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Theatre Arts for Improving Cognitive and Affective Health

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Theatre Arts for Improving Cognitive and Affective Health

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This article presents, for the first time, the methodological details of a theatrical intervention designed to enhance the mental/emotional health and psychological well-being of older adults. A step-by-step plan is offered for health care professionals and activity directors who might wish to carry out this program in their own facilities. The authors' supporting research documented significant improvements in performance of activities of daily living, as well as on standard measures of memory, comprehension, problem-solving ability, and personal growth through this unique intervention.

KEYWORDS *healthy aging, arts interventions, stimulating activities*

The purpose of this article is to describe a successful theatrical intervention in sufficient detail to permit replication. In a 15-year series of inquiries, the investigators presented evidence for the enhancement of cognitive/affective functioning in mentally healthy adults age 60 and older by means of this program, based on the rehearsal and performance strategies of professional actors. Using randomized controlled trials (RCTs) and other paradigms, the researchers showed statistically significant increases on standard measures of memory, comprehension, creativity, problem-solving ability, perceived

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personal growth, and observed tasks of daily living after taking a four-week, eight-session acting course.

Each study in the series employed a different type of control group: the traditional no-treatment controls to determine comparative efficacy; waiting-list controls to account for some motivational factors; alternate interventions that included a visual art appreciation course to control for non-content-specific contributions; a singing course to control for the activation experienced when performing for peers; and a course taught by activity directors without theatrical training or experience.

EVIDENCE OF EFFECTIVENESS

Before presenting step-by-step instructions for implementation of the intervention, it is appropriate to summarize the research's extensive empirical support. Six previous multiyear studies by the first two authors looked at acting training for enhancing healthy cognitive aging (Noice & Noice, 2006, 2009, 2011, 2013; Noice, Noice, Perrig-Chiello, & Perrig, 1999; Noice, Noice, & Staines, 2004). Participants (more than 500 across the six studies) were individually tested before and after each program to assess change using standard measures. (A number of psychometric studies [e.g., Platt & Spivack, 1975] have shown these measures to have construct, discriminant, content, predictive, and concurrent validity as well as test-retest reliability.) Our rationale for choosing these cognitive test instruments was that they measure attributes essential for healthy aging and can be accomplished in sessions of less than two hours to avoid exhausting the participants. The following measures were administered before and after the intervention:

- Word List Memory (Morris et al., 1989) tests short-term memory ability.
- Word List Delayed Recall is a surprise recall test of the original word list given to assess long-term memory.
- Digit Span Forward and Backward (Wechsler, 1987) tests working memory capacity.
- Category Fluency (Morris et al., 1989) tests creativity.
- The East Boston Memory Test (Albert et al., 1991) is a measure of episodic memory.
- Delayed East Boston Test assesses episodic memory after a time lapse.
- The Means-End Problem-Solving Procedure (MEPS; Platt & Spivack, 1975) tests ability to create solutions for everyday problems.
- The Observed Tasks of Daily Living, Revised (OTDL -R; Diehl et al., 2005) tests the participant's functional status.
- In addition to the foregoing cognitive instruments, we added one affective scale, Perception of Personal Growth (Ryff, 1989), to measure self-perceived improvement in this domain.

RATIONALE FOR OBSERVED IMPROVEMENTS

The practice of acting encompasses many elements known to facilitate healthy cognitive aging, including mindfulness (LaBerge, 1995; Langer, 1992), novelty (Tulving, Markowitsch, Craik, Habib, & Houle, 1996), and social support (Mortimer et al., 2012; Seeman, Lusignolo, Albert, & Berkman, 2001). Acting not only encompasses all these elements but also does so during a performance before one's peers, a complex endeavor unlike any other structured activity. In effect, acting is the ultimate in mindfulness; the participant not only has to be fully aware of the present situation but also must try to affect his or her partner's behavior in real time while every word and movement must be performed exactly as rehearsed. Other widely accepted cognitive learning factors activated by the acting process include deep processing (e.g., Craik & Tulving, 1975; imaginatively immersing oneself in the dramatic situation); causality (Noordman & Vonk, 1998; Trabasso & Sperry, 1985; probing the literal words of the script to derive the often unstated goals implied by the context); chunking (Noice & Noice, 1993; Spilich, Vesonder, Chiesi, & Voss, 1979; using the goal structure to learn the script by sections, each of which relies on a single objective); self-efficacy (Bandura, 1982; realizing that one is capable of learning a skill that is valued by society); and mastery (Nakamura & Csikszentmihalyi, 2002; Ryff, 1989; enjoying the use of this newfound ability in front of peers).

