Dance with a B-E-A-T: Recreational Dance with Behaviour Analysis and Therapy for Children and Youth with Exceptionalities

Nicole R.A. Staite, B.A. (Honours)

Department of Child and Youth Studies

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Faculty of Social Sciences, Brock University

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Abstract

While there is much research highlighting the positive benefits of recreational dance for typically developing individuals, there is considerably less research pertaining to individuals with unique needs, abilities and diagnoses (Burkhardt & Brennan, 2012). Evidently, there is a need for recreational dance programs that blend the proper interventions, supports and adaptations uniquely in order to support and include participants with varying abilities and challenges. The purpose of this research study was to pilot Dance with a B-E-A-T (Dance with Behavioral Analysis and Therapy), a recreational dance program with behavioral principles and therapeutic components for children and youth (7 to 12 years of age) with various exceptionalities such as neurodevelopmental disorders and/or anxiety disorders. This 8-week dance intervention program resulted in varying yet promising results across three primary domains for its three participants which were: (a) gross motor dance skills, (b) gross motor balance skills, (c) parent and child self-efficacy. Significant results showed improvements in gross motor skills across all three clients; with regards to self-efficacy however, results revealed significant changes in one out of three clients and two out of three of the client’s guardians. Further, consumer satisfaction results concluded a high level of satisfaction and program effectiveness across all three families. These findings are discussed in terms of the lack of previous research conducted within the field and the importance of therefore propelling such research in order to reach more youth with exceptionalities through alternative, enjoyable and empowering forms of therapeutic approaches.
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DANCE WITH A B-E-A-T: Recreational Dance with Behavioral Analysis and Therapy for Children and Youth with Exceptionalities

Neurodevelopmental disorders (NDs) encompass many early-onset and pervasive disorders that affect one’s motor, social, cognitive and executive functioning over a widespread continuum of symptoms and severities (DSM-5; American Psychiatric Association [APA], 2013). These disorders include but are not limited to autism spectrum disorder (ASD), attention-deficit hyperactivity disorder (ADHD), intellectual disabilities (IDs), learning disabilities (LDs) and are often comorbid with other psychological challenges such as anxiety disorders (APA, 2013; Wicks-Nelson & Israel, 2009).

With these types of disorders and corresponding challenges, Applied Behavior Analysis (ABA) has been shown to be effective in targeting core areas such as social-communicative skills, motor skills, and reducing challenging behaviors which in turn improves overall quality of life (Martin & Pear, 2019; Weisz & Kazdin, 2010). ABA, as a scientific discipline, aims to reduce challenging behaviours and foster skill development with evidence-based systematic procedures. Given that many NDs are comorbid with mental health disorders, behavior therapy (including cognitive components) is a commonly used psychosocial treatment modality that aims to increase positive self-statements, emotion regulation, teach coping strategies and improve overall mental health in a variety of populations including those with NDs (Martin & Pear, 2019).

Given the many challenges that children and youth with exceptionalities face, they are often excluded from recreational dance programs due to the programs’ lack of adaptation and individualization to effectively meet the needs of these youth. When these challenges are not met with effective approaches and supports, youth are less likely to feel a sense of belonging and
confidence within the group which can lead to larger program drop-out rates (Reinders, Bryden & Fletcher, 2015). In these frequent scenarios, behavior analysis and therapy may be used to adapt and enhance recreational dance programs to make it possible for children and youth with exceptionalities to feel included while also addressing motor and coordination issues (Edwards-Duke et al., 2002). This blended approach to recreational programming and therapy may allow for children and youth to flourish while also experiencing a stronger sense of confidence, perceived self-efficacy and quality of life. Unfortunately, adaptive dance programs for children with exceptionalities are extremely under researched.

As such, considerably more research is needed in analyzing the effects of individualized recreational dance programs embedded with appropriate adaptations. This may increase the level of access youth with exceptionalities have to adaptive recreational dance programs and critically inform community-based programs. Further, a blending of recreational dance with behavioural and therapeutic components may provide a strong alternative to traditional forms of psychosocial intervention for those with challenges in motor, social and/or executive functioning by providing individuals with NDs a fun, interactive and supportive form of therapy.

**Recreational Dance for Children who are Otherwise Typically Developing**

Recreational dance is a multi-layered art that has the ability to connect the mind and body and is evidently enriched with physical, cognitive, social, artistic, and developmental potential and outcomes (Reinders et al., 2015). If dance has the potential to improve all of these realms within typically developing individuals, it is presumable that it can provide youth with NDs and/or anxiety disorders ample support and potential to experience these outcomes as well.

A systematic literature review conducted by Burkhardt and Brennan (2012) highlights several known benefits of recreational dance on the physical, psychological and/or social health
of youth who are otherwise neurotypical. This review included studies that assessed the effects of recreational dance interventions on young people’s health and development aged 5-21 years old. Research designs included randomized controlled trials, non-randomized controlled trials, randomized cross-over designs and cross-sectional designs (Burkhardt & Brennan, 2012). A variety of dance forms were used such as Balinese dance, ballet, dance aerobics, hip hop, African dance, jazz and folk dance. The authors excluded studies involving Dance Movement Therapy, video dance games, and competitive/professional programs. Of the 14 reviewed studies, five studies indicated significant improvements in cardiovascular fitness; three reported significant improvements in body mass index (BMI), weight loss and increased physical activity and one study reported positive effects of recreational dance on bone health (Burkhardt & Brennan, 2012). Regarding the relationship between recreational dance and youth’s psychosocial wellbeing, six studies showed improvements in various domains such as self-concept, body image, attitudes towards physical activity, body attitude, physical self-perceptions, physical self-worth and body attractiveness. An additional study showed significant positive results in reducing symptoms of anxiety while another study found improvements in positive well-being and mood due to hip hop and dance aerobic classes (Burkhardt & Brennan, 2012).

Burkhardt and Brennan (2012) highlight the many benefits of recreational dance on young people’s cardiovascular fitness, bone health, body-image, mood and anxiety levels. Given the mentally and physically demanding nature of dance; memory, coordination, spatial awareness, balance and social skills are naturally exercised (Alpert, 2011). These benefits are targeted with dance’s anaerobic level of exercise, emphasis on body awareness and body image, decrease in body mass index (BMI), and team-building capacities. Granted that the culture of the studio or dance program is positive and supportive, dance has the holistic potential to improve
multiple key-stone skills and domains needed for a strong development of social, emotional, cognitive, academic, occupational and/or executive functioning.

**Recreational Dance for Children with Exceptionalities**

While literature highlights the several known benefits of dance for typically developing individuals (Alpert, 2011), limited research examines these effects for individuals with exceptionalities such as those with NDs or anxiety disorders. An extensive literature review conducted by Pontone, Vause and Zonneveld (submitted) revealed 18 studies that evaluated a recreational dance program for individuals with exceptionalities. Only seven studies included children aged 3-18, three studies included both adolescents and adults aged 14-22 and eight studies included adults aged 20-65. Participants had a variety of diagnoses such as ID, Down Syndrome (DS), ASD, ADHD as well as comorbid diagnoses. Research designs included randomized controlled trials, non-randomized controlled trials, single case experimental designs such as reversal and alternating treatment designs and a variety of case study designs. Across the limited studies that included children and youth, dance interventions also varied from aerobic dance programs, arts-based or cultural interventions or traditional dance classes. Lengths and demands of the programs, interventions, and methodological rigor varied across studies (Pontone, Vause & Zonneveld, submitted).

**Use of behavioral analytic components.** As previously mentioned, ABA is a scientific discipline that uses evidence-based procedures to aid in positive behavior change and improve quality of life (Martin & Pear, 2019). According to Pontone, Vause and Zonneveld (submitted), seven of the 18 reviewed articles incorporated at least one behaviour analytic component such as positive reinforcement, prompting, modelling, priming and/or chaining. Of the seven studies, the use of behavioural analytic components was reported by all researchers to be useful in fostering
positive behavior development and psychosocial development. In one reviewed study, Lagomarcino, Reid, Ivanic and Faw (1984) used a multiple baseline across participants with probes to evaluate an approach to teaching dance skills to individuals with exceptionalities; they observed increases in using appropriate dance skills in social settings compared to the control group. Further, Nelson et al. (2017) used antecedent creative dance activities to observe the effects of social, symbolic and object play skills in children with ASD aged 3-4 years old. Priming, modelling and prompts were used to execute the program and better support the participants. A multiple baseline probe across participants highlighted increased engagement and concentration levels as well as complexity and awareness of play amongst participants.

Additionally, using a randomized controlled trial, Boswell (1991) evaluated the effectiveness of a creative dance and movement exploration program on youth’s balance skills. Twenty-six youth aged 8-13 years old diagnosed with DS were randomly assigned to the creative dance and movement program or a traditional gross motor program. Pre- and post-means illustrated an increase in balance skills in all except one realm (walking backwards on the 4 in. beam) for the creative dance and movement program. Results therefore highlighted the similar effectiveness of creative/adapted dance programs compared to traditional gross motor programs with regard to gross balance performance in youth with exceptionalities (Boswell, 1991). Arguably however, creative dance and explorative movement programs naturally utilize a strengths-based approach which would perhaps be more enjoyable and fun for participants to engage in compared to more traditional types of intervention. Research conducted by Ito, Hiramont and Kodama (2017) argues that the fun nature of ‘dance exercise’ is a malleable therapeutic art whereby many adjustments and accommodations can be made to fit the needs of each individual participant. When these adaptations and proper supports are put into place, dance
exercise has the potential to increase and maintain overall motivation (Ito et al., 2017). In another reviewed study, physical improvements such as enhancements in the dancer’s flexibility and lung-capacity as well as in their overall psychological well-being, self-esteem and intrinsic motivation were reported by Reinders et al. (2015). Increased self-confidence, relationship building, body awareness and independence were also reported by Reinders et al. (2015). Additional improvements in balance, dance skills, on-task behaviours, social skills, anxiety levels and emotional development were also reported by scholars (Pontone et al., submitted).

Finally, using a case study design, Becker and Dusing (2010) integrated an 11-year-old youth with DS into a 14-week performing arts session which included dance instruction. Pre- and post-measures indicate an increase in subsets including physical and social functioning. Physically, the demands of the dance choreography included turning, weight shifting, balance, jumping, sequence steps and jazz/ballet technique which strengthened the participant’s overall gross motor, dance, endurance and coordination skills. Emotionally, the participant reported a significant sense of pride after performing on stage and completing the program. The participant’s mother reported decreased anxiety in social settings, increased confidence and self-initiated peer interaction. Critically, this study outlines the many possible motor and emotional benefits of recreational dance when combined with appropriate modifications and adaptations for youth with exceptionalities. The researchers importantly emphasize the potential that blended and individualized recreational dance programs have on improving inclusion and overall quality of life for youth with exceptionalities. Although this is a strong start to embedding components of ABA with recreational dance, it was noted that much larger-scale studies using mixed and more reliable methodologies and measures are needed. Hence, considerably more empirically evaluated programs of this nature that are methodologically sound are needed to maximize the
number of individuals with exceptionalities that benefit from such programs.

**Lack of Opportunity and Access to Recreational Programs for Children with NDs**

Evidently, in order to capitalize on youth’s unique abilities, program creators and facilitators must be able to adapt and individualize appropriately for each participant. Appropriate adaptations may therefore result in a more secure sense of belonging and confidence for participants in such programs (Reinders et al., 2015). To exemplify, a strengths-based approach to programming for a child with attention deficit-hyperactivity disorder (ADHD) would be to increase the number of jumps, turns and large movements and decrease the amount of stationary ballet movements within his/her dance routine. These simple adaptations highlight the child’s increased energy which would hypothetically support the child in looking as ‘successful’ as possible on stage and would in turn increase the child’s self-efficacy, self-esteem and overall quality of life. In an attempt to challenge the representational understanding of ADHD, Levin (2016) utilizes a Capoeira program (Afro-Brazilian martial arts intervention with dance components) to illustrate that dance and movement programs can be used as an expressive medium for hyperactivity. It was found that dancing replaced feelings of victimization, isolation and imprisonment with expressive release and transformation of hyperactivity into expression and experimentation for youth with ADHD. Levin (2016) therefore suggests that dance and movement programs hold therapeutic potential for youth with ADHD.

Cartwright, Reid and Hammersley (2016) found that although individuals with exceptionalities may gain the same cardiovascular benefits from physical activity as their typically developing counterparts, they are much less likely to engage in a healthy amount of daily physical activity. Sports Canada (2006) highlights that individuals with exceptionalities, including those with NDs, rarely participate in physical activity programs due to lack of access,
adaptation, inclusion and appropriate teacher training. This is despite the fact that these programs may improve the child’s social and motor skills as well as for the child’s confidence-building and overall quality of life. Research suggests that school-age children and youth should participate in 60 min of physical activity per day, and a minimum of 150 min per week as they transition into adulthood (World Health Organization, 2010). These health guidelines and recommendations are put into place to promote the development of healthy bones, heart and lung functioning and a healthy body weight. Due to the lack of adaptive and inclusive recreational dance programs however, children and youth with NDs are less likely to engage in the recommended healthy amount of exercise which limits their gross motor and balance skills as well as decreases their overall bone and organ health (Cartwright et al., 2016). Consequently, the lack of adaptive recreational dance programs available to children and youth with exceptionalities not only hinders their opportunity to engage in the recommended healthy amount of exercise, but also promotes a lack of inclusion, sense of belonging and self-efficacy for such youth.

