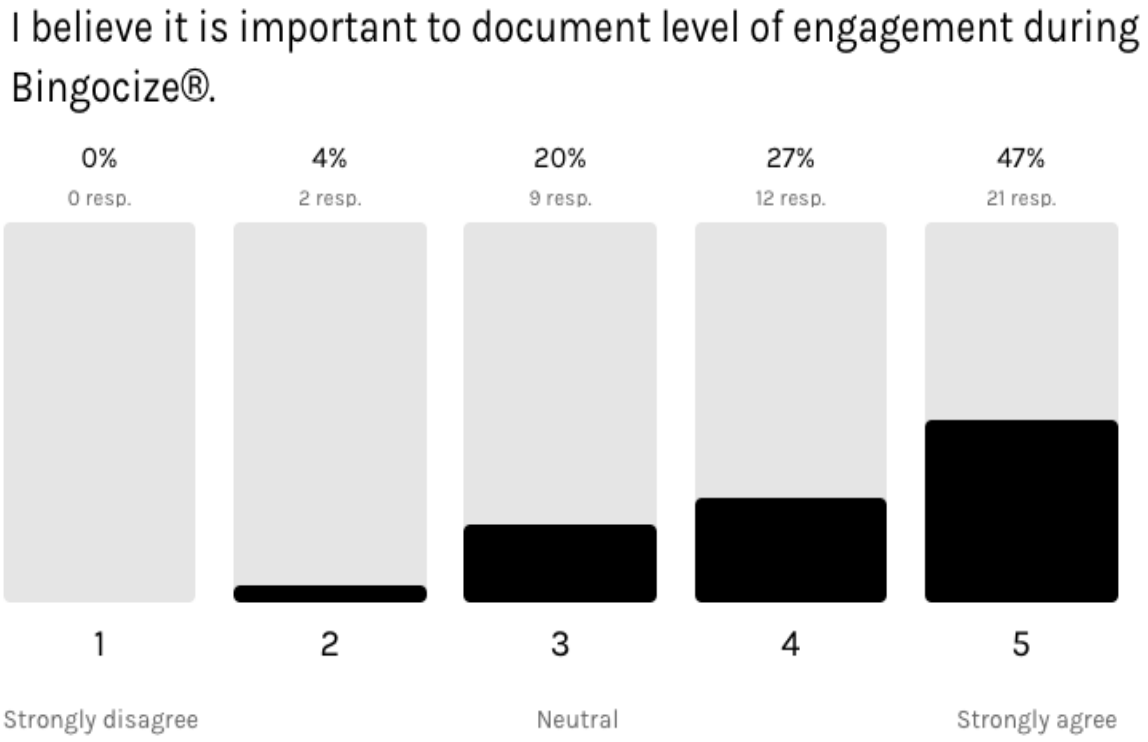



**Figure 11**

*Survey Participants' (n = 44) Opinion on the Importance of Documentation for Levels of Engagement*



## Discussion

The purpose of the present study was to solicit the opinions of trained Bingocize® facilitators on the FUSE and EPWDS based on the information (i.e., instructions, items, examples) contained on the measures themselves. Analysis of four shared questions about both forms help to answer the first research question, *what are the impressions of trained Bingocize® facilitators on the FUSE and EPWDS?* The results of the paired sample t-tests indicate that the behaviors listed on the FUSE are more relevant to Bingocize®. This is likely due to the design goal of the FUSE to specifically align with the Bingocize® program (Stevens, 2019). Based on participant responses, the FUSE also received positive impressions for its user-friendliness and length. Participants reported comprehensiveness and dementia-specific wording and behaviors as being positive aspects of the EWPDS. It may have been difficult for participants to accurately provide feedback about each form without having used them both before, which was the case for most participants (~75%).

The results partially support the hypothesis that the FUSE would receive positive feedback regarding its subjective portion and shorter length, while the EPWDS would receive positive feedback regarding its level of detail and specificity. The subjective portion of the FUSE was not mentioned by any of the participants, however, 16 participants reported choosing the FUSE because it takes less time to use and score. By contrast, the EPWDS was chosen due to its comprehensiveness and dementia-specific content. It was also hypothesized that the FUSE may receive negative comments about its lack of detail and that the EPWDS may receive negative comments about the length of

time to score. This hypothesis was not confirmed as participants did not report either of these in their analysis of the measures.

The final question of the survey was used to answer the second research question, *which social engagement measure is more likely to be used by professionals involved in Bingocize®*?, to which the majority chose the FUSE. This could partially be due to the FUSE being specifically designed for Bingocize®, therefore the behaviors listed as options were more relevant. Among the eight participants who chose the EPWDS, six were activities directors or coordinators, suggesting that those healthcare workers responsible for planning, evaluating, and directly implementing social engagement opportunies may prioritize a comprehensive survey over an efficient one. They may value a deeper understanding for the impact activities have on residents' quality of life to use when planning future activities.

