



## Research Article

# The Effect of Acting Programs on Adults with Disabilities

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### Abstract

**Introduction:** Multiple public health initiatives have shown that arts activities, such as dancing and painting, promote emotional wellbeing. Recreational arts activities can be particularly beneficial for the population of people with disabilities, as they can incorporate movement, self-expression, and promote social interactions, which may otherwise be limited. However, research about the impact of the arts in adults with neurologic disabilities, including stroke and cerebral palsy, is limited. This study aims to elucidate the effect of an acting course on participants with neurologic disability; and to compare subject satisfaction between in-person and virtual sessions.

**Methods:** This is a retrospective study of participants in the Acting Without Boundaries (AWB) Acting Lab course, all of whom had neurologic disabilities. Data were collected regarding subject satisfaction with the acting course and impact of the course on the subjects, post-acting course. Five courses were given virtually, and three courses were given in-person. Standard summary statistics such as frequencies and percentages were used to describe the data.

**Results:** 37 subjects completed the questionnaires: 15 subjects from the in-person courses completed the survey, compared to 22 in the virtual ones. All subjects reported high overall satisfaction with the AWB Acting Lab course. 73% of participants reported higher self-esteem, and 69% reported alleviation of social isolation after taking the course. 89% of participants reported that the course taught them new skills. 86% of subjects reported that participating in the course provided a safe, collaborative environment. 81% of participants reported that the course improved their quality of life.

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**Conclusion:** Virtual acting programs are effective and have the potential to benefit adults with disabilities in many ways. Participants in both delivery models showed improvement in key skills such as improved speaking and reduction of social isolation. Recreational acting courses on virtual platforms increase accessibility, which is especially important for the population of people with physical disabilities, whose mobility can be limited, and may improve their emotional wellbeing. Additional research should be conducted to determine the effectiveness of other recreational activities for those with disabilities when delivered virtually.

**Keywords:** Creative arts program; Acting; Theater; Virtual; Adults with disabilities; Neurological disabilities; Performing arts; Physical disabilities; Drama; Improvisation

### Introduction

Creative arts programs provide individuals with immersive and activity-based interventions through music, dance, theater, and creating visual artwork. Each artistic medium has been broadly shown to promote emotional wellbeing, agency, and interpersonal communication and have consequently been used in therapy programs [1]. Recreational arts activities can be particularly beneficial for individuals with neurologic and physical disabilities or other concurrent disabilities, such as those with a history of cerebral palsy, strokes, and Parkinson's Disease. Creative arts programs can incorporate movement and promote social interactions and support, which may otherwise be limited in this group [2-5].

Music therapy has been widely studied in those with neurologic disabilities. For example, a meta-analysis of eight randomized controlled trials on the effect of music therapy in the cerebral palsy population found that music therapy significantly increased Gross Motor Function Measure scores [3]. Similarly, a controlled clinical trial with 13 subjects with Parkinson's Disease who engaged in music-based physical therapy, showed that functional mobility and balance in the subjects improved with the intervention [6]. Functional benefits were attributed to a combination of cognitive strategies, external cues, and physical activity while pleasure was evoked from the music [6]. Those with cognitive disabilities may also benefit: a randomized controlled study of 17 children with autism spectrum disorder who participated in biweekly music therapy sessions for five weeks, found that there was a significant difference in the degree of social engagement between control and intervention groups, as measured by joint attention and eye gaze towards others [7]. Finally, the benefits of music therapy as delivered by telehealth were described by one case study of a veteran with chronic pain: it "allowed him to learn new coping skills to promote mindfulness and reduce his pain level" [8].

Dance has also shown benefits in the population of people with disabilities. A systematic review of 11 studies that explored the impact of dance in neurorehabilitation programs in the cerebral palsy population, concluded that there was preliminary evidence of improvements in balance, ambulation, and cardiorespiratory fitness in this population [9]. The benefit on physical functioning appeared to

be sustained even in telehealth sessions: as part of a case series, a veteran with Parkinson's Disease engaged in dance therapy virtually and stated at follow up that he had "expanded movement my repertoire and range of motion" due to the intervention [8].

Acting, theater, and drama therapy are less studied artistic mediums, but studies indicate that they can teach skills and improve mood and quality of life. For example, in study that involved eight children with language learning disabilities, role-play resulted in improvements in the participants requesting clarification, and these skills were maintained at six weeks post-intervention [10]. Psychologically, theater can also have a positive impact. A randomized controlled single-blind study examined the effect of active theater as an adjunct therapy for adults with Parkinson's Disease over three years. The theater participants' clinical scores for quality of life and depression showed significant improvements, while the control group did not [5]. A literature search did not yield any results for virtual or telehealth interventions for drama therapy.