Considering this lack of access to general recreational programs, Becker and Dusing (2010) shed light on the appalling amount of recreational dance programs that lack inclusion for individuals with exceptionalities. Although this is a known phenomenon, there are still little to no recreational dance programs created to improve the inclusionary criteria of dance, which could be generalized to entire dance studios so that all individuals can have access to this form of physical expression and exercise. Physical barriers to accessing such programs also exist such as financial pressures with having a child with a disability. This often results in parents having less money available for such programs and/or less money for transportation or housing in a central area close to transit to be able to physically access the program. Lack of physical access to such
programs also leads to the critical need for more programs being developed in low socio-economic status (SES) areas (Ussher, Stanbury, Cheeseman & Faulkner, 2007). Without this access to opportunity, dancers with exceptionalities are not granted the space and resources to flourish through the powerful, supportive, and communal art that typically developing dancers often experience (Becker & Dusing, 2010).

**Methods**

**Purpose of the Study**

While there is much research highlighting the positive benefits of recreational dance for typically developing individuals, there is considerably less research pertaining to individuals with unique needs, abilities and diagnoses (Burkhardt & Brennan, 2012). Evidently, there is a need for recreational dance programs that blend the proper interventions, supports and adaptations uniquely for each participant. This blending of recreational dance and therapy will ensure that those with exceptionalities have the same opportunity to gain motor, social and emotional benefits of dance that their typically developing peers have. As discussed, seven out of eighteen reviewed articles regarding recreational dance for children with exceptionalities used behavioral components in their dance/movement programs. The effectiveness of embedding ABA into adaptive dance programs has been promising and these studies have set the stage for a continuation and improvement of such programs. This is despite the fact that there were only seven studies located that used components of ABA with recreational for children and youth with exceptionalities.

The purpose of this research study is to pilot *Dance with a B-E-A-T* (*Dance with Behavioral Analysis and Therapy*), a recreational dance program with behavioral analysis and therapeutic components for children and youth (7 to 12 years of age) with various
exceptionalities such as NDs and anxiety disorders. The proposed intervention program therefore targeted improvements in three key domains: (a) the child’s gross motor skills, (b) the child’s balance skills, (c) the child’s perceived confidence towards his/her dance/motor/balance skills, social skills/sense of belonging, worry and coping skills, emotion regulation skills and attitudes towards starting new extra-curricular programs; and his/her overall sense of belonging to a community recreational dance program. Consequently, implementing and evaluating the facilitators and barriers of this unique intervention program will ground the foundation for excelling research on the benefits of recreational dance to include dancers with various abilities – not just those who have met expected developmental milestones.

**Research Questions**

Considering the exploratory nature of the proposed study and lack of research in recreational dance with behavioral analysis and therapy for youth with exceptionalities, the following research questions were explored:

1. As assessed by *Dance with a B-E-A-T’s* eight dance probes and two balance probes, will the child experience an improvement in gross motor and balance skills?

2. As assessed by *Dance with a B-E-A-T’s* non-standardized child self-efficacy (SE) scale, will the child experience an increase in perceived confidence towards his/her dance/motor/balance skills, social skills/sense of belonging, worry/coping skills, emotion regulation skills and attitudes towards joining new extra-curricular activities?

3. As assessed by *Dance with a B-E-A-T’s* non-standardized parent/guardian SE scale, will the child’s parent/guardian experience an increase in perceived confidence towards his/her dance/motor/balance skills, social skills/sense of belonging, worry/coping skills, emotion regulation skills and attitudes towards joining new extra-curricular activities?
4. As assessed by Dance with a B-E-A-T’s non-standardized child consumer satisfaction scale, will the child/youth rate their overall satisfaction, effectiveness and joy with being a part of the program as very much?

5. As assessed by Dance with a B-E-A-T’s customized non-standardized parent/guardian consumer satisfaction scale, will the parent/guardian rate their overall satisfaction with the program’s effectiveness its individual components as very effective?

Hypotheses

Given the several positive physical and psychosocial impacts that recreational dance has been shown to have for children who are neurotypical, it was hypothesized that Dance with a B-E-A-T would show similar positive impacts for its participants. First, it was predicted that the 8-week program would improve the child’s dance, balance, and overall gross motor skills which would be evident through pre- and post-probe assessments. Second, it was predicted that the intervention would increase the child’s perceived SE towards his/her dance/motor/balance skills, social skills/sense of belonging, worry and coping skills, emotion regulation skills, and attitudes towards starting new extra-curricular activities. Third, it was predicted that the intervention would increase parent’s perceived SE towards his/her child’s dance/motor/balance skills, social skills/sense of belonging, worry and coping skills, emotion regulation skills, and attitudes towards starting new extra-curricular activities. Last, it was hypothesized that both the child and the parent would rate their overall satisfaction with the program and its individual components with the highest point on the Likert scale, indicating a high overall satisfaction (see Appendix H-J).

Participants
The targeted population was current or past clients (7, 9, 10, 12 years of age) from a non-profit mental health organization who had a previous diagnosis of a ND (e.g., ASD, ADHD, LD, ID) and/or anxiety disorder. The curriculum was typical of a beginner recreational dance program, therefore, the inclusion criteria specified little to no previous dance experience. Exclusion criteria included any previous advanced dance experience (i.e., more than one year at a dance studio or any amount of years at a competitive level). Clinicians from the mental health organization were asked to identify and speak to past and current caregivers of clients who met the inclusionary criteria and inquire if they would be interested in being contacted by researchers for this study. The caregivers had previously signed a treatment contract which had a built-in consent to be contacted for research purposes. If caregivers expressed interest in being contacted, clinicians emailed their information to the primary researcher and were then directly contacted by the primary researcher to further discuss the study. Four children/youth aged 7, 9, 10 and 12 years old who had a variety of diagnoses were the participants of this study. Due to unpredictable family variables, the 9-year-old participant completed the 8-week program; however, this participant was not available to gather outtake information and will not be reported on in the paper.

Client #1: Rachel. At the time of entry, the first client (pseudonym “Rachel”) was a 12-year-old Caucasian female diagnosed by a psychiatrist with unspecified trauma and other related disorder, intellectual disability (impairment in the mild range), other specified disruptive behaviour disorder (associated with ID and developmental trauma) and unspecified anxiety disorder. Additionally, the psychiatrist noted parent-child relational problems and emotional dysregulation. Rachel’s upbringing includes being in the care of multiple caregivers, including living in various foster homes. At the time of entry, Rachel’s primary caregiver and legal
guardian was her grandmother. She was a Caucasian, college graduate with a financial income in the range of $10,000-$14,999 and presented as an invested and supportive caregiver to Rachel. Rachel’s grandmother reported that Rachel’s primary challenges included gross motor coordination issues, socially interacting with others, and issues related to self-esteem. She explained that Rachel frequently imitated others rather than presenting her true self and was hesitant to initiate social interactions with peers.

At the time of intake, Rachel took Sertraline for unspecified anxiety disorder. This medication was taken throughout the full duration of the dance program. Additionally, her mother reported at outtake that near the end of the dance program she was prescribed Saphris for agitation; her past case notes reported that she could get frustrated and overwhelmed easily which would often lead to behavioral outbursts or aggression towards others. At the time that the dance program had begun, Rachel had been enrolled in eight months of a government funded day treatment program.

Rachel’s previous dance and extra-curricular experiences included a community dance program at the age of three that her grandmother described as a generally positive experience but that Rachel’s shyness caused her to urinate on the floor when performing in front of an audience – this left Rachel embarrassed and anxious about trying another dance program. Additionally, Rachel’s first experience with dance (specifically ballet) reportedly occurred during particularly aversive months of trauma which caused Rachel to relate ballet with trauma; Rachel’s trauma had since been disclosed and treated.

Client #2: Allie. At the time of entry, the second client (pseudonym “Allie”) was a 10-year-old, Caucasian female diagnosed with ADHD, ASD, LD and central auditory process disorder (CAPD) by a psychiatrist. Additionally, an occupational therapist (OT) suggested
sensory processing issues. Allie lived with her birth mother and father who were both Caucasian, employed university graduates. Total gross family income was reported in the range of $40,000-$55,000. Both of Allie’s parents were transparent and in agreement with Allie’s abilities, challenges and needs. It was reported by Allie’s parents that she frequently appeared over-stimulated which may have resulted in her emotional and behavioral reactivity as well as aggression towards others, especially her younger sister who was 7 years old at the time of this study.

It was also reported that Allie didn’t always respond well to loud music as it likely led to overstimulation and that she often did art activities to regulate her emotions when this happened. Another primary challenge for Allie was with social skills such as frequently talking over peers and teachers, being “bossy”, not listening well in group settings, and not being able to maintain friendships (especially with those who did not have ASD).

During the second week of the dance program, Allie received her first service dog (pseudonym “Ace”) for her ASD and anxiety. At the time of intake, Allie’s daily medication included Concerta for ADHD, Latuda for emotion regulation/mood stabilization and volatility and Clonidine to help her sleep. These medications were all taken throughout the duration of the 8-week program. At the time of outtake, it was reported about two weeks into the dance program, Zoloft for anxiety was added to Allie’s daily medication and was continued throughout the 8-week dance program. Regarding psychosocial/psychological treatments; in 2017 Allie participated in art therapy with a registered psychotherapist (RP), in 2018 Allie was seeing a registered social worker (RSW) for emotion regulation and a psychiatrist for volatility and violence which was reported to be an increased and critical issue by Allie’s parents. Over the duration of the full 8-week dance program however, Allie did not see her psychiatrist and her
pediatrician monitored her medications. Allie also participated in two weekly group therapy
sessions at the same institution that this study took place which targeted specific phobias/fears,
confidence-building and social skills within the same time frame as the dance intervention. Both
of these programs overlapped with *Dance with a B-E-A-T* weekly for the entire 8-weeks that the
dance program took place.

Regarding past dance and extra-curricular experiences; Allie participated in a community
dance program for a few months, although she displayed skills beyond what would be predictive
of a basic level of dance experience. Upon entering *Dance with a B-E-A-T*, Allie was well-versed
in typical beginner dance terminology as well as in her understanding of executing such skills.
Upon weekly discussion with Allie, it was understood that she did indeed participate in
additional dance classes throughout her lifetime, and her parents reported it was only one class
when she was a toddler and it was not a formal dance class. Although Allie may have had
additional exposure to dance, she was still benefiting from the beginner level class and with the
curriculum’s built-in adaptations and individualizations, the program was easily fitted to her
needs and areas of challenge such as proper form and technique of the dance skills.

**Client #3: Evan.** At the time of intake, the last client (pseudonym “Evan”) was a 7-year-
old Caucasian male diagnosed with ADHD and comorbid ODD. It was also reported by a
developmental behavioral pediatrician that Evan displayed many symptoms of ASD but that the
initial testing was not positive for ASD. Evan’s primary caregiver was his father who was
Caucasian, single, and a university graduate. Evan’s father reported his total gross income was in
the range of $60,000-$79,999.

Regarding psychosocial/psychological treatments, Evan was taking *Concerta* for impulse
control associated with ADHD and ODD and *Risperidone* for temper control associated with
ODD and anger issues. Both of these medications were taken daily across the full duration of the dance program. Evan had a history of engaging in self-injurious behaviours particularly during meltdowns when he would bang his head to the point of multiple concussions. Since 2016, Evan participated in individual play therapy which targeted ADHD, ODD and developmental delays at a mental health agency. Due to positive outcomes, Evan was discharged from play therapy just before the dance program started. Evan’s father reported that Evan’s developmental delays were evident in all realms except for math. It was reported that Evan functioned developmentally at the level of a 5-year-old at the time of the study, however, no formal diagnosis of a developmental or learning delay has been reported. Evan’s father also reported that impulse control, temper management, directional understanding and boundary safety with strangers were amongst Evan’s main challenges. Additionally, no previous dance experience was reported although Evan was participating in competitive cheerleading for 2 hrs per week from intake to outtake including the 8-week dance program.

**Setting**

This study received approval from a University Research Ethics board, as well as the Research Ethics Board of the mental health facility and written informed consent and assent was obtained from both parents (Appendix N) and children/youth (Appendix O). The 8-week dance intervention was conducted at a local non-profit mental health facility. The weekly dance classes took place in the mental health agency’s gymnasium; seven of eight sessions took place in the agency’s one location (this will be called the primary location) and one of eight sessions took place in the agency’s second location (this will be called the secondary location). Due to a holiday schedule change where an alternative date and time was arranged for the dance class, this back-up secondary location was only utilized once out of the eight dance classes. In the primary
location, the dance classes were held in a typical-looking gymnasium with white plain walls, a

gym floor, hanging basketball nets and an equipment closet. The walls were decorated with the

*Dance with a B-E-A-T* schedule chart, rules/expectations chart, and token economy chart. Parents

had the option of waiting for their child in the mental health agency’s front lobby, or, they could

leave and return to pick-up their child after the dance class was completed. The lobby was a

carpeted open space with multiple chairs, magazines and children’s books available to read. In

the secondary location, the dance class was held in a carpeted conference room and the lobby

was comparable to the primary location. See Appendix L for a visual of what the gymnasium

looked like.