In addressing the second goal of the study to understand Bingocize® facilitator opinion on the value of exercise and social engagement, all participants reported their opinion of it being extremely or very important for older adults to participate in social engagement and exercise. However, a lower percentage reported their belief in the importance of documenting levels of engagement. These responses align with literature supporting clear benefit of social engagement and exercise for older adults (Bath & Deeg, 2005; Liu et al., 2019; Hajek et al., 2017; Glei et al., 2005; Langhammer et al., 2018). Further education on the importance of documentation of levels of engagement during programs for adults is recommended to gain awareness of which aspects of the program are providing benefit and which are not (Kang, 2012; Tak et al., 2015). Education of and encouragement for the use of engagement measures may be difficult due to frequent

understaffing in SNFs resulting in less time available to complete extra duties (Winderlich et al., 1996).

To further address the study's secondary goal, participants were asked about levels of engagement typically seen during Bingocize® in regard to the game of Bingo, exercise, and social engagement. Analysis of these responses reveal that lead facilitators observe a higher level of engagement in the game of Bingo than in the other aspects of Bingocize® (i.e., exercise, social engagement). There were still many participants (n = 33) who reported high levels of social engagement during Bingocize®. Therefore, it appears that there is an opportunity for social engagement measurement to be utilized during Bingocize®.

Recommendations for improvement of a social engagement measure following these results are to have one that is concise, has an area specifically for dementia (or other common diagnoses in SNFs), and has clear instructions for ease of administration. It could be beneficial for the measure to be population- or disease-specific, as it would be more sensitive to symptoms or behaviors related to residents within that category (Velentgas et al., 2013). Education on the importance of social engagement and its measurement is also recommended, especially following COVID-19 restrictions that have increased levels of loneliness, depression, and negative behaviors in SNF residents (Danilovich et al., 2020).

Strengths of the present study include obtaining results from a wide variety of professionals who are involved with Bingocize® and providing a variety of perspectives on the program. Previous research indicates the need for staff involvement during Bingocize® for participants to receive benefits like improved quality of life and improved

mood from participating in social engagement (Materne et al., 2014; Neils-Strunjas et al., 2020). The present study's findings suggest that Bingocize® facilitators understand the importance of social engagement and exercise, such understanding could lead to higher motivation levels to continue leading/participating in Bingocize®.

As with any study, some limitations should be noted. First, there were a limited number of participants. Additionally, with the electronic format of the survey, it may have been unclear and/or difficult to see all aspects of the EPWDS, due to its grainy resolution from uploading it to the survey platform. The Bingocize® progam would benefit from further research to evaluate barriers for measuring social engagement, if the percentage of those measuring social engagement differs between different types of facilities, and if the percentage of those measuring social engagement differs between rural and urban facility locations. Emphasis placed on types of facilities is warranted due to varying levels of function. It would be helpful to specify in these studies those participants who have previously used either the FUSE or EPWDS and ask questions accordingly. Doing so should yield data that is more ecologically valid and representative. Employing strategies to increase response rate could help validate data, such as pushing the survey, providing reminders, providing rewards, and ensuring participant understanding of the importance of their information (Nulty, 2008).

REFERENCES

Andrade, C. (2018). Internal, external, and ecological validity in research design, conduct, and evaluation. *Indian Journal of Psychological Medicine, 40*(5), 498-499. doi: 10.4103.IJPSYM.IJPSYM_334_18

Apelt, E. B. (2020). *Reliability and validity of an assessment of engagement in nursing home residents during Bingocize® (Paper 3186)* [Master's thesis, Western Kentucky University]. TopSCHOLAR®.

Bath, P., & Deeg, D. (2005). Social engagement and health outcomes among older people: Introduction to a special section. *European Journal on Ageing, 2*(1), 24–30. doi: 10.1007/s10433-005-0019-4

Camp C. J. (2010). Origins of Montessori Programming for Dementia. *Non-pharmacological Therapies in Dementia, 1*(2), 163–174.

Choi, S., Chang, J., & Kong, I. (2015). Effects of a social welfare program for health promotion on cardiovascular risk factors. *Journal of Lifestyle Medicine, 5*(2), 76–83. doi: 10.15280/jlm.2015.5.2.76

County Health Rankings & Roadmaps program (2020). *State Reports.* https://www.countyhealthrankings.org/

Crandall, K. J., & Neils-Strunjas, J. (2019). A game-based health program for improving functional health and social engagement in long-term care residents. *Journal of Aging and Long-Term Care, 2*(3), 91-95. doi:10.5505/jaltc.2019.29392

Crandall, K. J. & Steenbergen, K. I. (2015). Older adults' functional performance and health knowledge after a combination exercise, health education, and bingo

game. *Gerontology and Geriatric Medicine (1)*. October-December: 1-8, doi: 10.1177/2333721415613201.

Danilovich, M. K., Norrick, C. R., Hill, K. C., & Conroy, D. E. (2020). Nursing home resident weight loss during coronavirus disease 2019 restrictions. *Journal of the American Medical Directors Association*, *21*(11), 1568–1569. doi: 10.1016/j.jamda.2020.08.032

Dispennette, A. K., Focht, B., Clark, B., Schafer, M., Shake, M., Macy, G., & Crandall, K. J. (2019). Effects of Bingocize® on quality of life, fall risk, and health knowledge in community-dwelling older adults. *Medicine and Science in Sports and Exercise*, *51*(6), 854. doi:10.1249/01.mss.0000563054.76478.58

EQ-5D Instruments. (2017). *About EQ-5D.* https://euroqol.org/eq-5d-instruments/.