Regardless of the type of creative arts programs, the relationship between virtual delivery of these programs and the impact on emotional wellbeing has not been well studied thus far. The COVID-19 pandemic introduced widespread social distancing and periodic lockdowns as strategies to slow the rate of infection. These strategies were necessary from a public health perspective but the disruption to normal social interactions and support systems had a profoundly negative effect on mental health around the world and particularly in vulnerable populations who were already experiencing social isolation [11,12]. One study that collected survey data from people with disabilities and chronic health conditions, who already intrinsically had a higher risk of social isolation, found that increased loneliness and decreased feeling of belonging during the pandemic were associated with increased anxiety, stress, and despair [12]. Exploring virtual interventions to mitigate these effects has never been more simultaneously needed and opportune.

The literature that exists about virtual creative arts programs, primarily focuses on programs for children. A 2022 literature review that examined art therapy for children during the COVID pandemic, concluded that all three included studies' interventions were feasible and successfully engaged both the pediatric subjects and facilitators with a high acceptance level [13]. Two studies focused on remote implementation of music interventions in children during the COVID pandemic, with promising results [14,15]. In the first, pre-set playlists were used by 19 parents for one week in response to the child's mood; 81.2% of mothers reported improvement or maintenance of positive mood in the child after listening to music [15]. In the second, 14 children with neurological disabilities participated in a 12 day home music therapy program, which significantly improved the children's sleep quality and reduced parental distress [14]. Meanwhile, for visual arts therapy, 22 children were remotely instructed on emotion-based directed drawing or mandala drawing in a randomized cluster design study. Both drawing interventions in the study were associated with significant decreases in hyperactivity level pre-to-post scores in participants [16]. On the other hand, in adults, the impact of virtually delivered creative arts therapy yielded mixed results. A three-subject case series reported how multiple mediums for creative arts therapies, including visual arts, dance, and music, were implemented via telehealth for veterans with disabilities in a rural community: two participants reported that they benefitted emotionally from the sessions, and the third reported decreased quality of life after participating in the arts therapy [8].

Neurologic disabilities are restrictions of cognitive and/or motor processes that result from impairments to the nervous system. Research about the impact of creative arts programs for adults with neurologic disabilities, especially those delivered remotely, is limited. This study aims to elucidate the effect on wellbeing of an acting course with adult participants with neurological disabilities and, to our knowledge, is the first to compare subject satisfaction between in-person and virtual sessions. This article was previously presented as a meeting abstract at the 2023 AAP National Conference on February 24, 2023.

## Materials and Methods

This is a retrospective study of self-reported responses from participants aged 18 and older in the Acting Without Boundaries (AWB) Acting Lab courses from 2020 to 2022. All courses occurred weekly for 1.5 hours per session for six or eight weeks. Five courses were given virtually due to social isolation precautions from 2020 to 2022 with 35 total participants. Three courses were given in-person in 2022 with 15 total participants.

Class sizes ranged from five to 14 participants, with two instructors per class. Virtual course participants were recruited from local outpatient neurological rehabilitation therapy clinics and outpatient medical clinics. In-person course participants were recruited from neurological day program participants and from a local neurological assisted living facility. Throughout the duration of the course, participants performed vocal exercises (including articulation and sound making), physical warm up and movement exercises, script writing, improvisation, and other theater games, and listening games/feedback between peers.

Data were collected regarding participant satisfaction with the acting course via anonymous surveys, collected post acting course. The survey asked that satisfaction be rated in terms of meeting, not meeting or exceeding expectations. A separate question asked whether they would participate again in a yes/no format. The survey also included a question about the impact of the course on the participant, which allowed for selection for up to five items from the table below. A question about social isolation was added for later courses and therefore not all virtual class participants were surveyed with this question.

Standard summary statistics such as frequencies and percentages were used to describe the data. Participant demographics were not collected in the surveys.

## Results

37 subjects completed the questionnaires. All 15 participants completed the surveys in the in-person courses, for a response rate of 100%, whereas 22 of the 35 participants (68%) completed the survey in the virtual courses.