**Measures and Materials**

  **Demographics.** Using a customized demographics questionnaire (Appendix C) parents/guardians of the participants were asked basic demographic questions such as the child’s name, date of birth, ethnicity; parent/family information; use of medications, supplements and/or psychosocial treatments; and previous dance/extra-curricular experiences. This questionnaire took parents/guardians approximately 20 mins to complete for both pre- and post-test to examine if any changes had occurred during the 8-week period.

  **Gross motor skills.** Based on what would be included in a typical beginner dance

program, eight dance target skills (Appendix D) were carefully chosen from the *Dance with a B-E-A-T* curriculum (Appendix A). The curriculum and corresponding dance target skills were reviewed for accuracy of beginner movements (that would be seen in a typical beginner dance class) and approved by both a local dance studio owner in the Niagara, Ontario region and by Dr. Maureen Connolly; a Professor of Kinesiology from Brock University. In order to assess any changes to participants’ gross motor skills due to the intervention, a task analysis was used to
break each skill into smaller and more manageable components. Examples of dance motor probes included: *seated leg hold*, *fan kick roll* and *ballet sequence* which were all broken down into individualized task analyses of 5-10 smaller steps. At pre- and post-intervention, the primary researcher (PR)/dance teacher used the verbal cue:

Okay (participant’s name), are you ready for our next dance step? Remember, it’s okay if you can’t do it, just try your best! I will show you the dance step first, and then you will go after me. Here we go!

Next, the PR would model the dance skill once and then would say “your turn!” to the participant; the probe was then videotaped. Finally, the PR would praise the participant by saying “nice job!” or “good work!” This was repeated for all eight dance probes and was not delivered contingent on whether or not the dance skills were executed correctly. Verbal cues were occasionally varied slightly however the semantics of the cues remained consistent with the cues exemplified. The verbal and physical cues stayed the same from pre-test to post-test.

**Balance skills.** Two balance probes (Appendix E) were assessed pre- and post-intervention to evaluate any changes in the participants’ balance skills. In order to assess any changes to the participants’ balance skills due to the intervention, task analyses were used to break the balance skills into smaller and more manageable components. Balance probes consisted of *tree pose* and *dancer pose* and were also approved by Dr. Maureen Connolly as age-appropriate measures of balance skills as well as how long each pose should be held for. The assessment of these probes were carried out in the same manner as the eight dance probes were; consisting of the same verbal cues, physical model and reinforcement. The eight dance probes and 2 balance probes took approximately 20-30 mins to assess.
Self-efficacy (SE) for the parent. Given the lack of recreational dance-specific SE scales (which was confirmed by Dr. Connolly and other experts in the field of movement and exercise), Dance with a B-E-A-T-specific parent (Appendix F) and youth (Appendix G) scales were inspired by SE scales in Bandura (2006). Similar to Bandura (2006), the scales created for this study mocked the general format, question style and include sectioning and subheadings similar to the ones outlined in Bandura (2006). With this being said however, all of the questions created for Dance with a B-E-A-T were original and not specifically adapted from sample questions in Bandura (2006). Due to the lack of dance-specific scales, the questions were specifically created to assess SE towards the client’s dance, motor, social and coping skills at large. The scales were created to gain a better understanding of the participant’s perceived confidence and the parent’s perceived confidence towards their child’s: (a) dance/motor/balance skills, (b) social skills/sense of belonging, and (c) worry and coping skills, (d) emotion regulation skills and (e) other which included questions surrounding attitudes with starting new extra-curricular activities abilities. The parental SE scale consisted of a 10-point numbered Likert Scale and asked parents to rate their degree of perceived confidence towards several questions, e.g., “my child likes to dance” and “my child can make and maintain friendships”. Items were ranked on the scale ranging from 0 (not at all confident) to 10 (extremely confident). For pre- and post-test, all three guardians completed the SE scale independently except for two of three clients needing occasional clarification on wording for some of the questions.

Self-efficacy (SE) for the youth. The youth SE scale consisted of a 3-point emoji-face Likert Scale and asked participants to circle appropriate emoji-face responses to several questions, e.g., “I’m a good dancer” and “I feel nervous/anxious when trying new things”. Items were ranked on the scale ranging from 1 (no), to 3 (yes). Given that the children/youth had
various academic and learning challenges, our research team was hopeful that emoji faces would be easier for the youth to understand compared to a textual scale. Thus, emoji faces were used for this Likert scale to increase engagement and relatability for the younger participants. A study conducted by Swaney-Stueve, Jepsen and Deubler (2018) found a statistically significant consistency between written scales and emoji scales which validates their reliability and suitability for such populations. Additionally, Kaye, Malone and Wall (2017) highlight the many benefits of contemporary emojis; one being that they can significantly increase Likert scale accessibility for children/youth, those who speak different languages and individuals with exceptionalities.

Prior to and throughout both the child and parent SE assessment, the RA verbally asked the participant if he/she wanted to read and write independently or if he/she preferred the RA to read out loud to them and/or transcribe for them. The RA modified the questions verbally if clarification was requested or if lack of understanding was expressed by the participant. At pre- and post-test, Rachel (client 1), requested that the RA read and transcribe for her; at pre-test this was because she “didn’t feel like it” and at post-test this was because she was eating during the appointment. Occasionally throughout the appointment, Rachel would change her mind and grab the pen from the RA to record her answers independently. Given Rachel’s mild ID, it is anticipated that these reactions were possible escape mechanisms. At pre- and post-test, Allie (client 2) completed the SE assessment mostly independently except for some clarification around wording needed at times. Additionally, for the written question, if Allie had a lot to say she asked the RA to transcribe because it was “too much for her to write”. For pre- and post-test, Evan (client 3) requested that the RA read the questions to him and then he circled the emoji faces independently. Evan also required significant clarification of the SE questions. To gauge
Evan’s level of comprehension of the questions, his RA would ask him to repeat back to her what the question was asking and several times Evan appeared to be significantly confused or inaccurate. Perhaps this level of uncertainty towards the SE questions was due to Evan’s younger age compared to the other participants; needless to say, this was a notable occurrence. Some of the questions within the SE scales required reverse coding in order to accurately rank the scales. Reverse scoring was used in these instances to ensure that the numerical scoring scale ran in one direction, e.g., ‘3’ indicating a highly positive response for all questions. The SE scales took parents and youth approximately 10-20 mins to complete for both pre- and post-test.

**Consumer satisfaction (CS).** Customized parent (Appendix H) and child/youth (Appendix J) CS questionnaires were created to align with *Dance with a B-E-A-T*’s core goals and intentions. These questionnaires were modelled after a study written by Vause, Neil, Jaksic, Jackiewicz and Feldman (2017). The questionnaires consisted of a 7-point Likert Scale and asked parents and children how satisfied they were with various components of the dance intervention program. For parents, items were ranked on the scale ranging from 1 (*not satisfied*) to 7 (*very satisfied*). For children, items were ranked on the scale ranging from 1 (*not much*) to 7 (*very much*). Prior to and throughout the assessment, the RA verbally asked the participant if he/she wanted to read and write independently or if they preferred the RA to read out loud to them and/or transcribe for them. The RA modified the questions verbally if requested by the parent or child/youth due to a lack of understanding or additional clarification needed. Similar to the SE scale, all three guardians completed the CS scale independently with exceptions for occasional clarification around wording on some of the questions. For the youth, Rachel (client 1) asked the RA to mainly read/write on her behalf; Allie (client 2) completed the assessment mostly independently except for when she had a lengthy answer and then asked the RA to write...
on her behalf; and Evan (client 3) asked the RA to mostly read and write on his behalf except for him circling his answers on the Likert scales. The parent and child CS scale took approximately 10-20 mins to complete for both pre- and post-test.

Additional materials. Additional materials included mats, stickers for extra-stimulus prompts, pool-noodles for floor lanes, prizes, schedules on chart paper, and a token economy. All additional materials were used during the dance classes to assist in the guidance of dance skills, social and behavioral expectations and to enhance the participants’ overall experience.

Procedure

Data collection for pre- and post-assessments. Data collection included a pre- and post-test appointment with the parent(s) and child. These intake and outtake appointments took approximately 30 mins to 1.5 hrs and took place at the primary location. During these appointments, the parents filled out forms in a meeting room with carpet, a round table and chairs, a window and a white board; one RA was present with the parent for assistance at all times. At the same time, the child/youth was in the gymnasium on a mat on the floor with one or two RA’s to fill out their assessment forms and then the open-space gymnasium was used to conduct the dance/motor skills assessment.

Research design. To assess the overall facilitators and barriers of Dance with a B-E-A-T’s pilot study, three case studies with descriptive assessments were conducted. This study has established preliminary findings surrounding the use of recreational dance as a form of behavioral and therapeutic intervention which allows future research to propel this field of study.

Treatment Package

The Dance with a B-E-A-T treatment package included 8 weeks of dance sessions, with each session being 1 hr in length. In this study, six sessions were 1 hr long (all three clients
attended these), one session was 1.5 hrs long (Rachel was absent for this extended session due to sickness) and one week was split into two sessions; one being 30 mins with only one participant (the participant who ended up dropping from the study) and the other being 45 mins with Allie and Evan (this was due to a holiday schedule change and participant lateness). During this week, Rachel was absent again due to sickness. Therefore, Allie and Evan (two of three clients) attended all eight classes while Rachel attended six of the eight sessions. Notably, although Allie attended all eight classes, she was consistently 10-20 mins late for each session without explanation from her or her parent(s).

To maintain consistency, each participant had a primary RA throughout the 8-week program but occasionally worked with other RAs to promote generalizability. The 1 hr dance sessions were led by the PR; a Master of Arts student in Child and Youth Studies with a 10-year competitive dance background who acted as the lead dance teacher/therapist for the entire length of the program. The team also consisted of three additional Brock University students. The first student was a master’s student with a musical theatre and dance background, the second student was an undergraduate student with a gymnastics background and the third student was a Board-Certified Behavior Analyst (BCBA) and Ph.D. student with a competitive dance background. Although a lead dance teacher role was assigned, the program ensured a 1:1 dancer: therapist ratio per class. Prior to the program’s commencement, the RAs were trained on the dance, behavioral, therapeutic and social components of the program by both the PR and the supervisor of the program; Dr. Tricia Vause. In addition to overseeing the creation of the dance curriculum and associated measures, the program was also supervised weekly throughout the duration of the dance intervention (April to June 2019) by Dr. Tricia Vause; an Associate Professor with a Ph.D. in Clinical Psychology, Registered Psychotherapist, Psychologist (Supervised Practice) and
Board-Certified Behavior Analyst – Doctoral. The supervisor was present for one of eight dance classes, watched videos of the dance classes on a secure and password protected database, and facilitated weekly supervision meetings with the research team. The weekly 1-3 hr meetings consisted of discussing what went well and what could have been improved during that week’s dance class, unpacking and analyzing any behaviors, and discussing what elements of behavior and cognitive therapy were used appropriately or could have been used differently.

**Dance curriculum.** As per the curriculum, each session was broken into four segments: (a) circle time/warm-up, (b) across-the-floor-work, (c) centre-work and (d) relaxation/cool-down. The recreational dance curriculum included structured teaching guidelines while simultaneously allowing for flexibility and improvisation (in the form of individualized behavioral and cognitive behavioral adaptations), based on the individual needs of each participant. Each session built off of the last by manipulating the pace, direction, memory-demand and/or overall complexity of a movement, e.g., introducing *ball-change*, and then eventually progressing to *chassé step ball-change*, or, by introducing a new dance skill altogether.

Using individualization (e.g., within-session rules, token systems and reinforcement), the goal of each session was to expose the participant to new dance skills or variations of skills at his/her own pace. To achieve this, each dance skill was either broken down further by the RA for the participant, or, the RA provided additional components to the movement to further challenge the participant. To exemplify, the dance skill *chassé step* was broken down further for Evan to only including galloping with his hands on his hips; once this was mastered, the RA gradually introduced progressions (e.g., a slow *chassé step* only on the right foot, then eventually the left foot) to get Evan closer to executing the full dance skill. For Allie, *chassé steps* appeared to be easy so her RA added arms and a *ball-change* to the movement to challenge her further. For
Rachel, *chassé steps* appeared to be easy for her when moving through the movement slowly, so increased pace was encouraged in order to improve the flow of the movement. Evidently with this example using the dance skill *chassé step*, the RAs were all previously trained on how to modify each dance skill to either make it more accessible for the participant, or, to make it more challenging. This individualization of each step helped to motivate and empower the dancers to work hard and feel a sense of belonging and confidence in their physical, emotional and social abilities. While movements were introduced, practised and/or built upon as much as possible, the PR ensured that a predictable and repetitive environment was fostered. To account for varying levels of ability amongst the participants, the PR and RAs modelled and prompted modifications which either simplified or advanced the dance skill. As mentioned, the classes were divided into four general segments which each had their own purpose and objective in order to keep the class structured and predictable from week to week. For more detail, see Appendix B which outlines the duration, location in the gym, objective and examples of activities and exercises that were used within each segment. See Appendix B for a breakdown of the classes.