Glei, D., Landau, D., Goldman, N., Chuang, Y., Rodriquez, G., & Weinstein, M. (2005). Participating in social activities helps preserve cognitive function: An analysis of a longitudinal, population-based study of the elderly. *International Journal of Epidemiology*, *34*(4), 864–871. doi:10.1093/ije/dyi049

Hajek, A., Brettschneider, C., Mallon, T., Ernst, A., Mamone, S., Wiese, B., Weyerer, S., Werle, J., Pentzek, M., Fuchs, A., Stein, J., Luck, T., Bickel, H., Weeg, D., Wagner, M., Heser, K., Maier, W., Scherer, M., Riedel-Heller, S., & Konig, H. (2017). The impact on social engagement on health-related quality of life and depressive symptoms in old age - evidence from a multicenter prospective cohort study in Germany. *Health and Quality of Life Outcomes*, *15*(1), 1-8. doi: 10.1186/s12955-017-0715-8

Harrison, L. C. (2015). *Kentucky middle school general education teachers: Perceptions on sensory integration of students on the autism spectrum (Paper 97)* [Dissertation, Western Kentucky University]. TopSCHOLAR®.

Jones, C., Sung, B., & Moyle, W. (2018). Engagement of a person with dementia scale: Establishing content validity and psychometric properties. *Journal of Advanced Nursing*, *74*(9), 2227–2240. doi: 10.1111/jan.13717

Kang, H. (2012). Correlates of social engagement in nursing home residents with dementia. *Asian Nursing Research, 6*(2), 75–81. doi:10.1016/j.anr.2021.05.006

Langhammer, B., Bergland, A., & Rydwik, E. (2018). The importance of physical activity exercise among older people. *BioMed Research International*. doi:10.1155/2018/7856823

Liu, J., Rozelle, S., Xu, Q., Yu, N., & Zhou, T. (2019). Social engagement and elderly health in China: Evidence from the China health and retirement longitudinal survey (CHARLS). *International Journal of Environmental Research and Public Health*, *16*(2), 278. doi: 10.3390/ijerph16020278

Materne, L., Luszcz, M., & Goodwin-Smith, I. (2014). Increasing constructive engagement and positive affect for residents with severe and very severe dementia through group-based activities. *Australasian Journal on Ageing, 33*(1), E7–E10. doi: 10.1111/ajag.12127

Mendoza, A. (2019). *The challenges Kentuckians face to improve their health Kentucky Health Issues Poll (KHIP) results.* Foundation for a Healthy Kentucky. https://www.healthy-ky.org/newsroom/news-releases/article/11/the-challenges-

kentuckians-face-to-improve-their-health-kentucky-health-issues-poll-(khip)-results

Neils-Strunjas, J., Crandall, K., Ding, X., Gabbard, A., Rassi, S., & Otto, S. (2020). Facilitators and barriers to attendance in a nursing home exercise program. *Journal of the American Medical Directors Association,* 1-6. doi:https://doi.org/10.1016/j.jamda.2020.09.023

Nulty, D. D. (2008). The adequacy of response rates to online and paper surveys: What can be done? *Assessment & Evaluation in Higher Education, 33*(3), 301-314. doi:10.1080/02602930701293231

Rodger, K., Greasley-Adams, C., Hodge, Z., & Reynish, E. (2015). Expert opinion on the management of pain in hospitalized older patients with cognitive impairment: A mixed methods analysis of a national survey. *BMC Geriatrics*, *15*(1), 1-5. doi: 10.1186/s12877-015-0056-6

Salis, C., Murray, L., & Bakas, K. (2018). An international survey of assessment practices for short-term and working memory deficits in aphasia. *American Journal of Speech-Language Pathology*, *27*(2), 574–591. doi: 10.1044/2017_AJSLP-17-0057

Sprague-Jones, J., Singh, P., Rousseau, M., Counts, J., & Firman, C. (2020). The protective factors survey, 2nd edition: Establishing validity and reliability of a self-report measure of protective factors against child maltreatment. *Children and Youth Services Review, 111*. doi: 10.1016/j.childyouth.2020.104868

Stevens, L. R. (2019). *Observation and self-report of fun and social engagement of nursing home residents during Bingocize® (Paper 3094)* [Master's thesis, Western Kentucky University]. TopSCHOLAR®.

Tak, S. H., Kedia, S., Tongumpun, T. M., & Hong, S. H. (2015). Activity engagement: Perspectives from nursing home residents with dementia. *Educational gerontology, 41*(3), 182–192. doi:10.1080/03601277.2014.937217

Telenius, E.W., Engedal, K., & Bergland, A. (2015). Effect of a high-intensity exercise program on physical function and mental health in nursing home residents with dementia: An assessor blinded randomized controlled trial. *PLoS ONE, 10*(5): e0126102. doi:10.1371/journal.pone.0126102

Typeform. (2019). Online survey platform. Retrieved April 23, 2020, from https://www.typeform.com/

Velentgas, P., Dreyer, N., & Wu, A. (2013). *Developing a protocol for observational comparative effectiveness research: A user's guide.* Quintiles Outcome. https://www.ncbi.nlm.nih.gov/books/NBK126190/pdf/Bookshelf_NBK126190.pdf

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54*(6), 1063-1070. doi:10.1037/0022-3514.54.6.1063

Wodchis, W., Fries, B., & Pollack, H. (2004). Payer incentives and physical rehabilitation therapy for nonelderly institutional long-term care residents:

Evidence from Michigan and Ontario. *Archives of Physical Medicine and Rehabilitation, 85*, 210–217. doi: 10.1016/S0003-9993(03)00616-6

Wunderlich, G. S., Sloan, F. A., & Davis, C. K. (1996). *Nursing staff in hospitals and nursing homes: Is it adequate?* Washington, D.C.: National Academy Press.