Overall satisfaction was high and equal between the two delivery methods (Table 1). All participants felt the course met or exceeded their expectations. 13 of the in-person cohort and 19 of the virtual cohort (both cohorts 86%) reported they would participate in another AWB Acting Lab course if offered.

A comparable proportion of students in the virtual and in-person courses reported that participating in the acting course alleviated their social isolation and enabled them to be part of a safe, nurturing, and

	In-person (n=15)	Virtual (n=22)
Met expectations	6 (40%)	11 (50%)
Exceeded expectations	9 (60%)	11 (50%)
Would participate again	13 (86%)	19 (86%)

**Table 1:** Overall satisfaction of AWB participants from in-person and virtual courses.

collaborative environment (Table 2). Additionally, most participants agreed that the acting course taught them new skills and resulted in higher self-esteem. All in-person participants (100%) reported that the course improved their quality of life, compared to 15 (68%) of virtual participants (difference=32%).

Participating in the Acting Lab...	Total (n=37)		In Person (n=15)		Virtual (n=22)	
	N	(%)	N	(%)	N	(%)
Taught me new skills such as public speaking, listening skills, self-presentation, empathy	33	(89.2)	15	(100.0)	18	(81.8)
Enabled me to be a part of a safe, nurturing, and collaborative environment	32	(86.5)	14	(93.3)	18	(81.8)
Improved my quality of life	30	(81.1)	15	(100.0)	15	(68.2)
Helped build my self-confidence/self esteem	27	(73.0)	12	(80.0)	15	(68.2)
Helped alleviate social isolation*	20	(69.0)	11	(73.3)	9	(64.3)

**Table 2:** A comparison of survey responses about the impact of the acting course on participants, based on a multi-select question panel included in the survey.

\*Only 14 of virtual participants responded to this question. Percentages for total and virtual are based on 29 and 14 responses, respectively.

## Discussion

There was a 32 percent difference in self-reported improvement in quality of life between virtual and in-person participants, suggestive that in-person courses have some degree of benefit over virtual ones. However, the limited study size makes it difficult to draw substantial conclusions based on this difference. On the other hand, there was a high overall satisfaction of the acting courses in both in-person and virtual cohorts. The participants experienced relief of social isolation and felt the courses were conducted in a safe environment. Not surprisingly, in-person courses provided a greater relief of self-isolation than the virtual platform. Yet both modalities provided a majority of participants with improvements in self-esteem and learning new skills in the realm of public speaking, suggesting that virtual acting programs for the adult population with neurological disabilities are a valuable experience. Importantly, despite the virtual classes being offered during the isolation of the COVID-19 pandemic, all participants still reported a high level of improvement in social isolation.

The ability to deliver recreational acting programs on virtual platforms, with many of the same benefits gleaned as the in-person participants, is a crucial finding. Once they reach adulthood, individuals with disabilities lose the readily accessible social opportunities that school programs provide. This is amplified when adults with disabilities live in a community with few to no opportunities for individuals

with disabilities. Virtual performing arts programs, such as those offered by AWB, expand opportunities in these underserved areas. Not only do virtual platforms eliminate distance barriers but they also increase accessibility by allowing individuals to participate in programs from the comfort of their own homes. This is especially important for the population of people with neurological disabilities, whose mobility can be limited. Transportation can also serve as a huge barrier to services for this population. The need for a driver and a handicap-accessible vehicle in many cases can be circumvented by virtual program delivery. Another benefit of virtual interventions hinges on a common goal across multiple arts therapy mediums: creating a “safe space” [1]. This can be achieved psychologically in the home, as it is a familiar environment. In a case series for veterans receiving creative arts therapy via telehealth, one veteran remarked that “having sessions from home was ‘comforting’ because he knew his surroundings and felt more relaxed and secure” [8]. These programs provide the opportunity to maintain vital social connections despite multiple barriers.

Limitations of this study included a reduced response rate from virtual participants, creating a possible response bias. The survey design also posed questions in multiple formats, including yes/no and allowing for multiple responses to a single question stem. The items listed lower on the multi-select list had less participants select those choices. An improved survey design would either include a randomized order of response options or would ask multiple questions with a yes/no or Likert scale responses for each. Another limitation was the lack of randomization in determining the in-person and virtual cohorts. Each cohort had different underlying disabilities, which could account for the differences in experience, rather than the modality of presentation.