**Gross motor and balance skills.** Over the course of the 8-week dance program, all eight dance probes and all two balance probes were introduced and practised by all three participants. Additional dance skills were also introduced and practised as per the dance curriculum (see Appendix A-B. The beginning sessions of the dance curriculum included sessions one through three. In these sessions, the bulk of the foundational and typical beginner dance movements were introduced. These movements included but were not limited to: *chassé step, ball-change,* *spotting, tree pose,* and *dancer pose.* An introduction to *kicks, ballet sequence,* and *pivot turns* were also conducted. These movements were introduced throughout the three sessions and practised repeatedly throughout the duration of the program. Additional arm positions, technique
corrections and an increased pace were emphasized/introduced only after the basics of the movement was comfortable for each participant. Given the wide variance in needs and abilities amongst the three clients, progressions and modifications were provided on an individualized, as-needed basis which meant that the group remained working on the same movements each class but with various modifications or advancements to the movement. Given the 1:1 therapist to participant ratio, each pairing was able to work on their dance skill(s) at their own pace in their own area of the gymnasium. For instance, in session 1 kicks were introduced and each pairing was able to work on their version of these in their designated ‘lanes’ across the floor which eliminated any participants bumping into each other and promoted spatial awareness. This is where 1:1 pairings proved to be extremely beneficial for both the participants and the research team. Importantly, the beginning sessions also focused on rapport building between the participants and also between the participants and research team; this was important for building confidence and sense of belonging amongst the dancers. As mentioned earlier, according to Reinders et al., (2015), youth with exceptionalities are less likely to feel a general sense of belonging and confidence compared to their typically developing peers. This can lead to larger program drop-out rates which is why it was so critical to establish rapport building in the begging sessions.

The middle sessions of the dance curriculum included sessions four and five. These sessions focused primarily on repetition which aligns with what is typically seen in a beginner dance program. Additional movements that were introduced in these sessions were: a more dance-based warm-up, fan-kick roll and kick ball-change. Additionally, these sessions focused on stringing dance skills together from the beginning sessions and encouraging increased independence of the dance skills (i.e., from memory rather than from a model or additional
As mentioned, session four had a holiday reschedule and was therefore broken into two different sessions; one session ended up being a private session with the client who dropped from this study (Rachel was supposed to join this session but ended up being sick and therefore absent), and the other session ended up being a semi-private session with Allie and Evan.

The end sessions included sessions six through eight and included further repetition, independence, stringing of dance skills, and emphasis on proper technique and form. New dance skills introduced during these sessions were *piqué turns* and *seated leg-hold*. Balance skills (*tree pose* and *dancer pose*) were practised in all eight sessions. For further detail of the specific dance skills and progressions/variances of the skills and in what week they were introduced/practised, see Appendix A-B.

**Social and coping skills.** Throughout the beginning dance sessions, gross motor and balance skills were the primary focus however participants were always encouraged and expected to provide positive feedback to their peers where appropriate (e.g., before/after a peer modelled a dance skill for another peer). This behaviour/social skill was positively reinforced with the token economy; the participant would receive a point towards earning a prize at the end of each session after they collected all ten points for good behaviours. Also, points were given to individuals who engaged in prosocial coping skills such as using the breathing exercises, positive self-statements and/or communicating and labelling their emotions to any of the RAs. Notably however, the research team was diligent about not missing an opportunity to grant points, so, all participants received a prize in all eight sessions. Once the participants became more familiar with the dance and balance skills however, expectations for social and coping skills increased. In sessions four and five, a progression of social interactions and coping skills was expected and facilitated through a new dice game where the client rolled the die and then practised the dance
movement that corresponded with the number that they rolled. Additionally, increased independence during practise times was encouraged in these sessions as well as more individual modelling by the dancers themselves (i.e., travelling down a lane executing a dance skill while another peer watched them). Notably, in session seven, a much higher level of social interaction was observed amongst three of the clients (one client was absent on this day) – this session was extended by 30 mins, so a snack break was provided which evidently strengthened the social bonds and interactions amongst the participants significantly. A significant increase in verbal interactions, asking each other questions, working together and sharing jokes with one another was observed by the research team. Coping skill development was also observed to be strengthening within the participants individually, especially during times of attention-maintained behavior, heightened anxiety levels, and/or escape-maintained behavior where the participant would independently use one or more of the prosocial coping skills (e.g., breathing exercises, positive self-statements, labelling emotions) that were taught throughout the 8-week dance program.

Behavioral principles and therapeutic components. Various behavioral analytic strategies and therapeutic components were built into the curriculum to assist the participant’s needs and abilities appropriately. Behavioural and therapeutic components used throughout the dance intervention package such as: positive reinforcement, behavioral fading, chaining, extra-stimulus prompts, positive self-talk and breathing exercises. The far-right column of the curriculum shows these behavioral components that were used for all participants for each dance skill (see Appendix A). Additional behavioural adaptations were then applied on an as-needed basis for each individual. To exemplify, in the beginning sessions, ballet sequence was introduced. In order to produce this dance skill over time, Allie needed extra stimulus prompts in
the form of stickers on the floor to indicate where her foot was supposed to \textit{tendu}. She also needed extra verbal prompts to assist her in remembering the order of the sequence. For the same dance skill, Evan needed additional steps added to his chain to break the sequence down further and reduce the pace and memory demand of the skill. These modifications were faded over time for both participants. Rachel however, mastered this specific skill quickly so she required modifications to make it more challenging; for her, increased pace and ballet arms were added. Evidently, the various behaviour adaptations provided to each client allowed him/her to practise a skill at their own pace while also adapting the movement to highlight their skillset and strengthen their self-efficacy until they were ready to take on the next progression of the skill.

Positive reinforcement was used in the form of verbal praise and an independent group contingency token economy with points and stickers to promote favored behaviours, social skills and dance skill development. Prior to session one, the research team had come up with ten primary rules for the participants to follow and have the chance to earn points when doing so (or attempting to do so). Please see Appendix L for images of the gymnasium set up.

Socially, points were earned by using kind words, displaying an overall positive attitude, having “listening ears”, encouraging one another and by asking questions. Additionally, points could be earned by attempting or executing any prosocial behaviours; initiating social interactions, being respectful to everyone in the room, helping one another or by offering any positive/constructive comments to one another. Physically, points were earned by putting in effort/trying your best and trying new dance skills or variations of dance skills. Additionally, taking correction from the RA and applying it physically would also be an opportunity to earn points (e.g., if the RA told the participant to point their toes and then the participant followed through with this correction in the next attempt). Further, points were handed out to individuals
who attempted or executed any of the cognitive behavioural skills training that were taught throughout the program, e.g., a participant taking deep breaths or engaging in a positive self-statement before executing a dance skill.

During the final sessions, the research team thinned reinforcement to promote full independence of a dance skill in the presence of natural reinforcers in the environment (Martin & Pear, 2019). Full and partial physical, verbal and gestural prompts were used to teach the dance skills and were faded over time based on progress (Martin & Pear, 2019). To exemplify, the dance target ballet sequence was first introduced with a model prompt, fading was then used to scale back the skill to a point that was attainable, the demand/expectation of the skill then slowly increased over time based on progress. Full and partial physical prompts (e.g., physically moving the dancer’s leg to tendu to one direction) was then faded to a gestural prompt (e.g., pointing to the spot on the ground that the dancer’s foot should tendu to), which was then faded to a verbal prompt/cue (e.g., the RA verbally saying “point to the right”), until eventually the dancer completed the skill independently. The participant was positively reinforced with praise and points throughout this process of fading. In addition to using rules and fading prompts, antecedent manipulations used throughout the intervention package also included manipulating the setting through the use and weekly narrowing of the pool noodles that created lanes for the dancers. Additionally, spotting targets were used as an environmental antecedent that was manipulated over time. A large star was taped to the wall so that the dancer knew where to look while learning how to spot which was then eventually faded to increasingly smaller targets on the wall until it was removed completely, and the dancer was spotting independently.

The Dance with a B-E-A-T curriculum’s dance targets used chaining through task analyses where each skill was broken into smaller and more achievable steps using behaviour
chains which were then linked together to form the complete dance skill (Martin & Pear, 2019). Additionally, extra stimulus prompts are stimuli that are added to an environment to help a person make a correct discrimination (Martin & Pear, 2019). In the dance intervention package, extra stimulus prompts were used universally throughout the intervention in the form of floor lanes and stickers. Learning how to travel across the floor while executing a dance movement is both typical of a beginner dance program and also challenging; especially for those with gross motor, balance spatial awareness challenges. To support this common challenge, floor lanes were created using several pool noodles strung together with string to form physical lanes on the floor for the dancers. In the beginning sessions, the floor lanes were wide leaving the dancers with ample room to practise the dance skills across the floor while also having space to tumble out of balance. As the sessions progressed, this extra stimulus prompt was faded weekly to narrower lanes and then eventually to an absence of the lanes altogether. By the end sessions, the dancers were travelling across the floor without the use of any pool lanes. As mentioned, stickers (adapted to each participant’s interests) were also used for all of the dancers throughout the intervention. In the case of the ballet sequence target for example, stickers were used on the floor which indicated where the dancer was to point their toe to complete their tendu. This was used after a physical prompt was faded to increase independence of the skill; eventually, the sticker was removed. The stickers were used for many dance targets in the same way that was just described and were also used as an added adaptation on an as-needed basis which will be further described per participant.

The treatment package also consisted of components of cognitive behavioral skills training to further promote confidence, positive self-esteem and self-efficacy and to also reduce levels of anxiety, nervousness and fear (Kahrović, Radenković, Mavrić & Murić, 2014).
Specifically, positive self-talk and breathing exercises were used in each session while other techniques were used on an as needed and individualised basis. Positive self-talk was embedded in the dance classes when the PR and RAs would reinforce the participant’s saying phrases such as “I can do hard things!” before they attempted a dance skill. Additionally, cognitive restructuring was used to replace negative statements with positive ones, e.g., prompting a client to replace “I suck at this” with “I’m working really hard right now!” Breathing exercises were always used to wrap up the dance sessions with a “flower breathing exercise” that required the participant to use their imagination to pick up a pretend flower, smell the flower (promoting a long inhalation), and then blow the pedals off the flower (promoting a long exhalation). This breathing exercise was repeated three to five times before or after the balancing skills were practised at the end of each dance class.

As mentioned, the above components of behavioural analysis and therapy were used for all participants throughout the dance intervention. Additionally, however, further behavioural and therapeutic components were used on an individualized basis per participant dependent on their needs, challenges and abilities which will be discussed below.

**Individual Adaptations for Participants**

**Client #1: Rachel.** Rachel’s treatment modifications included giving her a leadership role to act as a class helper with materials, prepping the gym, taking peers to the water fountain or bathroom, and other miscellaneous tasks as it was evident that Rachel enjoyed feeling helpful and thrived off of being a leader. Consequently, her token economy was adjusted to include an emphasis on this leadership role where she could earn points for being a positive role model and leader within the dance classes. Additionally, an increased emphasis on positive self-talk was used for Rachel as she engaged in various forms of negative self-statements such as “I suck at
this!” which would be modelled with a rephrase such as “this is hard, but I’m also working hard!” Given that escape and attention were the perceived factors maintaining her negative self-statements, considerable attention was therefore given for any engagement in positive self-statements towards herself and for an overall positive attitude and engagement towards her peers or the dance program at large.

Last, Rachel engaged in several weekly verbal complaints about a variety of different bodily injuries or ailments such as her ankles, knees and wrists hurting; her eczema being too itchy to dance or her feeling too sad to participate after breaking up with her boyfriend. Due to the fact that the several complaints were most likely a form of escaping the dance class or specific dance skill that she didn’t enjoy or a want for someone to listen to her/give her attention, ignoring and redirecting was used to mitigate these types of behaviours. First, the RAs would discuss the injury/complaint with her and ensure she was not in need of any professional medical attention. Second, the RAs would then ignore her complaints and redirect positive attention towards times that she did choose to participate despite the injury/ailment by saying phrases such as “thanks for participating, Rachel, great job!” Last, the RAs would give her the chance to discuss the issue further once she was on-task or taking a break. It is important to consider Rachel’s prior years of adversity; some of which occurred at the same time that she was in a previous dance program and therefore generally relates trauma with dance (specifically ballet). Due to this psychological connection, Rachel’s tendency to escape from certain dance skills is not surprising.

Client #2: Allie. First, Allie’s token economy was adjusted to emphasize prosocial skills and applying proper dance technique/form and corrections to her dance skills; three particularly challenging areas for her. Second, a range of additional prompts were used to assist Allie in the
dance classes. Extra verbal prompts were implemented to promote listening to a full set of instructions as she often rushed ahead or interrupted her dance teachers. Third, extra stimulus prompts and imagery was often used to assist Allie in executing some dance skills. Even despite the behavioural components put into place for pivot turns, this dance skill proved to be particularly challenging for Allie until these individual adaptations were implemented to enhance her learning. Fourth, in times of heightened anxiety, Allie would report a racing heartbeat, breathlessness, a stomach-ache and an extreme worry and resistance about entering the gymnasium to participate in the dance class despite her wanting to participate. In times like this, Allie’s RA would validate her feelings, lead her through breathing exercises, provide her with a positive self-statement such as “I am safe, I am calm”, and normalize her symptoms of anxiety/perfectionistic thoughts.