APPENDIX I

FUSE

## Fun and Social Engagement Evaluation (FUSE)▼

Date _____ Facility _____ Participant ID _____

*1. Were students present during this Bingocize® session?* *Yes* *No*
*How many?* _____

*2. Please circle one based on who administered the FUSE▼ to this participant:*

Student

Staff member

Faculty

*3. Please check the boxes below that you observe at least one time during the Bingocize® session.*

| | |
|---|---|
| Participated in Bingo<br>Participated in exercise<br>Laughed<br>Smiled<br>Helped out another resident<br>Talked to another resident<br>Talked to student<br>Talked to staff member | Made negative comments<br>Pushed away activity materials<br>Frowned<br>Yelled<br>Cried<br>Did or attended to things other than targeted activity (ex. Fidgeting)<br>Asked or attempted to leave<br>Sleeping |
| **Total # of positive boxes checked _____ /8** | **Total # of negative boxes checked _____ /-8** |
| Other: | Other: |

***PLEASE ADMINISTER #4 *20 MINUTES* AFTER THE BINGOCIZE® SESSION BEGINS.**

**4. Show the participant the male or female faces according to the same gender as the resident participant. Ask the participant: *"Do you feel happy or sad? Point to the picture."* Circle the correct choice based on the participant's response:**

(1) Happy (+2)

(2) Sad (-2)

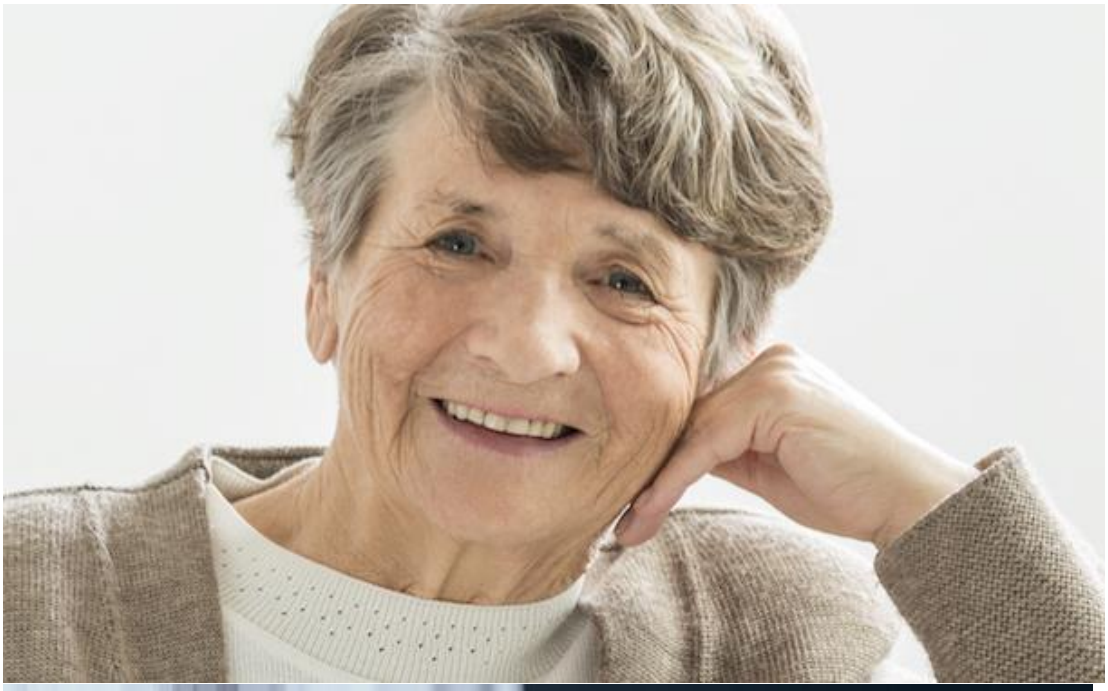
(3) Other (0)