Although virtual platforms open the possibility of effective interventions for many, it is not without limitations: potential users require internet access and an internet-capable device with a camera, such as a tablet or computer, to effectively engage in programs. Poor internet connectivity, poor technologic literacy, and financial constraints that prevent purchasing such devices remain barriers for widespread implementation.

## Conclusion

Virtual delivery of creative arts programs is not only possible, but readily accepted. Future directions for research include determining whether acting programs have an impact on anxiety and depression in adults with disabilities. Further research is also needed to determine the impact of other creative arts programs on wellbeing for those with disabilities, when delivered virtually.

## COI / Disclosures

IRB was approved by the University of Pennsylvania on November 2, 2022 as EXEMPT Category 4.

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## Disclaimer

The contents of this work do not represent the views of the Department of Veterans Affairs or the United States Government.

## References

1. de Witte M, Orkibi H, Zarate R, Karkou V, Sajjani N, et al. (2021) From Therapeutic Factors to Mechanisms of Change in the Creative Arts Therapies: A Scoping Review. *Front Psychol* 12: 678397.
2. Lo TLT, Lee JLC, Ho RTH (2018) Creative Arts-Based Therapies for Stroke Survivors: A Qualitative Systematic Review. *Front Psychol* 9: 1646.
3. Yanagiwara S, Yasuda T, Koike M, Okamoto T, Ushida K, et al. (2022) Effects of music therapy on functional ability in people with cerebral palsy: a systematic review. *J Rural Med* 17: 101-107.
4. Lirola MJ, Ruiz-Rico G, Hernández-Rodríguez AI, Prados-Megías ME (2020) Body Expression-Based Intervention Programs for Persons with Intellectual Disabilities: A Systematic Review. *Int J Environ Res Public Health* 17: 7569.
5. Modugno N, Iaconelli S, Fiorlli M, Lena F, Kusch I, et al. (2010) Active theater as a complementary therapy for Parkinson's disease rehabilitation: a pilot study. *ScientificWorldJournal* 10: 2301-2313.
6. Katlen da Silva L, Silva Brito TS, Pascucci Sande de Souza LA, Luvizutto GJ (2021) Music-based physical therapy in Parkinson's disease: An approach based on international Classification of Functioning, Disability and Health. *J Bodyw Mov Ther* 26: 524-529.
7. LaGasse AB (2014) Effects of a music therapy group intervention on enhancing social skills in children with autism. *J Music Ther* 51: 250-275.
8. Spooner H, Lee JB, Langston DG, Sonke J, Myers KJ, et al. (2019) Using distance technology to deliver the creative arts therapies to veterans: Case studies in art, dance/movement and music therapy. *The Arts in Psychotherapy* 62: 12-18.
9. López-Ortiz C, Gaebler-Spira DJ, McKeeman SN, Menish RN, Green D (2019) Dance and rehabilitation in cerebral palsy: a systematic search and review. *Dev Med Child Neurol* 61: 393-398.
10. Abdoola F, Flack PS, Karrim SB (2017) Facilitating pragmatic skills through role-play in learners with language learning disability. *S Afr J Commun Disord* 64: 1-12.
11. Rajkumar RP (2020) COVID-19 and mental health: A review of the existing literature. *Asian J Psychiatr* 52: 102066.
12. Pettinicchio D, Maroto M, Chai L, Lukk M (2021) Findings from an online survey on the mental health effects of COVID-19 on Canadians with disabilities and chronic health conditions. *Disabil Health J* 14: 101085.
13. Le Vu MN, Do AL, Boyer L, Tran QC, Kohler S, et al. (2022) A Review of the Effectiveness, Feasibility, and Acceptability of Art Therapy for Children and Adolescents during the COVID-19 Pandemic. *Int J Environ Res Public Health* 19: 11612.
14. Bompard S, Liuzzi T, Staccioli S, D'Arienzo F, Khosravi S, et al. (2021) Home-based music therapy for children with developmental disorders during the COVID-19 pandemic. *J Telemed Telecare* 29: 211-216.
15. Cho E, Ilari BS (2021) Mothers as Home DJs: Recorded Music and Young Children's Well-Being During the COVID-19 Pandemic. *Front Psychol* 12: 637569.
16. Malboeuf-Hurtubise C, Léger-Goodes T, Mageau GA, Taylor G, Herba CM, et al. (2021) Online art therapy in elementary schools during COVID-19: results from a randomized cluster pilot and feasibility study and impact on mental health. *Child Adolesc Psychiatry Ment Health* 15: 15.





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