OVERVIEW OF PREVIOUS TEST RESULTS

The various iterations of the program have produced similar increases on the previously mentioned standard cognitive/affective measures; therefore, only one representative study will be summarized in detail—the one that compared acting instruction to singing instruction (Noice & Noice, 2009). One hundred and twenty-two older adults (average age 82.7) living in subsidized retirement homes volunteered after hearing a recruitment talk. The majority (62%) had only a high school education or less. All had intact intellectual functioning as assessed by the Pfeiffer Short Portable Mental Status Questionnaire (Pfeiffer, 1975).

Classes met twice weekly for four weeks, each lasting 70 minutes (60 minutes of instruction with a 10-minute coffee break midway for socializing). Pre- and post-testing, as well as the classes themselves, were carried out in the retirement homes where recruitment had taken place. In each facility participants were randomly assigned to one of three conditions: acting classes, singing classes, or waiting-list controls. (The wait-list participants were given the intervention at a later date for ethical reasons). All classes were taught by well-qualified, specialized instructors with extensive academic and professional credentials. (A later study [Noice & Noice, 2013]

found that activity directors or an outside acting teacher could teach the acting techniques effectively.)

With the exception of the Observed Activities of Daily Living instrument (which was added to the battery in subsequent studies) all the aforementioned cognitive measures were administered. The acting group significantly outperformed waiting-list controls on almost all cognitive measures, as assessed by a multivariate analysis of covariance with group membership as the independent variable (acting, singing, waiting-list), age and education as the covariates, and the eight cognitive variables as the dependent variables. The only nonsignificant effects were the forward and backward digit span tests. Immediate recall of the East Boston Memory test barely missed significance ($p = .06$). The acting group also outperformed the singing group on almost all variables. However, on the personal growth scale, scores of the singing group increased significantly, equaling those of the acting group, thus demonstrating that self-perceived improved quality of life can be independent of actual cognitive gains.

Except for these linked studies, no other objective evidence of cognitive enhancement through acting has ever been reported in the aging literature. A few books about senior theatre have appeared throughout the years, but the authors of these books assumed that acting would promote psychological health in the elderly and treated this as a self-evident fact that did not require empirical documentation. These same authors made the common assumption that memorization is threatening even to mentally healthy seniors and therefore should be eliminated. Although we disagree with both of these assumptions, nevertheless, many practical tips are contained in such volumes as *Dramatics for the Elderly* (Gray, 1974), *Acting Up* (Telander, Quinlan, & Verson, 1982), and *Drama Activities With Older Adults* (Thurman & Piggins, 1982). However, as noted earlier, in these books assertion takes the place of evidence, and acting is assumed to produce positive change without supporting data—a state of affairs that does little to encourage major funding for furthering the cause. To date, the only theatrical cognitive improvement program for older adults that has been tested with rigorous scientific methodology, such as randomly controlled trials, is the Noice and Noice program outlined in this article.

A PRACTICAL GUIDE TO ADMINISTRATION

One criticism that has been leveled at academic articles on arts interventions is that they have clear descriptions of design, recruiting procedures, and results but rarely contain enough details on what the participants actually learn, making replication impossible. Indeed, we have followed this reporting procedure in the past, concentrating primarily on issues of appropriate test instruments, statistical analysis, and implications of the results. However,

this article will now describe the intervention in sufficient detail for activity professionals to attempt replication. All eight sessions involve active participation with only enough explanation to make the desired procedures clear. The instructor emphasizes that passivity is never an option and that all participants are expected to commit fully to each mental/emotional/physiological exercise. The first few exercises are easy to understand and perform, requiring only this full commitment by the participants. All exercises are additive inasmuch as participants are required to apply what they learn from exercise 1 when performing exercise 2; to apply what they learn from exercises 1 and 2 when performing exercise 3, and so on. The four short preliminary exercises described here serve as examples of the core process of acting and usually take only 20–25 minutes. However, they effectively introduce the elements that are central to the more complex exercises and scripted scenes that comprise the remainder of the course.