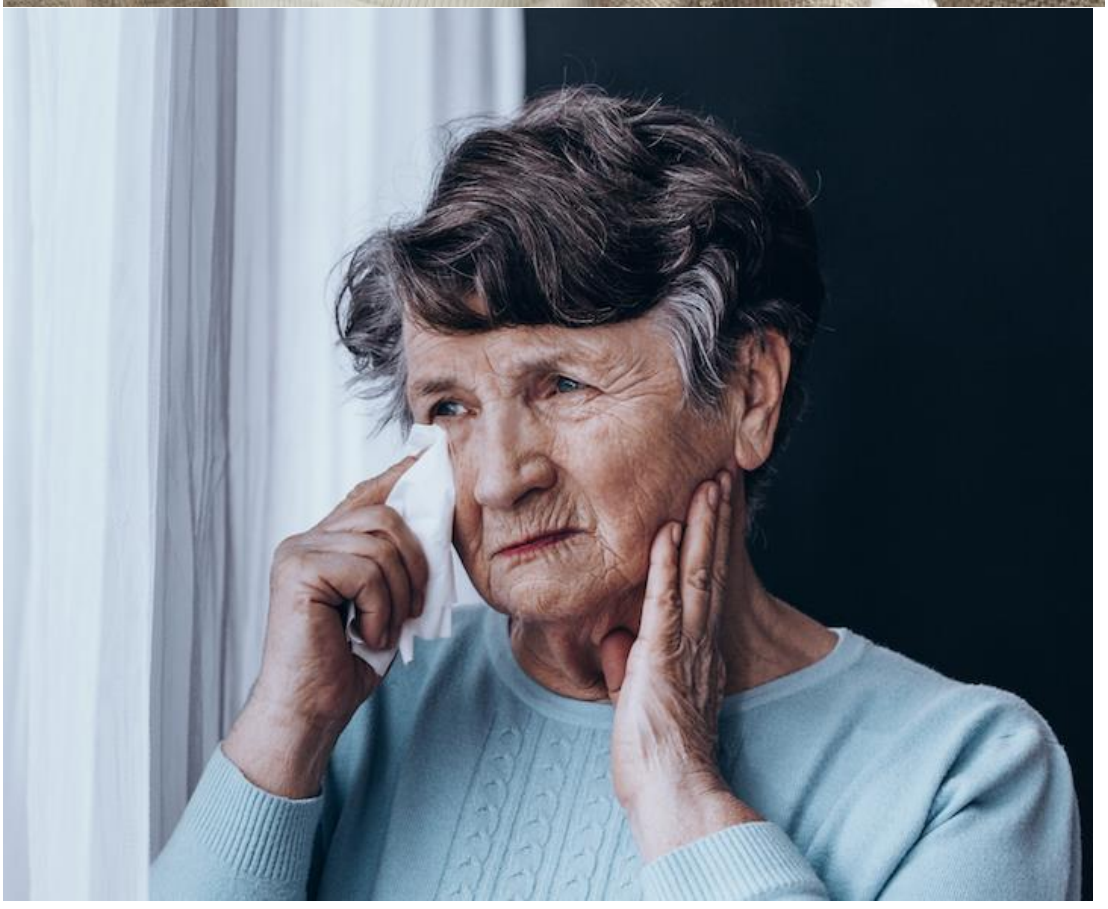
*If other, please circle or write the specific response:*
-Sleeping or Eyes Closed
-Refused
-Left Session
-Did not understand the question
-Provided other response (e.g. tired)
_____

*For researcher use ONLY; #3 Total* _____ + *#4 Total* _____ = _____ + *10* = FUSE Score: _____

APPENDIX II

FUSE Subjective Photos





APPENDIX III

EWPDS

Details of Observation Period and Psychosocial Activity:

Start Time of Observation Period:_____ End Time of Observation Period:_____

Total Duration of Observation Period:_____ Type of Psychosocial Activity: _____

Group or Individual Psychosocial Activity:_____ Location of Psychosocial Activity:_____

Appropriateness of the Environment:

Please indicate the extent to which you agree or disagree to the following statement:

| | | | | | |
|---|---|---|---|---|---|
| The overall environment (e.g., lighting, noise level, and presence of other) is appropria te for the target psychosocial activity to induce positive engagement in people with dementia. | 1 | 2 | 3 | 4 | 5 |
| | ☐ | ☐ | ☐ | ☐ | ☐ |
| | Strongly disagree | | | | Strongly agree |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | ***Affective Engagement***<br>Please indicate the extent to which you agree or disagree to the following statements: the person with dementia... | | | | | | |
| 1. | Displays positive affect such as pleasure, contentment or excitement (e.g., smiling, laughing, delight, joy, interest and/or enthusiasm). | 1<br>☐<br>Strongly disagree | 2<br>☐ | 3<br>☐ | 4<br>☐ | 5<br>☐<br>Strongly agree | N/A<br>☐<br>Not applicable |
| 2. | Displays negative affect such as apathy, anger, anxiety, fear, or sadness (e.g., disinterest, distressed, restlessness, repetitive rubbing of limbs or torso, repeated movement, frowning, crying, moaning, and/or yelling). | 1<br>☐<br>Strongly disagree | 2<br>☐ | 3<br>☐ | 4<br>☐ | 5<br>☐<br>Strongly agree | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | ***Visual Engagement***<br>Please indicate the extent to which you agree or disagree to the following statements: the person with dementia... | | | | | | |
| 3. | Maintains eye contact with the activity, materials used, or the person/s involved. | 1<br>☐<br>Strongly disagree | 2<br>☐ | 3<br>☐ | 4<br>☐ | 5<br>☐<br>Strongly agree | N/A<br>☐<br>Not applicable |
| 4. | Appears inattentive, has an unfocused stare or turns head/eyes away from the activity, materials used, or the person/s involved. | 1<br>☐<br>Strongly disagree | 2<br>☐ | 3<br>☐ | 4<br>☐ | 5<br>☐<br>Strongly agree | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | ***Verbal Engagement***<br>Please indicate the extent to which you agree or disagree to the following statements: the person with dementia... | | | | | | |
| 5. | Initiates, participates, or maintains verbal conversation, sounds or gestures (e.g., nodding) in response to the activity, or the materials used, or the person/s involved. | 1<br>☐<br>Strongly disagree | 2<br>☐ | 3<br>☐ | 4<br>☐ | 5<br>☐<br>Strongly agree | N/A<br>☐<br>Not applicable |
| 6. | Refuses to participate in the activity or in a conversation related to the activity by verbalising e.g. "no", "stop", etc. OR verbalises negative comment, complaint, and sound (e.g., groaning, or cursing, or swearing) in response to or related to the activity, or the materials used, or the person/s involved. | 1<br>☐<br>Strongly disagree | 2<br>☐ | 3<br>☐ | 4<br>☐ | 5<br>☐<br>Strongly agree | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | ***Behavioural Engagement***<br>Please indicate the extent to which you agree or disagree to the following statements: the person with dementia... | | | | | | |
| 7. | Responds to an activity by approaching, reaching out, touching, holding or handling the activity, the material used, or the person/s involved. | 1<br>☐<br>Strongly disagree | 2<br>☐ | 3<br>☐ | 4<br>☐ | 5<br>☐<br>Strongly agree | N/A<br>☐<br>Not applicable |
| 8. | Responds to an activity by avoiding, shoving away, pulling back from, hitting, or mishandling the activity, the material used, or the person/s involved. | 1<br>☐<br>Strongly disagree | 2<br>☐ | 3<br>☐ | 4<br>☐ | 5<br>☐<br>Strongly agree | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | ***Social Engagement***<br>Please indicate the extent to which you agree or disagree to the following statements: the person with dementia... | | | | | | |
| 9. | Uses the activity or the material/s to encourage others to interact, or as a communication channel to interact and talk with others (e.g., staff and other residents). | 1<br>☐<br>Strongly disagree | 2<br>☐ | 3<br>☐ | 4<br>☐ | 5<br>☐<br>Strongly agree | N/A<br>☐<br>Not applicable |
| 10. | In response to the activity, is distracting or disrupting others (e.g., staff/facilitator and other residents). | 1<br>☐<br>Strongly disagree | 2<br>☐ | 3<br>☐ | 4<br>☐ | 5<br>☐<br>Strongly agree | |