**Client #3: Evan.** First, Evan’s token economy was adjusted to incorporate physical activity breaks. This antecedent management technique allowed Evan to focus intently for a few minutes at a time and then earn a game of tag or a running race around the gymnasium with his RA. Given that Evan appeared to be a competitive and athletic boy who enjoyed being active, this was an effective technique for encouraging his undivided attention throughout the dance classes. Second, awareness of the pool lanes as an extra-stimulus prompt was emphasized to improve his spatial awareness skills. Third, extra stimulus prompts and imagery were often used to help him understand the physical movement of a dance skill. Perhaps due to Evan’s younger age compared to his peers, a series of age-appropriate imagery and analogies were needed for Evan to understand the terminology of the movement, e.g., for kick ball-change the analogy of kicking a soccer ball was used to better support him in understanding the shifting of weight that occurs during a kick ball-change. Fourth, extra stimulus prompts such as stickers on the floor for
the dance skill *pivot turns* and stickers on his feet for the dance skill *ballet sequence* were useful for Evan’s success in the dance classes. Generally, Evan’s opportunity to have 1:1 attention with a private dance teacher/therapist proved to be a particularly positive component of the program for him. Finally, additional steps in the behavioral chains for the dance skills were used much more compared to his peers in the class. This additional chaining allowed Evan to practise the skills at a much slower pace than what was originally presented by the PR.

**Interobserver Agreement and Treatment Integrity**

Reliability was calculated for gross motor and balance skills using an interobserver agreement (IOA). Two RAs reviewed each videotaped probe and evaluated whether or not the participant was able to do each component of the task analysis independently. A detailed list of operational definitions was created to coincide with the curriculum (see Appendix J). This equated to a total percentage score which was compared pre- and post-intervention. The formula that was used to conduct IOA was agreements divided by agreements plus disagreements multiplied by 100 (Martin & Pear, 2019). According to Martin and Pear (2019), IOA scores between 80% and 100% are considered acceptable in behavior modification programs. For this study, 33.3% of the probes were coded by the secondary coder and results were compared to the primary coder. Mean IOA for pre and post- intervention was 88.2% (range = 20 to 100%).

Adherence to the treatment program was calculated for the dance curriculum by using a treatment integrity checklist (see Appendix K). Using the treatment integrity/program adherence checklist, one RA recorded whether each component of the treatment was implemented or not. The formula that was used to conduct IOA was agreements divided by agreements plus disagreements multiplied by 100 (Martin & Pear, 2015). Treatment integrity for core program components (e.g., warm up, across the floor, centre work and cool down) was assessed for 100%
of group sessions and averaged 98% \((M = 98\%, \text{range} = 89 \text{ to } 100\%)\). This percentage was calculated by dividing the number of program elements included in the session by the total number of program elements listed. Treatment integrity was also assessed for instructional components for each participant across 33.3% of group sessions (e.g., pre-programmed/universal behavioral components as per Appendix A) and averaged 90% \((M = 90\%, \text{range} = 80 \text{ to } 100\%)\). This was calculated by dividing the number of instructional components successfully completed by the instructor(s) by the total number of components listed.

**Results**

Following the 8-week *Dance with a B-E-A-T* intervention program, all three clients in this study experienced improvements in their gross motor dance and balance skills (Figure 1).

![Graph showing percentage improvements in dance and balance skills](image)

*Figure 1.* Dance with a B-E-A-T dance and balance motor probe results. This figure depicts percentage of correct performance based on task analyses created for each motor probe tested pre and post-dance intervention.

*Note.* Error bars represent the standard deviation.

In addition to dance/motor/balance skills improving across all three clients, SE results showed promising results however variability of these results were present, especially with Evan.
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(client 3). CS results were consistently positive across all three families; these results will now be discussed thoroughly for each participant and their guardian.

**Client #1: Rachel**

At intake, client 1 had an average dance and balance motor probe score of $M = 35\%$ ($SD = 22.70$) indicating moderately low dance and balance skills according to the task analyses. However, this dance and motor probe score had increased to an average score of $M = 75\%$ ($SD = 25.98$) at termination which indicated a 40% improvement in dance and balance skills. A t-test was used to compare pre and post means for Rachel; the t-test showed a significant increase from pre to post ($p = 0.005$). Table 1 shows Rachel’s motor probe results across eight dance probes and two balance probes pre- and post-the 8-week dance intervention. Interestingly, Rachel’s two balance probes (tree pose and dancer pose) remained the same from pre- to post-assessment.

*Table 1. Results of the 10 Motor Probes for Client 1, Rachel*

<table>
<thead>
<tr>
<th>Dance/Motor Probe</th>
<th>Pre-Test %</th>
<th>Post-Test %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Kicks</td>
<td>25</td>
<td>75</td>
</tr>
<tr>
<td>2. Chassé forward</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>3. Chassé side</td>
<td>60</td>
<td>100</td>
</tr>
<tr>
<td>4. Pivot turn</td>
<td>20</td>
<td>80</td>
</tr>
<tr>
<td>5. Kick ball change</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>6. Fan kick roll</td>
<td>14</td>
<td>86</td>
</tr>
<tr>
<td>7. Ballet sequence</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>8. Seated leg hold</td>
<td>50</td>
<td>75</td>
</tr>
<tr>
<td>9. Tree pose</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>10. Dancer pose</td>
<td>67</td>
<td>67</td>
</tr>
<tr>
<td>$M (SD)$</td>
<td>35.3 (22.70)</td>
<td>75 (24.65)</td>
</tr>
</tbody>
</table>

As previously mentioned, the SE scale measured the child’s SE towards their dance/motor/balance skills, social skills and sense of belonging, worry and coping skills, emotion regulation skills and attitudes towards joining new extra-curricular programs. Rachel’s
overall pre- to post-SE score increased from 39 to 56 (maximum score = 60) which indicated a 28% increase and improvement in the client’s overall SE. The five categories of the child/youth SE scale were then broken down. Rachel’s pre- to post-SE towards her dance/motor/balance score increased from 5 to 11 (maximum score = 12) which indicated a 50% improvement in attitude; her pre- to post-SE towards her social skills and sense of belonging increased from a 10 to a 14 (maximum score = 15) which indicated a 26% improvement in attitude; her pre- to post-SE towards her worry and coping skills decreased from 12 to 11 (maximum score = 12) which indicated an 8% decrease; her pre- to post-SE towards her emotion regulation skills increased from 6 to 8 (maximum score = 9) which indicated a 22% improvement; and her SE towards starting new extra-curricular programs increased from a 6 to a 8 (maximum score = 9) which also indicated a 22% improvement in attitude.

For parents, the SE scale measured the parent’s SE towards their son/daughter’s dance/motor/balance skills, social skills and sense of belonging, worry and coping skills, emotion regulation skills and attitudes towards starting new extra-curricular programs. Client 1’s grandmother’s overall pre- to post-SE score increased from 200 to 234 (maximum score = 374) which indicated a 9% increase and improvement in the client’s overall SE towards her granddaughter. The five categories of the parental SE scale were then broken down. Rachel’s grandmother’s pre- to post-SE towards her granddaughter’s dance/motor/balance score increased from 57 to 64 (maximum score = 88) which indicated an 8% improvement in attitude; her pre- to post-SE towards her granddaughter’s social skills and sense of belonging increased from 42 to 58 (maximum score = 99) which indicated a 17% improvement in attitude; her pre- to post-SE towards her granddaughter’s worry and coping skills decreased from 54 to 49 (maximum score = 88) which indicated a 5% decrease in attitude; her pre- to post-SE towards her granddaughter’s
emotion regulation skills increased from 33 to 48 (maximum score = 77) which indicated a 19% improvement in attitude; last, her pre- to post-SE towards her granddaughter’s attitudes starting new extra-curricular programs increased from 14 to 15 (maximum score = 22) which indicated a 4% increase in attitude.

Following the 8-week dance intervention, the CS questionnaire revealed a high level of satisfaction across all families with the overall effectiveness of the intervention. Specifically, Rachel scored 47 and her grandmother scored 46 (maximum score = 49). When isolating question #7 regarding the effectiveness of the program, both Rachel and her grandmother reported 6 (maximum score = 7) independently. Additionally, when parents and youth were asked to leave any additional comments, Rachel responded with: “I was very happy with the program, I feel like I improved.” Rachel’s grandmother also responded: “I really hope this can become a therapy for children like Rachel.” Rachel’s grandmother also commented that Rachel would tell her that “she learned new skills and that she wanted to keep moving after the program.” She also commented that Rachel “would also do the dance moves at home.” Rachel specifically commented on the points system being a “really good idea” because it was like they got a “good job prize.” She also liked that the research team would do the moves with her and then let her choose if she wanted to do it alone or continue to do it with them.

Rachel was motivated by physical ‘success’ of the dance movements, attainable challenge, leadership and showing off her skills to the other participants. Rachel appeared to enjoy the dance program when she was learning and mastering the dance targets quickly, but when she was authentically challenged by a movement, she often shut down. These responses to the program were always evident in Rachel’s body language and verbal comments; when she was enjoying herself she presented with open and eager body language (shoulders down,
standing up straight, lots of eye contact) and when she was feeling challenged by the program she would close off her body language (put up her hood and vocalize that she was bored or that the movement was “too easy”). There seemed to be a delicate middle ground with her where she needed to be challenged just enough that she felt proud of the types of targets she was mastering, but that she was not too challenged to the point of defeat causing her to give up and shut down. Socially, it was clear that Rachel gained confidence when she was able to show off her mastered skills to the other kids or when she was able to adopt a leadership role to assist the other kids. Approximately three quarters of the way through the first dance session, Rachel approached the PR and said “can I tell you something? I honestly thought I was really going to hate this program but in reality, I am loving it and feel so good about myself!”

In week three, one RA noted in her case notes:

Rachel is very engaged in the program when she is excelling at the skill, and she enjoys learning the new skills because as she improves she wants to practise more to be able to present what she can do to the entire class, for this reason she is eager to stay engaged and improve her skills and she seems to have an increased sense of self-esteem.

Based on these observations, Rachel was granted significant leadership roles in each subsequent session, her common responsibilities included teaching other kids and the RAs how to do a movement, providing feedback to the other kids on what they did well and what they can work on, taking the other participants to the water fountain for drink breaks, and helping set-up and take-down mats and materials when needed. Importantly, these were not just assigned leadership responsibilities as Rachel was observed taking initiation for these additional leadership tasks often. Rachel thrived with these new expectations and additional responsibilities; her token
economy system was adapted slightly so that she could earn points for being a good leader and role model for the younger kids which increased her motivation and attitude toward the program immensely. As a result of this token economy individualization, an RA wrote in her case notes:

We can even see Rachel’s overall body language and attitude seemingly lighten and improve – she began galloping excitedly to the Dance with a B-E-A-T token board and walked intentionally to follow instruction and make eye contact with the teachers for next instructions. Rachel was eager to raise her hand and answer questions when Nicole (the head teacher/therapist) would ask the group things like “does anyone remember what this position is called?”

Importantly, for the purposes of this study, body language has been understood as a critical form of communication that uses nonverbal gestural, postural or facial expressions to convey messages, increase comprehension of messages, and/or provide feedback (Yang, 2017). In this case, direct observation and field notes have been used to record changes to participant body language. Overt changes in body language such as Rachel removing her hood, uncrossing her arms, opening up her posture, and eventually galloping towards her token board with a smile on her face were interpreted as positive changes based on her increased willingness and voluntary participation within the class. Additionally, these specific body language observations were interpreted as positive changes when in conjunction with Rachel communicating to her RAs that she thought she wouldn’t enjoy the program but that she was actually loving it. Direct observations and field notes assisted in the interpretation of any participant body language changes. Further, to mitigate Rachel’s common escape strategy to shut down when a movement was too challenging, the RAs implemented additional steps to her dance skill chains to break the dance targets down into even smaller and more attainable steps. Significant positive attention
was also granted when Rachel participated, especially in dance skills that proved to be particularly challenging or triggering for her (based on her past traumas at the time she was also enrolled in a previous dance program). Rachel took breaks when she needed which also assisted with the escape function. Additionally, an emphasis on positive self-talk was implemented with Rachel where she was encouraged to replace negative comments with positive replacements. Positive responses were also provided by the RAs such as “Rachel, I know this is a challenging step, but I also know that you can do hard things. Let’s try again together.” Rachel responded to these adaptations well which was reflected in her overall gross motor and SE results.