Exercise 1: The participants listen to every sound they hear in the room, such as the whirr of the heating or cooling system, a chair creaking, or a person coughing. The instructor monitors this to make sure all are complying. The instructor then explains that this is the heart of all acting: *the reality of doing*. Good actors never pretend; they analyze the script to find out what basic human action (in this case, listening) is occurring in the scene and then do it *for real*. For example, if the script calls for character A to tease character B, actor A simply teases actor B. He or she does *not* try to look and sound like someone teasing, the actor actually *teases* the other actor at every performance.

Exercise 2: The instructor then explains that this reality of doing is only 50% of the process because a widely accepted definition of acting is “living truthfully under imaginary circumstances” (e.g., Meisner & Longwell, 1987, p. 15). Therefore, in exercise 2, the participants perform the following imaginary scenario. They are visiting a friend’s apartment on a high floor of an apartment building when the friend has to leave to get something from the car. The remaining character (who is very nosey) realizes that the computer is on and that e-mail is being received. So he or she decides to snoop and read the friend’s private e-mails. However, the character obviously does not want to be caught snooping, so he or she listens for the sound of the elevator signaling the friend’s return, thus combining an imaginary situation (snooping) with a real action (listening). The instructor emphasizes that each participant must *imagine* the situation but *really listen* for the elevator.

Exercise 3: The participants learn that one key to this *reality of doing* is to become involved in an attempt to obtain a difficult-to-achieve goal. The instructor asks the participants to imagine that they are standing in front of a cupboard or pantry. On the top shelf there is something that they very much want, but it is just beyond their grasp. They then stand on their toes and try to reach the desired object. The obstacle to achieving the goal is that the object seems just out of their reach, requiring genuine effort to get

it. This exercise combines the reality of doing (really trying to stretch a few inches higher) with an imaginary situation (standing in front of a cupboard) because one is motivated *to obtain a difficult-to-achieve goal*. The instructor carefully monitors the group; usually there will be one or two participants whose actions make it obvious that they are just going through the motions without being truly committed to obtaining the imaginary object on the top shelf. The instructor immediately corrects them and tells them that they will only get value out of the course if they immerse themselves fully in each exercise.

Exercise 4: Now very basic dialogue is added. The imaginary situation is that a couple is arguing because one of them wants to go to a party and, although the other originally agreed to go, he or she is now refusing. To keep it simple, the instructor starts in the middle of the situation. Character A is *insisting* on going and character B is *refusing*. The dialogue consists of character A saying “yes” and character B saying “no” over and over until the instructor stops them. The instructor explains that this exercise requires the fourth element of good acting: *spontaneity*. Actor B must listen to how actor A says “yes” and respond accordingly. However, there is no time for a detailed analysis of the other’s performance; actor B takes in everything that is happening in actor A’s tone of voice, facial expression, body language, and so on and responds immediately, being guided only by his or her instinctual reaction. With this and all upcoming exercises in the course, each couple comes to the front of the class while the others sit and watch, literally resulting in a series of performances in front of an audience. At this time, the instructor summarizes professional acting technique by stressing that the following four elements comprise the core process and must be fully committed to in every subsequent exercise, rehearsal, or performance.

1. Pretending is prohibited; every utterance and every movement must be performed *for real*.
2. The actor must use his or her imagination to create the context within which this real human interaction takes place.
3. The actor must always derive his or her goal from the context of the script, a goal with obstacles in the way so that it is difficult to achieve.
4. That goal must be pursued spontaneously. That is, the actor must be totally open to whatever the other actors are doing and respond immediately to this input without calculation.