APPENDIX IV

Survey Questionnaire

Are you 18 years of age or older and have led or observed 3 or more Bingocize® sessions? Yes/No

Survey will automatically redirect to the end if "no" is selected.

What is your current job title? Activities director, activities director assistant, speech-language pathologist, college or university instructor, physical therapist, administrative assistant, administrator, receptionist, student, certified nursing assistant, licensed practical nurse, registered nurse, other

If other, please specify: _____

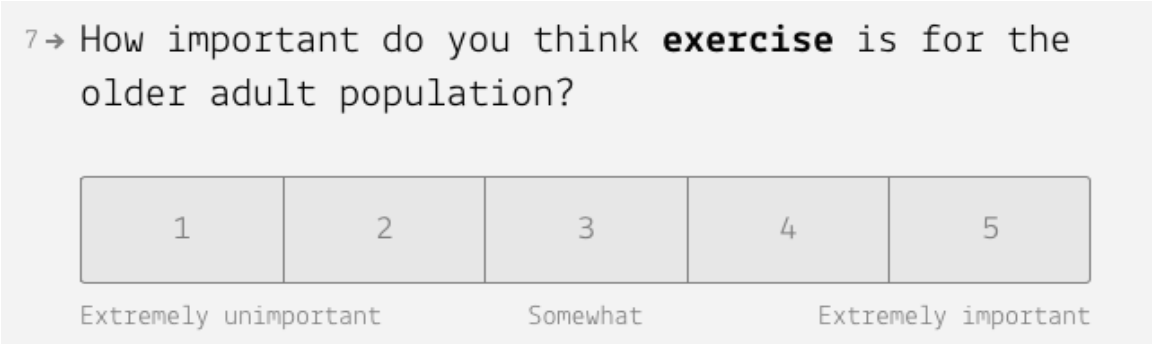
What state do you work in? ___

How many sessions of Bingocize® have you observed or led? 1-10, 10-30, 30-50, 50+

If you have ever led a Bingocize® session, in what type of facility did you lead? If "other," please specify. Certified nursing facility (nursing home), senior center, adult day program, assisted living facility, hospital, other

If other, please specify: ___

Have you ever used the Fun and Social Engagement (FUSE) measure or the Engagement of a Person with Dementia Scale (EPWDS)? Check all that apply. FUSE, EPWDS, Neither




9→ In your opinion, to what degree are residents engaged in **Bingo** during Bingocize®?

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|

Not engaged at all — Somewhat — Extremely engaged

10→ In your opinion, to what degree are residents engaged in **exercise** during Bingocize®?

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|

Not engaged at all — Somewhat — Extremely engaged

11→ In your opinion, to what degree are residents **socially engaged** with each other or the lead facilitator during Bingocize®?

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|

Not engaged at all — Somewhat — Extremely engaged

12→ I believe it is important to document level of engagement during Bingocize®.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|

Strongly disagree — Neutral — Strongly agree

After being shown a picture of the FUSE and the self-report photos, the participants were asked the following questions with the FUSE still present next to each question.

a. In your opinion, how clear are the instructions?