In week five, further implementations were added to Rachel’s treatment package to promote a more positive overall attitude towards herself and the dance skills and activities being presented to her within the dance sessions. As mentioned, Rachel seemed to use verbal complaints about her body and physical ailments to either escape a task/practise session of a specific movement that she didn’t care for or to gain attention from the research team. Rachel would often complain about her ankles, knees, elbows or eczema hurting or that she was sad from breaking up with her boyfriend. As mentioned, the RAs always ensured that Rachel was comfortable continuing and that she was not in need of medical attention without offering too much attention. Rachel’s excessive complaining and story-telling was also evident at the beginning of most sessions where it seemed that she was affected by symptoms of anxiety entering the gym; her body language was typically closed off with her hood up and she wouldn’t initiate interactions right away other than to tell the teachers that she had another injury of some sort and therefore wouldn’t be able to participate. Importantly, other persons in Rachel’s life have also reported that she likes to engage in storytelling. Differential reinforcement was implemented by all teachers; the RAs gave minimal attention for Rachel’s complaints and
provided praise or the opportunity to ‘show off’ her *flossing* skills (a popular dance movement often seen in music videos) to the class when she engaged with a specific dance skill that was instructed by her RA. Additionally, the RAs providing Rachel with their undivided attention was also a function of positive reinforcement for her as she appeared to particularly enjoy feeling needed and seen from others. Given that Rachel enjoyed social attention from others, these adaptations worked well and typically improved her overall attitude towards herself and the dance program which resulted in increased participation. Following the implementation of these adaptations, her RA noted: “Rachel’s comments and complaints have subsided from the beginning of the session and she is a valued member of our program.”

**Client #2: Allie**

At intake, client 2 had an average dance and balance motor probe score of $M = 37\%$ ($SD = 28.71$) which indicated moderately low dance and balance skills according to the task analyses. However, this dance and motor probe score increased to an average score of $M = 80\%$ ($SD = 35.28$) at termination which indicated a 43% improvement in dance and balance skills. A t-test was used to compare pre and post means for Allie; the t-test showed a significant increase from pre to post ($p = 0.005$). Table 2 shows Allie’s motor probe results across the eight dance probes and two balance probes pre- and post-the 8-week dance intervention.

*Table 2. Results of the 10 Motor Probes for Client 2, Allie*

<table>
<thead>
<tr>
<th>Dance/Motor Probe</th>
<th>Pre-Test %</th>
<th>Post-Test %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Kicks</td>
<td>75</td>
<td>100</td>
</tr>
<tr>
<td>2. Chassé forward</td>
<td>20</td>
<td>40</td>
</tr>
<tr>
<td>3. Chassé side</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>4. Pivot turn</td>
<td>80</td>
<td>60</td>
</tr>
<tr>
<td>5. Kick ball change</td>
<td>16</td>
<td>0</td>
</tr>
<tr>
<td>6. Fan kick roll</td>
<td>28</td>
<td>100</td>
</tr>
<tr>
<td>7. Ballet sequence</td>
<td>16</td>
<td>100</td>
</tr>
<tr>
<td>8. Seated leg hold</td>
<td>25</td>
<td>100</td>
</tr>
</tbody>
</table>
Allie’s overall pre- to post-SE score decreased from 49 to 48 (maximum score = 60) which indicated a 2% decrease in the client’s overall SE. The five categories of the child/youth SE scale were then broken down. Allie’s pre- to post-SE towards her dance/motor/balance score stayed the same at a score of 12 (maximum score = 12) which indicated a null change in her attitude; her pre- to post-SE towards her social skills and sense of belonging stayed the same at a score of 11 (maximum score = 15) which also indicated null change in her attitude; her pre- to post-SE towards her worry and coping skills decreased from 8 to 7 (maximum score = 12) which indicated an 9% decrease; her pre- to post-SE towards her emotion regulation skills stayed the same with a score of 10 (maximum score = 12) which indicated null change; and her SE towards starting new extra-curricular programs stayed the same with a score of 8 (maximum score = 9) which indicated null change to her attitude.

Allie’s mother’s overall pre- to post-SE score decreased from 160 to 141 (maximum score = 374) which indicated a 5% decrease and decrease in the client’s overall SE towards her daughter. The five categories of the parental SE scale were then broken down. Allie’s mother’s pre- to post-SE towards her granddaughter’s dance/motor/balance score increased from 48 to 62 (maximum score = 88) which indicated a 15% improvement in attitude; her pre- to post-SE towards her daughter’s social skills and sense of belonging decreased from 27 to 13 (maximum score = 99) which indicated a 14% decrease in attitude; her pre- to post-SE towards her daughter’s worry and coping skills decreased from 37 to 22 (maximum score = 88) which indicated a 17% decrease in attitude; her SE towards her daughter’s emotion regulation skills increased from 31 to 33 (maximum score = 77) which indicated a 3% improvement in attitude;
last, her pre- to post-SE towards her daughter’s attitudes starting new extra-curricular programs decreased from 17 to 11 (maximum score = 22) which indicated a 27% decrease in attitude. Additionally, question six asked parents to comment generally on his/her child’s experiences within the dance program; Allie’s mother responded: "Joy has loved this dance program and always looked forward to coming. She felt successful and good about herself here.”

Regarding CS, Allie scored 46 and her mother scored 49 (maximum score = 49). When isolating question #7 regarding the effectiveness of the program, both Allie and her mother reported a 7 (very much; very satisfied) (maximum score = 7) independently. Additionally, when parents and youth were asked to leave any additional comments, Allie’s mother responded with: “this program allows for my child to participate in a dance class and feel successful. She would not otherwise have this opportunity since 'neurotypical' classes do not meet her needs." In response to the other optional comment spaces throughout this scale, Allie’s mother also touched on how the “one-on-one attention was awesome”; that the end of the session that involved centering and grounding was “excellent”; that the reinforcements used throughout the classes “really increased motivation”; that the research team was “very caring, understanding and accommodating”; that she “liked how the kids were encouraged to give positive feedback to one another”; and that Dance with a B-E-A-T is “an excellent program!” Allie emphasized her high rating scores for questions three (regarding how much he/she enjoyed learning the coping strategies such as relaxation and deep breathing) and four (regarding how satisfied he/she was with the additional tools used in the dance classes such as stickers and tokens) with extra comments saying “a lot” for both.

Throughout the intervention, Allie’s symptoms of ASD were evident. Allie thrived off of predictability, abiding by rules and a schedule, structure and positive reinforcement. Allie had a
tendency to talk over the teacher to clarify rules or correct any rules that were not explained exactly as they were the week prior. She also had a tendency to correct the other kids’ dance skills at inappropriate times. At large, it was evident that Allie was challenged in prosocial skills which made it difficult for her to make and maintain friendships. Interestingly, although Allie’s parents reported that some of Allie’s behaviours had evidently lessened within the dance classes such as behavioral outbursts and social issues.

Allie’s token economy was adjusted to emphasize prosocial skills as she seemed to struggle with initiating and maintaining peer relationships within the group. In the first few sessions, Allie was never observed initiating un-prompted conversation with her peers but after her token economy was adapted to focus on these skills, Allie was eventually observed initiating un-prompted interactions with her peers as well as showing a sincere care for them. Allie would often look out for the youngest in the group by ensuring his favourite songs were used for freeze dance and would approach her peers and compliment their hard work or dance skill often. Eventually, these prosocial behaviours were no longer reinforced via praise or points to ensure that Allie was generalizing this skill independently. Physically, Allie did not present as a typical beginner dancer and she seemed to have prior exposure to the dance skills, but this wasn’t emphasized by her parents on the intake forms. With this being said however, it was noted by the PR and RAs at pre-intervention that there was still ample room for improvement from Allie. It was evident that Allie’s main areas of challenge within the program were social skills and being able to take correction in order to improve upon a movement; Allie seemed to enjoy being the ‘best’ and the ‘fastest’ in the class which often hindered her ability to apply correction in order to perfect movements. Due to these adjustments emphasizing the ability to apply corrections from the instructors, Allie was observed multiple times in the beginning sessions correcting her form
and dance technique within a specific dance skill. For example, when *kicks* were first introduced to her, she was eager to fly through the movement and consider them mastered despite her ignoring proper form and technique which is critical in mastering any dance skill. Allie’s RA implemented several opportunities for Allie to earn points for taking correction and recorded in her case notes that “the client’s kicks improved significantly within the hour – Allie noticed this and was very proud that she slowed down and focused on the small details I was telling her to focus on.” Further, on week four another RA recorded: “Rachel is presenting with huge improvements with attention to detail, slowing down, listening fully to instructions, and taking/implementing corrections – her movements are becoming so sharp and precise!”

In session two it was evident that Allie did not respond to model prompts effectively; as soon as the model would start, Allie would say she already knew what she was doing and would often not observe the model. To mitigate this challenge for both Allie and her RA, additional prompts were applied to her individualized intervention. Since Allie thrived off of predictability and scheduling, extra verbal prompts were used before the model prompt was shown: “I have three things to tell you, then I will show you, and THEN it is your turn to try. Do you understand?” Allie responded very well to these added verbal prompts and was eager to follow the instructions which was rewarded via praise and points.

In session three extra-stimulus prompts and imagery were added to Allie’s adaptations in order to better support her in mastering the dance skill *pivot turns*. Allie enjoyed being challenged, but only when it was under *her* control. It seemed to be difficult for Allie to truly be challenged by a physical movement as she thrived off of being the ‘best’ and the ‘fastest’ to conquer the steps and move on. *Pivot turns* were an evidently challenging movement for Allie and she became frustrated quickly when she wasn’t understanding which way to pivot and where
are arms were supposed to go. Allie requested breaks with her service dog, Ace, while attempting this dance skill which was likely a form of escape and was instead used as a positive reinforcement: “five more tries of pivot turns and then you can have a break with Ace”. Stickers were then placed on the floor to indicate where each of Allie’s feet had to step in order to pivot the correct way. It was also very effective for Allie to use imagery for the use of her arms and supporting foot; the RA talked about ‘gluing’ her hands to her hips and ‘sticking bubble gum’ to the bottom of her foot to ensure it didn’t move while the other foot pivoted her around. These two adaptations were successful and eventually faded: “after a few attempts, Allie had added arms, increased pace, and mastered the step with a high level of detail AND was asking me how to do the other side.”

Throughout the dance classes, Allie presented with occasional high levels of anxiety due to various triggers. First, due to a statutory holiday, week four included a time and location change which evidently (and predictably) heightened Allie’s anxiety. The lead therapist and RA supported Allie by reassuring and validating her feelings, providing her with the same visual schedule that was used for all of the dance classes, and pointing out all of the things that were the same about this week’s class instead of all of the things that were different. Second, on week six, Allie and her mother communicated to the lead therapist that Allie was experiencing high levels of anxiety due to a demanding day at school and a test coming up the next day. Allie was hunched over holding her stomach and was unsure if she could enter the gym where the dance class had already commenced. Allie explained that she felt like she always had to be perfect at school and it was too much to also feel like that at dance class as well. The lead therapist normalized Allie’s feelings by explaining that she was experiencing a lot of anxiety that day as well and that they could throw away the ‘perfect’ expectations of each other and enter the gym
with the only intention being to have fun together. Allie responded well to these cognitive
behavioural tools (cognitive restructuring, positive self-talk and breathing exercises) and wanted
to join the dance class but was scared she wouldn’t be able to communicate to the therapist if her
anxiety got worse once they were inside the gym. Allie was wearing a shirt that had sequins on it
that made the shirt either gold or purple depending on which way the sequins were facing. The
lead therapist told Allie that she could make the sequins gold if she was feeling calm and happy
and purple if she was feeling anxious and wanted a break to walk around the gym, do some deep
breathing, or take a break with Ace. Allie loved this idea and entered the gym enthusiastically.
Positive self-talk was then used extensively throughout the class and were included in the model
prompts of the dance movements; the lead therapist would add a phrase like “I can do this!”
before modelling the dance skill which Allie then modelled and communicated that she enjoyed
doing it. At the end of this session, Allie was evidently feeling a lot more grounded and calmer
and was very proud about the progress she made both emotionally and physically. Her RA
approached her to check-in and discuss how she was feeling; Allie reported that she was feeling
much better and the RA took this opportunity to emphasize that the coping skills used (physical
movement of dancing, breathing techniques, positive self-statements) could be generalized to
other areas of her life where she might be feeling anxious or nervous about something.
Remarkably, in the next week, Allie and her mother both reported to the RA that Allie had
started practising some of her dance skills at home and at school to mitigate anxiety and induce
calmness. These cognitive behavioral tools proved to be effective for Allie in multiple scenarios
and were even observed being used without prompt and to model for another dancer. In session
four, one RA noted that after prompting Allie to engage in a positive self-statement and two deep
breaths before each dance skill attempt, she saw Allie engaging in these instructions without a
prompt. Further, the RA then noted that not only was Allie engaging in these cognitive behavioral tools independently, but that she also modelled it for Evan prior to showing him how to do a *pivot turn*. In this session, Allie was also observed engaging in prosocial behaviours in the form of several *unprompted* encouraging phrases and words to Evan. One of Allie’s last case note entries summarizes how effective all of the individual adaptations were for her:

Huge improvements are being observed with this client with both motor skills and with social skills; client is remembering a lot of corrections/how to do a movement properly on her own now and is excited to show me and her peers; client is receptive to the positive self-talk and relaxation techniques and is often engaging in these components independently and without model. Socially, Allie has improved with interacting with peers appropriately/giving them their space and not responding rudely to an ‘incorrect’ model of a movement or a comment she doesn’t understand.

**Client #3: Evan**

At intake, client 3 had an average dance and balance motor probe score of $M = 29\%$ ($SD = 26.10$) which indicated significantly low dance and balance skills according to the task analyses. However, this dance and motor probe score increased to an average score of $M = 45\%$ ($SD = 21.90$) at termination which indicated a 16% improvement in dance and balance skills. A t-test was used to compare pre- and post-means for Evan; the t-test did not show a significant increase from pre to post ($p = 0.005$). Table 3 shows Evan’s motor probe results across eight dance probes and two balance probes pre- and post-the 8-week dance intervention. Interestingly, Evan’s two balance probes remained the same across pre- and post-assessments.