These four exercises comprise the first third to half of the first lesson, but everything else in the course depends on understanding these principles and being able to execute the four exercises that illustrate them. Subsequent exercises, theatre games, and improvisations utilize these four fundamental elements in a wide variety of circumstances and in increasingly longer and

more complex scripted scenes. Participants are further instructed that each of these four elements is necessarily multi-modal: cognitive (the thoughts activated by the process), emotive (the feelings generated by the process), and physical (the physiological concomitants of the process, including tone of voice, body language, and facial expression). Throughout, the instructor gently (and sometimes not so gently) corrects anyone who is not exhibiting this total multi-modal involvement in the four core elements. However, it is constantly stressed that every individual is unique, so that no one can be *better* at doing these exercises than another as long as he or she is honestly trying to obtain the goals inherent in the dramatic situation. As the instructor puts it: “Nobody can be as good a *you* as *you*.” In this way, a supportive, noncompetitive atmosphere is generated. Eventually, the participants are asked to apply this core process to playing complete scenes from memory. The latter is the most demanding part of the course: being spontaneous (not *apparently* spontaneous, *actually* spontaneous) during a performance in which all dialogue and movements have been rehearsed over and over to ensure an exact rendition of the author’s script. The instructor emphasizes that the participants must *absorb* the dialogue by actively rehearsing the scene. Eventually, they know their lines because of repeatedly using them while simultaneously engaging in the core process.

The authors have coined the term *active experiencing* (AE) to refer to the application of the four core elements of the acting process during script learning and subsequent performance. A literature search revealed no other cognitive aging studies that required this integration of spontaneity and word-for-word memory, yet such deep processing has long been associated with enhanced cognitive ability (e.g., Craik & Tulving, 1975). It should be pointed out that the exact recall seen in our studies was never the result of rote memorization: the participants were instructed to glance at the script, absorb one line in their short-term memory, look into their partner’s eyes, and actively use the words to try to achieve the intended goal before going on to the next line of dialogue. After a while, the participants found that they had to look at the script less and less, yet were able to produce the exact words. This mirrors the learning process for full-length plays in most professional theatres. During the first half of the rehearsal period (however many weeks it is) the actors have the scripts in their hands but, in all subsequent rehearsals, they are expected to be “off book.” Participants in our studies have learned very short scenes in less than an hour but longer ones have taken two or three one-hour periods. For these learning sessions, the participants simultaneously rehearse with their scene partners in different corners of the training room while the director circulates to give feedback.

If the training is to be given by someone with experience in acting or teaching acting (including graduate students from local colleges) these procedural details should be sufficient. Indeed, our data show that the greatest variety of gains are produced by such an experienced instructor. However, by

using the following guidelines, activity directors without any theatrical training have produced significant results on our stringent test instruments (Noice & Noice, 2013). Obviously, the more theatrical knowledge the administrator possesses, the easier it will be to explain the rationale, supervise the tasks, answer questions, and give pertinent examples. Therefore, these guidelines are offered for health care professionals and activity directors without theatrical experience who would like to try this intervention on their own rather than recruiting local theatre professionals.

Background Preparation for Those New to Teaching or Directing Novice Actors

First, acquire some theatrical background knowledge by reading a tried-and-true instructional text for beginners such as Robert Cohen's (2008) *Acting One*, the most frequently assigned college text in the United States. Other standard texts include *The Actor at Work* by Benedetti (2008) and *Acting Onstage and Off* by Barton (2012). Collect a number of age-appropriate theatre games (also called acting exercises) from these books or the Internet. Following are some of the best known.

One Word at a Time. The participants stand in a circle. The instructor designates someone to start by saying any word aloud. The next participant builds on that by generating a second word that will make logical and grammatical sense. Each subsequent participant follows the same procedure so that eventually a short dramatic situation emerges. This is basically a warm-up exercise in creativity to activate the participants for the rest of the programmed activities.

The Mirror Game. Divide the group into sets of two and bring everyone onto the playing area. Each couple stands face to face about two feet apart with one partner being designated as the leader. The leader starts to move arms, hands, and/or body. The partner must match the movements exactly so that one person is literally the moving mirror image of the other. This is far more demanding than one would think, and the instructor must emphasize that the leader is just as responsible as the follower for keeping the image perfect. When the instructor calls "switch," the leader becomes the follower and vice versa. The idea behind the game is to experience the intense involvement and connection with one's acting partner essential to good acting.

