



## Scripted-IMPROV™ Research Summary

The goal of the Scripted-IMPROV™ research study was to examine the effects of specially-designed, semi-improvisational theatrical performances on persons with dementia. To this end, data were gathered on 178 participants at twelve (12) facilities stratified equally by type of facility and equally split between New York City and Boston: four Nursing Homes, four Assisted Living Facilities, and four Day Centers (two of each type of facility in each city). The study sample had the following characteristics: mean age 85 (SD=8); 76% female; 83% Caucasian, 15% African American, 1% Hispanic, and 1% Indian; 49% at least some college education; 57% widowed, 24% married, 12% single, and 7% divorced/separated. The mean *Mini-Mental State Exam (MMSE)*<sup>1</sup> score was 12 (S.D.=7), with 36% of participants in the late stages of dementia, 39% in the middle stages of dementia, and 25% in the early stages of dementia.

In an effort to examine the longer-term effects of Scripted-IMPROV™, researchers utilized the *Geriatric Depression Scale-Short Form*<sup>2</sup> (GDS-SF) and the *Zeisel Stigma Scale*<sup>3</sup> (ZSS), through direct assessment of persons with dementia at baseline and again at post-treatment (2-4 weeks after Scripted-IMPROV™ performances). The GDS-SF is a 15-item screening tool used to identify depression in older adults. The ZSS is used to identify stigmatized beliefs that persons might hold about dementia.

Researchers also implemented the *Menorah Park Engagement Scale*<sup>4</sup> (MPES) at baseline gathering data on randomly-selected, non-theater, standard group activities, such as discussion groups, exercise, bingo, and arts and crafts. Collectively, these group activities reflect the “control” condition for the research study. MPES data gathered during Scripted-IMPROV™ programming and compared to the baseline

control condition provided the opportunity to assess the more immediate or “proximal” effects of the program. The *MPES* measures four types of engagement / affect.

- *Constructive Engagement (CE)*—defined as “motor or verbal behavior exhibited in response to the target activity.”
- *Other Engagement (OE)*--“motor or verbal behavior exhibited in response to something other than the target activity.”
- *Non-Engagement (NE) or Apathy*—“sleeping and/or staring into space.”
- *Pleasure (PL)*—“clearly observable smiling or laughing.”

A high-quality activity that engages persons with Alzheimer’s typically produces high levels of CE and PL and lower levels of OE and NE/Apathy. We consider PL an observable proxy for high quality of life. That is, insofar as a person is smiling or laughing, he or she is experiencing a high quality of life at that moment.

For the total sample—all sites and all levels of dementia—there were several statistically significant findings related to engagement / affect. There was a 32% increase in Constructive Engagement and a 100% increase in Pleasure during treatment, as compared to baseline / control programming. In addition, there was a 79% decrease in Other Engagement and a 41% decrease in Non Engagement / Apathy.

We examined depression in participants because depression is a particularly prevalent condition reported among persons with dementia. For a subsample of 29 participants who scored in the depressed range on the GDS-SF at baseline (GDS > 5), there was a significant reduction in depressive symptoms at post-treatment—2-4 weeks after the performance. The mean GDS total score at baseline of 7.2 and was lowered to 5.1 at post-treatment ( $p < .01$ ), a total score that is beneath the level of clinical depression. This reflects a longer-term effect of the intervention.

The study team hypothesized that when moods and behaviors of persons with dementia “improve” during an activity, a person’s attitudes towards persons with dementia are positively affected. To test this hypothesis, participants were administered the ZSS at baseline and again at post-treatment. At baseline, 73% of participants felt that persons

with dementia “can make important decisions”; at post-treatment, this figure increased to 81%. This change approached significance ( $p=.11$ ) We believe that this change in perception is likely due to the fact that participants are encouraged to make decisions throughout the performance, and that participants observe their peers making similar choices during the performances.

One of the most interesting results of the study is that, while levels of engagement and affect differed greatly at baseline in the three types of facilities, with Nursing Home residents exhibiting the lowest levels of CE and PL and the highest levels of OE and NE/Apathy, during Scripted-IMPROV™ programming the levels of engagement and affect were relatively similar in all three types of facilities. The one exception is that at treatment PL was lower at Assisted Living Facilities, as compared to the other sites. However, there was still a significant improvement ( $p<.01$ ) in PL from baseline to treatment for assisted living residents.

Study participants in all three types of facilities experienced statistically significant, positive change(s) from baseline/control to treatment (either significant increases in CE or pleasure/quality of life and/or decreases in OE or NE/apathy). Since there were low levels of CE and relatively high levels of OE and NE at baseline for Nursing Home residents, these participants had the greatest chance to exhibit improved outcomes. Not surprisingly, Nursing Home participants exhibited the most profound increases in CE and PL and decreases in OE and NE.

The study intervention and eventual product—the Scripted-IMPROV™ Drama Program—was always intended to be implemented by non-professional actors including activity professionals and care partners. On the other hand, the researchers had employed professional actors/improvisers to develop and test the product during the research. To assess outcomes when the program was implemented by “non-professional” actors, once training material and the documents were complete, the study team turned the product over to non-actors. Staff members, such as activity staff, nursing assistants, and maintenance staff, completed a four-hour online training course that is part of the product. They were also provided with the props, scripts, checklists,

and other materials/resources necessary for putting on Scripted-IMPROV™. They used these materials to engage participants in their own programs in improvising the first script, *Ahoy Me Pirate Tale*. Surprisingly, levels of engagement and affect for the plays put on by non-performers were slightly better than plays put on by professional performers. The fact that non-actors can successfully engage participants in Scripted-IMPROV™ performances suggests that the strong relationships that non-actors develop over time with participants, and the general skills they acquired from years running activities with persons with dementia, appears to compensate for a relative lack of acting experience and skills.

In sum, the data indicate that, during Scripted-IMPROV™ experiences, persons with dementia are more actively involved than in regular activities, enjoy themselves more during improvisation experiences, and are less likely to be apathetic. The data also indicate a significant reduction in depression among those with an above clinical level of depression. Given the prevalence of apathy and depression in this population, and the fact that persons with dementia are purported to have difficulty maintaining focus and attention, the data indicate that the Scripted-IMPROV™ significantly and positively reduces symptoms associated with Alzheimer's and related dementias.

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<sup>1</sup> Folstein, Folstein, & McHugh, 1975

<sup>2</sup> Sheikh & Yesavage, 1986; Yesavage et al., 1982

<sup>3</sup> Zeisel, 2005

<sup>4</sup> Camp, Skrajner, & Gorzelle, 2015