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|

Extremely unclear — Neither clear or unclear — Extremely clear

b. In your opinion, are the listed behaviors a comprehensive representation to describe a participant's level of engagement?

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|

Definitely incomplete — Somewhat complete — Definitely complete

c. What would you add to positive or negative behaviors?

Type your answer here...

d. In your opinion, do the behaviors in #3 (inside the box) accurately represent both positive and negative behaviors?

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|

Extremely inaccurate — Somewhat — Extremely accurate

e. In your opinion, how easy would it be to administer the FUSE?

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|

Extremely difficult — Neutral — Extremely easy

f. In your opinion, are the behaviors listed typically seen during Bingocize®?

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|

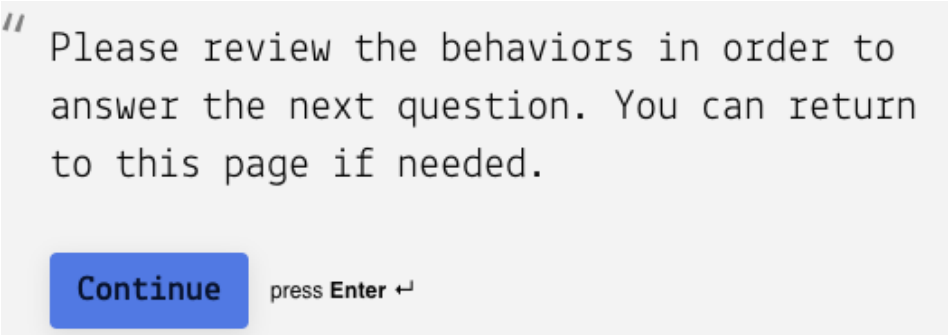
Never observed — Sometimes — Always observed

The participants were then shown photos of each page of the EPWDS and asked the following questions with each relevant page available next to each question.

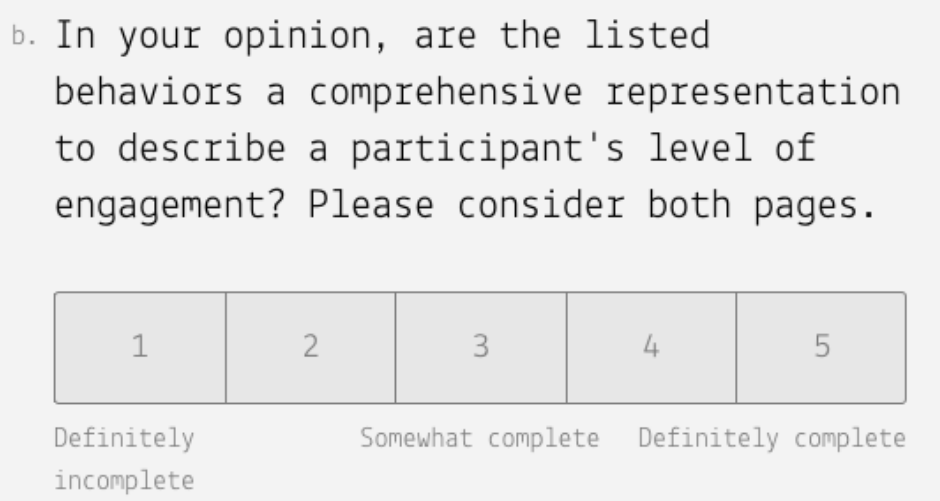
a. In your opinion, how clear are the instructions?

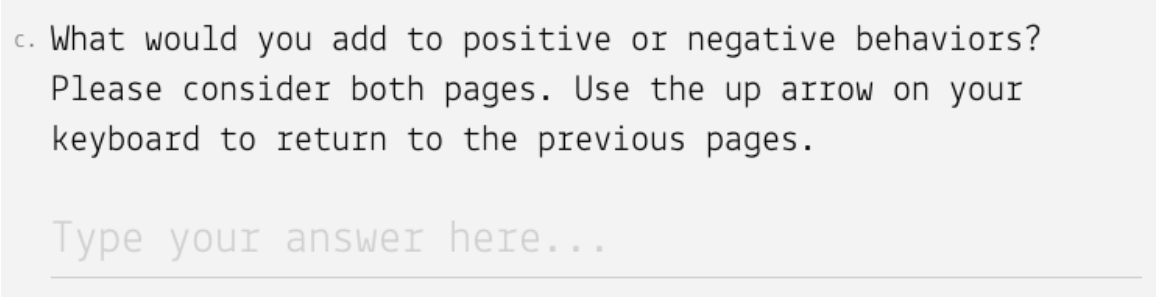
| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|

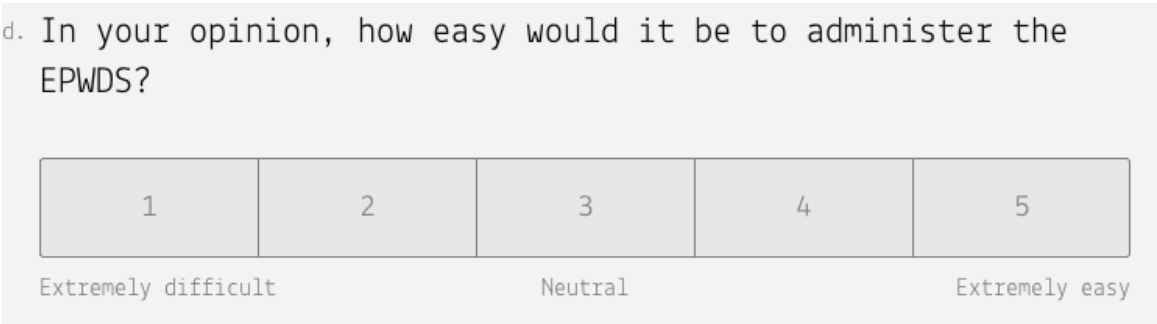
Extremely unclear — Neither clear or unclear — Extremely clear




An opportunity to review behaviors was provided due to there being two pages of behaviors on the EPWDS and only one being able to be displayed next to the question in this platform.



e. In your opinion, are the behaviors listed typically seen during Bingocize®?