The Gibberish Game. One couple at a time takes the stage. One partner privately decides on a dramatic task (e.g., to challenge the other or to plead with the other) and improvises verbal attempts to achieve it. However, no intelligible words can be used, just gibberish. The partners then switch roles with the first speaking gibberish and the other trying to understand. This demonstrates that it is never the playwright's words alone that tell the

story—it is the actors' behavior. The exercise continues until everyone in the class has performed both as sender and receiver.

Improvisation. The teacher presents a dramatic situation to each couple. For example, one partner wants to check out a new retirement home and the other doesn't. The two actors improvise dialogue until the director decides that the exercise has run its course. He or she then brings up a new couple and presents them with a new situation. (Dozens of improvisation starters can be found in texts or online.)

Vocal Exercises. Beginning texts also contain healthy breathing and voice exercises, which are important for effective acting.

PUTTING IT ALL TOGETHER

The descriptions of the four core exercises in the main part of this article should be read repeatedly until the director feels fully capable of explaining them in his or her own words. Then we suggest trying them out on a few residents that the director trusts to give honest feedback on their understanding of what was described. Confidence in one's ability to communicate these core aspects of acting is essential.

The first session should present the four core exercises as described earlier followed by selected theatre games. The second session should review the core exercises and offer additional theatre games. Beginning with the third session, intersperse practice scenes. Almost all beginning texts contain "open" or "content-less" scenes with very short (one page or less) dialogues, such as the following:

A: Hi.

B: Hello.

A: How have you been?

B: Okay, I guess.

A: *Where* have you been?

B: Oh, here and there.

(These sensible but nonspecific exchanges continue for about two-thirds of a page.)

Because such scenes do not supply any particulars, they are open to dozens of interpretations; therefore, each couple decides on a situation. Due to their brevity, these open scenes are perfect for the first occasion on which the participants must absorb a script during rehearsal and then perform it from memory. These practice scenes should become progressively longer depending on the overall length of the program. Given sufficient time, complete one-act plays could be staged. Throughout the program, the director/teacher monitors the actors for adherence to the four core principles.

We believe it is crucial that the participants experience this integration of complete spontaneity with exact retention of text if the cognitive gains consistently found in the described interventions are to be achieved. However, the process requires repeated rehearsal with the participants truly trying to spontaneously attain a goal as called for in the four core exercises.

CONCLUSION

The healthy aging theatre studies referred to in this article constitute specific examples of the active engagement literature (e.g., Kahlbaugh, Sperandio, Carlson, & Hauselt, 2011; Rowe & Kahn, 1997; Wilson & Bennett, 2003). Dozens of activities, including language learning (e.g., Hultsch, Hertzog, Small, & Dixon, 1999), playing a musical instrument (e.g., Hanna-Pladdy & MacKay, 2011), dancing (e.g., Kattenstroth, Kalisch, Holt, Tegenthoff, & Dinse, 2013), and participating in a chorale (e.g., Cohen et al., 2006, 2007), have been shown to boost cognitive/physiological/psychological performance in mentally healthy older adults. (For a complete review of various participatory arts programs designed to enhance healthy cognitive aging, see Noice, Noice, & Kramer, 2013.) However, acting seems to offer many unique advantages: Participants require no special equipment and no extensive preliminary training (as on a musical instrument) to build up some technical expertise prior to engagement. Also, theatre is one of few art forms that has been investigated through a series of studies using the gold standard of empirical inquiry, RCTs, and has produced statistically significant benefits in as little as four weeks. (This preference for objectively measurable evidence is not to denigrate qualitative studies necessary for capturing important phenomenological aspects of arts engagement.)

Another advantage of the theatre intervention described here is that it is relatively inexpensive to implement; acting teachers from community colleges have repeatedly been engaged for \$800 to administer the entire intervention, and graduate students in theatre have indicated that they would be glad to do it for half that price. Future theatre studies could include the documentation of structural brain changes as a result of the intervention, assessment of improvements over various time frames, and determination of the benefits of "Reader's Theatre." (Such investigations are either in the planning stage or currently in progress.) However, based on our many previous studies throughout the years, we have confidence that the theatre intervention outlined in this article is a highly practical, evidence-based addition to the active-engagement toolkit for older adults.

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