*Table 3. Results of the 10 Motor Probes for Client 3, Evan*

<table>
<thead>
<tr>
<th>Dance/Motor Probe</th>
<th>Pre-Test %</th>
<th>Post-Test %</th>
</tr>
</thead>
</table>


DANCE WITH A B-E-A-T

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<table>
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<th></th>
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</thead>
<tbody>
<tr>
<td>1. Kicks</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>2. Chassé forward</td>
<td>0</td>
<td>20</td>
</tr>
<tr>
<td>3. Chassé side</td>
<td>60</td>
<td>10</td>
</tr>
<tr>
<td>4. Pivot turn</td>
<td>20</td>
<td>40</td>
</tr>
<tr>
<td>5. Kick ball change</td>
<td>33</td>
<td>17</td>
</tr>
<tr>
<td>6. Fan kick roll</td>
<td>14</td>
<td>71</td>
</tr>
<tr>
<td>7. Ballet sequence</td>
<td>0</td>
<td>50</td>
</tr>
<tr>
<td>8. Seated leg hold</td>
<td>0</td>
<td>75</td>
</tr>
<tr>
<td>9. Tree pose</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>10. Dancer pose</td>
<td>67</td>
<td>67</td>
</tr>
<tr>
<td>(M (SD))</td>
<td>29.4 (26.10)</td>
<td>45 (21.90)</td>
</tr>
</tbody>
</table>

Evan’s overall pre- to post-SE score decreased from 50 to 46 (maximum score = 60) which indicated a 6% decrease in the client’s overall SE. The five categories of the child/youth SE scale were then broken down. Evan’s pre- to post-SE towards his dance/motor/balance score increased from 11 to 12 (maximum score = 12) which indicated an 8% increase in his attitude; his pre- to post-SE towards his social skills and sense of belonging increased from 14 to 15 (maximum score = 15) which indicated a 7% improvement in his attitude; his pre- to post-SE towards his worry and coping skills decreased from 6 to 4 (maximum score = 12) which indicated a 17% decrease; his pre- to post-SE towards his emotion regulation skills decreased from 12 to 8 (maximum score = 12) which indicated a 33% decrease; and his SE towards starting new extra-curricular programs stayed the same with a score of 7 (maximum score = 9) which indicated null change to his attitude.

Evan’s father’s overall pre- to post-SE score increased from 155 to 190 (maximum score = 374) which indicated a 10% increase and improvement in the client’s overall SE towards his son. The five categories of the parental SE scale were then broken down. Evan’s father’s pre- to post-SE towards his son’s dance/motor/balance score decreased from 46 to 43 (maximum score = 88) which indicated a 3% decrease in attitude; his pre- to post-SE towards his son’s social
skills and sense of belonging increased from 29 to 45 (maximum score = 99) which indicated a 16% improvement in attitude; his pre- to post-SE towards his son’s worry and coping skills increased from 32 to 56 (maximum score = 88) which indicated a 28% improvement in attitude; his SE towards his son’s emotion regulation skills decreased from 28 to 26 (maximum score = 77) which indicated a 2% decrease in attitude; last, his pre- to post-SE towards his son’s attitudes starting new extra-curricular programs remained the same with a score of 20 (maximum score = 22) which indicated null changes to attitude. Additionally, question six asked parents to comment generally on his/her child’s experiences within the dance program; Evan’s father responded: "he absolutely loved it; it was one of the first times I have ever seen Evan happy about something.”

Regarding CS, Evan scored 49 and his father also scored 49 (maximum score = 49). When isolating question #7 regarding the effectiveness of the program, both Evan and his father reported 7 (very much; very satisfied) (maximum score = 7) independently. Additionally, when parents and youth were asked to leave any additional comments, Evan’s father responded with: “It is an amazing program and Evan is sad it ended. I really enjoyed his excitement through the program.” Evan also commented on how he liked the dance skills that were taught, especially the kicks, and that he loved when the research team helped him.

Evan was a very active and energetic child who enjoyed and benefited from physical activity and movement which is why his token economy system was adjusted to include physical activity breaks if earned (these often included running around the gym for a few minutes, doing jumping jacks, skipping, racing or freestyle dancing). This adjustment motivated Evan to work harder and challenge his attention span for longer periods of time if it meant that he could earn a break to let out some energy. Extra stimulus prompts were also very effective for Evan; these
were applied very frequently when he was learning or practicing a new dance skill. The pool noodle lanes were emphasized more for Evan and were also significantly effective in the development of his spatial and body awareness as he tended to flail around the gym when he was not having to stay within the lanes. Additional chaining was provided for Evan as he tended to pick up new dance skills much slower than his peers. This may have been due to his younger age or due to challenges associated with ADHD. Evan thrived off of a 1:1 pairing which allowed his RA to take the dance skills slower and break them down even further than the original task analyses. Evan’s RA also used additional verbal prompts of counting down the number or repetitions she asked him to do before earning a point towards his prize; this seemed to keep Evan much more motivated and focused in class. Evan’s RA also implemented additional imagery into their weekly routine which was proven to be effective in assisting Evan with picking up on new dance skills. Evan’s RA used analogies such as pretending to kick a soccer ball for kick ball-changes or pretending to paint a rainbow with his legs for fan kick rolls. On week six, Evan’s RA noted the below in her case notes:

The adaptation that was most effective for Evan in this session was having the relatable analogies of the skills being told to him so he could better understand how to complete the skills (e.g., painting a rainbow with his feet during the fan kick roll and pretending to kick a soccer ball during the kick ball change. Evan also benefitted from exerting energy during a requested dance break to help him regain focus afterwards.

Evan’s overall adapted treatment components assisted in his ability to focus for longer periods of time, accomplish more dance skills and enjoy the program more due. This was largely due to the imagery/analogies used and the adjusted token economy that promoted and encouraged Evan to exert his energy during breaks in order to enhance his focus afterwards.
Discussion

Using case study designs with descriptive pre- and post-assessments, this study showed preliminary findings of the future potential that *Dance with a B-E-A-T* (*Dance with Behavior Analysis and Therapy*) may have for children and youth with various exceptionalities. Through the creation and blending of recreational dance with behavioral principles and therapeutic components, results show that this program can improve children/youth’s gross motor and balance skills, self-efficacy, sense of belonging and perhaps even overall quality of life.

For this study, two of the three clients showed a significant difference from pre- to post-test when using the mean percentage across dance and motor skills. Regarding gross motor and balance skills; although all three clients’ data indicated an overall improvement in the gross motor dance and balance skills domain, only the dance-specific probes improved across all clients. Interestingly, the two balance probes only showed improvements in one of three clients (i.e., Allie improved, Rachel and Evan remained the same across pre- and post-assessments). Given that there were eight dance probes and only two balance probes, balance skills were not explicitly emphasized as much as dance skills were, so this variance in results is not surprising.

Further, it is speculated that Allie improved in the balance domain due to an observable increase in focus, attention to detail, and proper dance technique throughout the 8-week program. At pre-test, Allie appeared to have heightened energy and distraction and did not settle into the novel environment as smoothly as Evan or Rachel did. Further, one of Allie’s primary challenges throughout the dance classes was the ability to take correction from her teacher(s) and apply it to her dance skill. As mentioned, this observably improved across time and in the final dance sessions, Allie executed many dance skills with optimal form and technique (e.g., engaging the core, shoulders away from ears, chin up, muscles engaged, toes pointed). Unlike Rachel and
Evan, Allie’s particular progress in her focus, attention to detail and dance technique may all be factors contributing to her improvement in the balance probes compared to Rachel and Evan whom remained stagnant in these domains across time. Proper dance technique (such as being able to engage the core, stand and move with proper posture, and lift from the hips and rib cage) are particularly important skills in the success of balance poses. Allie’s balance progress over the 8-week dance intervention poses similar results found by Boswell (1991) who also reported improved balance skills due to a creative and adaptive dance program. Although Rachel and Evan displayed some improvement in overall dance technique, Allie showed particular interest and pride in executing dance technique for all dance skills and in all dance classes which likely contributed to this variance in balance results across the participants. Further, although all three clients improved in the gross motor domain at large, Evan’s pre-to post-assessment scores showed non-significant results while the other two clients showed significant results. Perhaps this was due to his younger age, but observable challenges in gross motor development and coordination was observed by the entire research team. Given these pre-existing challenges, Evan’s improvements in this domain are quite remarkable.

Regarding the eight dance probes, many observations were noted for each participant as well as many commonalities across participants. For Rachel (client 1), given her reported past traumas which were psychologically associated with her experiences in a ballet program at the time, it was remarkable to see her ballet sequence progress over time. Rachel verbally reported multiple times throughout the program that she did not like ballet and that ballet reminded her of bad times in her life. Given these comments and her occasional escape-behaviors surrounding ballet, it was not predicted that she would excel as much as she did in this particular dance skill. At pre-test, Rachel scored 50% and at post-test she scored 100% on the ballet sequence probe.
This 50% increase over the 8-week dance intervention may have been achieved through the several additional behavioral and cognitive behavioral components that were implemented into Rachel’s individual adaptations (e.g., positive self-statements, an adjusted token economy to increase motivation, providing her with a leadership role for this dance skill, and instilling confidence through praise and verbal encouragement). Interestingly, ballet sequence was a dance skill that was improved across all three clients; perhaps this was due to the fact that this was a particularly accessible dance skill to implement additional behavioral adaptations to (such as extra stimulus prompts in the form of stickers on the floor indicating where the foot should tendu to). Similarly, the fan kick roll and seated leg hold were two more dance probes that propelled across all three clients. All of these dance probes are particularly concrete and systematic movements in nature compared to perhaps more ambiguous movements such as the chassé step which includes a level of travelling and floating through the air in order to master the skill. To support this notion that the more “concrete” steps (e.g., ballet sequence or seated leg hold) resulted in improvements in all three clients whereas more variability was observed in the more “ambiguous” steps (e.g., chassé step or kill ball-change), it is noteworthy to analyze that chassé step was improved in only two of three clients and kick ball-change was not improved by any of the clients at all. These more ambiguous dance probes pose obvious limitations to the study considering that even a carefully crafted task analysis may not be able to capture the small details that make the step complete. Despite this limitation, the overall progress in gross motor and balance skills from pre- to post-assessment of the 8-week dance intervention are consistent with findings reported by Becker and Dusing (2010) whom also found improvements in gross motor and dance skills due to an adapted recreational dance program.
Notably, the embedded teaching and motor learning techniques used in this program contributed to the success that is evident pre and post-test for the dance and balance motor probes. Researchers emphasize the importance of motor learning and teaching approaches for efficient skill acquisitions in various populations (Andy & Masters, 2019; Guadagnoli & Lee, 2004; Wulf, Shea & Lewthwaite, 2010). Essentially, Dance with a B-E-A-T! utilizes motor learning through the means of observational practise and feedback (when the dancers are encouraged to watch, model and provide feedback to one another as well as when dyad practise was encouraged and positively reinforced), focus of attention (when the dancers’ were encouraged to focus on the movement effect to promote automaticity) and self-controlled practise controlled by the learner (Wulf et al., 2010). Future research should continue to pull on techniques used and deconstructed in motor learning literature such as in Andy and Masters (2019), Guadagnloi and Lee (2004) and Wulf, Shea and Lewthwaite (2010) as these techniques largely guided the teaching approach used within this study for the effective instruction of the dance and balance movements.

Regarding SE results, two of three parents showed overall improvements and one of three youth showed overall improvements from pre- to post-test. When breaking down these results in terms of the five subheadings/categories that are used in both the parent and child SE questionnaires, interesting observations are present. First, regarding the SE towards dance/motor/balance skills category; all three children/youth reported improvements or remained the same from pre- to post-test. Given that all three youth also improved physically in this realm, it is promising (yet not surprising) that they did not experience a decrease in self-esteem or confidence towards their dance and balance abilities. Second, regarding the SE towards social skills/sense of belonging category, it is interesting to note that Allie reported an increase in SE
for all questions in this category except for *I work well with other kids* where a decrease was reported from pre- to post-test. This is notable because prosocial behaviors were evidently challenging for Allie to engage in throughout the classes, however, a general improvement in this area was noted by RAs. Regarding the SE towards worry/coping skills category; the three clients all either remained stagnant or decreased in this category from pre- to post-test. These perhaps unpleasant results may be due to the fact that worry/coping skill lessons were largely a hidden curriculum within the classes (i.e., they were not always explicitly taught or labelled to the participants, rather modelled and encouraged implicitly through the physical benefits of the dance probes). Perhaps future *Dance with a B-E-A-T* programs should focus on enhancing the explicit Teachings of worry/coping and social skills in order to enhance the participant’s SE towards such skills. Regarding the SE towards emotion regulation category; two of three parents reported stagnant or increased results from pre- to post-test which is promising for the future of this program. Further, it is important to consider the several various challenges that the three participants experience due to their array of diagnoses. It is plausible and expected that symptoms of ASD, ID, ADHD and anxiety (for example) likely implicate the participants’ level of understanding, comprehension, reasoning, self-reflection and attention which would contribute largely to the results of SE. Future researchers should continue to investigate the most accessible modalities for gaining reliable information from those with exceptionalities. In general, perhaps SE did not increase as consistently across families as hypothesized but an analysis of such results indicates promising results and a clearer direction for future research.