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|

Never observed — Sometimes — Always observed

15→ Based on the information provided about both measures today, which form are you most likely to choose to evaluate level of social engagement during Bingocize®?

A FUSE

B EPWDS

16→ Reasons for the measure you chose in the previous question:

Choose as many as you like

A User-friendliness

B Length

C Comprehensiveness

D Accuracy

E Previous familiarity

F Other

Submit press Cmd ⌘ + Enter ↵

# APPENDIX V

## IRB Approval Letter

| | |
|---|---|
| DATE: | May 11, 2020 |
| TO: | Annika Gabbard, BS |
| FROM: | Western Kentucky University (WKU) IRB |
| PROJECT TITLE: | [1564311-1] Social engagement of nursing home residents: a comparison of two observation measures |
| REFERENCE #: | IRB 20-284 |
| SUBMISSION TYPE: | New Project |
| ACTION: | APPROVED |
| APPROVAL DATE: | May 11, 2020 |
| REVIEW TYPE: | Exempt Review |

Thank you for your submission of New Project materials for this project. The Western Kentucky University (WKU) IRB has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a project design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This submission has received Exempt Review based on the applicable federal regulation.

Please remember that informed consent is a process beginning with a description of the project and insurance of participant understanding followed by an *implied* consent form. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Federal regulations require each participant receive a copy of the consent document.

Please note that any revision to previously approved materials must be approved by this office prior to initiation. Please use the appropriate revision forms for this procedure.

All UNANTICIPATED PROBLEMS involving risks to subjects or others and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. Please use the appropriate reporting forms for this procedure. All FDA and sponsor reporting requirements should also be followed.

All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to this office.

This project has been determined to be a MINIMAL RISK project.

Please note that all research records must be retained for a minimum of three years after the completion of the project.

If you have any questions, please contact Robin Pyles at (270) 745-3360 or irb@wku.edu. Please include your project title and reference number in all correspondence with this committee.

APPENDIX VI

IRB Consent Form

**IMPLIED CONSENT DOCUMENT**

**Project Title:** Social Engagement of Nursing Home Residents: A Comparison of Two Observation Methods

**Investigator:** Dr. Richard Dressler, Communication Sciences and Disorders at Western Kentucky University. Email: Richard.dressler@wku.edu Phone: 270-745-6280

You are being asked to participate in a project conducted through Western Kentucky University. The University requires that you give your agreement to participate in this project.
**You must be 18 years old or older to participate in this research study.**

A basic explanation of the project is written below. Please read this explanation and email the researcher any questions you may have. If you then decide to participate in the project, please continue to the survey. You should be given a copy of this form to keep.

1. **Nature and Purpose of the Project:** The purpose of this project, Social Engagement of Nursing Home Residents: A Comparison of Two Observation Methods, is to gather opinion from those involved in Bingocize® on the user-friendliness, pros and cons, comprehensiveness, and efficiency of two evaluation methods.

2. **Explanation of Procedures:** This survey consists of 13 demographic and pre-requisitequestions followed by 12 questions about the two forms presented. This survey should take no longer than 10 minutes to complete. After providing consent, provide an answer choice for each question and proceed through the survey.

3. **Discomfort and Risks:** There are no known risks for participating in this survey at this time. Discomfort is not expected.

4. **Benefits:** While there may be no known direct benefits to the subjects, completion of this questionnaire would contribute to further development of interdisciplinary methods of evaluation. It would bring awareness to the methods themselves and provide subjects with an opportunity to voice their opinion and provide contribution in a meaningful way.

5. **Confidentiality:** No names and other identifying information will be used in the presentation of findings from this study. Consent forms and data from the survey will be kept in a locked file cabinet behind a locked door at Western Kentucky University for the minimum requirement of three years and then destroyed.

6. **Refusal/Withdrawal:** Refusal to participate in this study will have no effect on any future services you may be entitled to from the University. Anyone who agrees to participate in this study is free to withdraw from the study at any time with no penalty.

*You understand also that it is not possible to identify all potential risks in an experimental procedure, and you believe that reasonable safeguards have been taken to minimize both the known and potential but unknown risks.*

***Your continued cooperation with the following research implies your consent.***

THE DATED APPROVAL ON THIS CONSENT FORM INDICATES THAT
THIS PROJECT HAS BEEN REVIEWED AND APPROVED BY
THE WESTERN KENTUCKY UNIVERSITY INSTITUTIONAL REVIEW BOARD
Robin Pyles, Human Protections Administrator
TELEPHONE: (270) 745-3360