Perhaps above all however, both child/youth and parental CS results indicate a high level of effectiveness and satisfaction with the 8-week dance program. Additionally, as outlined, parents and youth both provided strong and positive additional comments to a number of the
questions on this questionnaire which strengthens these results at large. In general, both parents and youth were very happy about the individual components (e.g., individualized behavioral and cognitive behavioral implementations, token economy, prizes, quality of the instructional tasks/movement skills that children learned in the sessions and delivery from a strong and supportive staff) and communicated that these special components are what made the 8-week dance program so effective (in terms of the physical, social and emotional benefits). Many parents also reported verbally that they felt their child would not be allowed to register let alone flourish in another recreational dance program due to their specific needs and challenges but that *Dance with a B-E-A-T* offered them a unique opportunity and access to an alternative and fun form of activity and therapy. The CS results therefore highlights *Dance with a B-E-A-T*'s endless potential and longevity to continue to strengthen its reliability in order to continue to support children and youth with ND and/or anxiety disorders. Given that this was the pilot of *Dance with a B-E-A-T*, both quantitative and qualitative outcomes show promising results for the future of using blended movement and therapy programs as a more accessible form of therapy for those with exceptionalities.

Previous literature has not only emphasized the several known benefits of recreational dance for typically developing individuals (Bukhardt & Brennan, 2012), but has also emphasized the significant inaccessibility of such programs for children and youth with exceptionalities (Becker & Dusing, 2010). With the use of pre-programmed behavioral and cognitive behavioral techniques as well as individualized adaptations, this study makes a preliminary attempt to create and execute a recreational dance program that those with exceptionalities can benefit from, too. While the participants of this program all reported that they enjoyed themselves in the dance classes, there was simultaneous therapy and intervention occurring that targeted their gross
motor and balance skills, self-efficacy/self-esteem and social/coping skills which all contributed to their sense of belonging to the group. To do this, behavioral and cognitive behavioral techniques as well as a strengths-based approach were used to promote development in such keystone areas. As mentioned, a strengths-based approach involves emphasizing an individual’s skillset and specific strengths rather than highlighting their challenges (e.g., transitioning Evan’s heightened energy into a fast-paced practise session for a particularly challenging dance skill).

Critically however, although this study made a good attempt at creating an inclusive recreational dance intervention, future research should dig deeper to enhance this component of the program in order to move closer towards a truly inclusive program for all body and cognitive abilities. To do this, perhaps Dance with a B-E-A-T! could include a core apprentice program where current participants of Dance with a B-E-A-T! assist in running the program for a population with much higher physical and cognitive needs (such as individuals who use wheelchairs or who are physically disabled). By using a core apprentice program, Dance with a B-E-A-T! becomes increasingly more inclusive as it would include all individuals (such as those with a wider array and larger spectrum of physical and cognitive abilities and challenges) while also including past participants a chance to become a dance teacher assistant.

Unlike in some traditional forms of therapy and/or education where hyperactivity and fidgeting/movement may be seen as an inappropriate behavior, in this dance program it was seen as a strength with which was used to propel further physical and cognitive development in other perhaps more challenging areas of the program for that specific participant. To exemplify, client 1 (Rachel), who was otherwise quiet and withdrawn, enjoyed showing off her flossing skills to the entire class; client 2 (Allie), who was otherwise high-energy, formed a specific liking to ballet which appeared to mitigate and ground symptoms of anxiety and ASD for her; and client 3
(Evan) was motivated to work hard in the dance classes so that he could earn free time to play tag or sprint around the gym with an RA. The positive effects of incorporating and adapting our client’s strengths and interests therefore align with Levin (2016)’s suggestion that dance and movement foster expressive release and transformation of hyperactivity into expression and investigation. In addition to the improvements highlighted within the domains outlined, informal improvements were seen intermittently with regard to the participant’s motivation, relationship building, body awareness, independence, social skills and emotional development. These informal developments are in line with previous research findings conducted by Reinders et al., (2015). Additionally, these authors and many others have found cardiovascular benefits from recreational dance in typically developing populations. Future research should include this variable and test pre and post cardiovascular results from the dance program. Perhaps the participants could even be taught how to check their own pulse or a peer’s pulse throughout the sessions to further promote motivation, inclusion and body awareness (Reinders et al., 2015).

This study emphasizes the endless opportunities that such programs can have on youth with exceptionalities who are otherwise limited access to the many known physical, psychological and emotional benefits of recreational dance and community programs at large (Becker & Dusing, 2010). Although this preliminary attempt at contributing to a significant gap in the pre-existing literature surrounding blended and individualized recreational dance programs, the opportunity for such research to grow and generalize is endless. A much larger potential exists for enhancing youth with exceptionalities overall quality of life and for transferring such results into larger community settings and various other recreational activities. On a macro-scale, *Dance with a B-E-A-T* could one day be used as a manualized intervention program that is distributed to dance studios globally to provide dance teachers with the tools that
allow them to include and accommodate dancers with a wide range of unique abilities and strengths.

**Limitations**

There are some recognisable limitations to this study. First, already mentioned was the difficulty of creating task analyses that capture the ambiguity of some dance skills (such as the travelling and floating components in *chasse steps*). Second, the fact that the participants were tested on their first attempt of each dance skill poses obvious limitations to the accuracy and proper representation of true progress across the 8-week program. To exemplify, at post-test, Allie’s *pivot* turn score decreased by 20%. This data representation was unfortunate given that Allie observably progressed in *pivot turns* significantly across the 8-week dance program and was “mastering” this skill almost always in the final dance sessions. Perhaps the pre- and post-assessments should have allowed participants to attempt the skill a few times before actually scoring them, especially since this idea of immediate mastery is not common in a typical dance class (where practise and verbal prompts/reminders are used frequently throughout classes).

Third, results have limited generalizability due to the small sample size of just three participants. Fourth, as mentioned, the SE scales used are not standardized measurements which poses obvious limitations. Fifth, an independent assessor whom was blind to the study’s hypothesize was not used to administer pre- and post-assessments. Sixth, the three participants had a variety of modified psychotropic medications and psychotherapeutic intervention as well as overlapping programs throughout the 8-week program and these variables were not controlled for. For this reason, we cannot be sure that the dance intervention was the sole purpose for both positive and negative improvements/decreases present in pre- and post-assessments. Seventh, research time constraints did not allow us to extend this program across several months which the time frame
that is typically seen with a beginner dance program. A longer period of time to be able to extend the program would be critical to better understand the true facilitators and barriers of this program. Where possible, future researchers should attempt to address such limitations in order to propel this area of research.

**Conclusions**

*Dance with a B-E-A-T* is not only a community-based and practical program embedded with therapeutic purposes for individuals with exceptionalities, it is also much larger than that. *Dance with a B-E-A-T* is an innovative, inclusive, empowering, supportive, and structured approach to improving often-impaired gross motor, balance, self-efficacy/self-esteem and socioemotional domains in children and youth with NDs and/or anxiety disorders. This program is inclusive by providing the appropriate individualized programming and supports to children and youth with NDs in order to experience all of the benefits of recreational dance. *Dance with a B-E-A-T* aims to lessen the barriers between abled and dis/abled to carve space for the more principal aspects of dance, quality of life, and therapeutic approaches to be experienced by all children and youth. By emphasizing enjoyment, belonging, inclusion and individualization within the dance program, physical, social and emotional progress was reported. This pilot study therefore provides the foundational groundwork which will hopefully encourage both researchers and clinicians to continue to explore the effectiveness of using alternative therapeutic strategies for children and youth with exceptionalities. The preliminary findings concluded in this study suggest that the blending of traditional frameworks and approaches with contemporary forms of expressive release such as recreational dance is promising for those with exceptionalities. Future research should further investigate blended recreational and therapy programs in order to better
support (physically, mentally and emotionally) as well as include those with unique needs and abilities.
References


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<thead>
<tr>
<th>Dance/Motor Target</th>
<th>Location</th>
<th>Sessions 1-2</th>
<th>Sessions 3-5</th>
<th>Sessions 6-8</th>
<th>Behavioral Components</th>
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</thead>
<tbody>
<tr>
<td><strong>Kicks</strong></td>
<td>Across the floor</td>
<td>- Arms: hands on hips - Legs: R &amp; L side - Direction: forward only</td>
<td>- Arms: jazz 2&lt;sup&gt;nd&lt;/sup&gt; - Step front kick → step side kick</td>
<td>- Step front kick → step side kick and turn → step back kick</td>
<td>- Chaining - Model prompt - Behavioral fading - Positive reinforcement</td>
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<tr>
<td><strong>Chassé Step</strong> (Front and Side)</td>
<td>Across the floor</td>
<td>- Gallop - Legs: R &amp; L side - Arms: hands on hips - Direction: forward and sideways</td>
<td>- Chassé steps - Forward arms: jazz 3&lt;sup&gt;rd&lt;/sup&gt; - Sideways arms: jazz 2&lt;sup&gt;nd&lt;/sup&gt; - Add ball-change - Direction: forward and sideways with ball-change</td>
<td>- Chaining - Model prompt - Behavioral fading - Positive reinforcement</td>
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<td><strong>Piqué Turn</strong></td>
<td>Across the floor</td>
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<td>- Arms: hands on hips - Start without turn - Add arms: jazz 2&lt;sup&gt;nd&lt;/sup&gt; → 1&lt;sup&gt;st&lt;/sup&gt; - Add turn and arms</td>
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<td>- Chaining - Extra-stimulus prompt &amp; fade - Model prompt - Behavioral fading - Positive reinforcement</td>
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<td><strong>Spotting</strong></td>
<td>Centre</td>
<td>- Spot sticker on wall while turning on the spot - Direction: R &amp; L side</td>
<td>- Focus on whipping head - Increase speed</td>
<td>- Fade sticker prompt - Add arms: 1&lt;sup&gt;st&lt;/sup&gt; position</td>
<td>- Extra-stimulus prompt &amp; fade - Model prompt - Behavioral fading - Positive reinforcement</td>
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<tr>
<td><strong>Ballet Sequence</strong></td>
<td>Centre</td>
<td>- Arms: hands on hips - Introduce 1&lt;sup&gt;st&lt;/sup&gt; position (feet &amp; arms) - 1&lt;sup&gt;st&lt;/sup&gt; position → tendu to 2&lt;sup&gt;nd&lt;/sup&gt; position - Introduce 2&lt;sup&gt;nd&lt;/sup&gt; position</td>
<td>- 1&lt;sup&gt;st&lt;/sup&gt; position → relevé and hold → 2&lt;sup&gt;nd&lt;/sup&gt; position → relevé and hold - Add demi pliés: 1&lt;sup&gt;st&lt;/sup&gt; position, demi plié, relevé → tendu → 2&lt;sup&gt;nd&lt;/sup&gt; position</td>
<td>- Repetition of exercise - Focus on proper technique</td>
<td>- Chaining - Model prompt - Behavioral fading - Positive reinforcement</td>
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<td>Exercise</td>
<td>Position</td>
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<td>DANCE WITH A B-E-A-T</td>
<td>(feet &amp; arms)</td>
<td>position, demi plié, relevé → tendu back to 1st position</td>
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<td>Ball-Change</td>
<td>Centre</td>
<td>- Add demi pliés if group is ready</td>
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<td>- Arms: hands on hips</td>
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<td>- Legs: R side only</td>
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<td>- Increase speed</td>
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<td>- Add ball-change to end of chassé steps</td>
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<td>- Connect ball-change with 'kick ball-change' probe</td>
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<td>- Positive reinforcement</td>
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<td>Fan Kick Roll &amp; Seated Leg Hold</td>
<td>Centre</td>
<td>- Arms: hands on hips</td>
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<td>- Legs: R side only</td>
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<td>- Add arms: V → hands on hips</td>
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<td>- Direction: add L side</td>
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<td>Pivot Turn</td>
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<td>- Arms: hands on hips</td>
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<td>Kick ball-change</td>
<td>Centre</td>
<td>- Arms: hands on hips</td>
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<td>- Direction: start with R side only</td>
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<td>Tree Pose &amp; Dancer Pose</td>
<td>Centre</td>
<td>- Start with dancer’s holding onto each other in a circle or onto the wall</td>
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<td>for added support</td>
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<td></td>
<td></td>
<td>- Legs: R &amp; L</td>
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<td></td>
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<td>- Encourage the class to balance for 10 secs per leg</td>
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<tr>
<td></td>
<td></td>
<td>- Focus on proper balancing form</td>
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<td>- Remove physical supports: balance independently</td>
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<td>- Increase amount of time</td>
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<td></td>
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<td>- Introduce arm variations</td>
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<td>- Model prompt</td>
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<td>- Behavioral fading</td>
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<td>- Prompt fading</td>
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<td>- Positive reinforcement</td>
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<td></td>
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<td>- Breathing prompts</td>
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</tr>
</tbody>
</table>
Appendix B: Timed Break-Down of Dance Classes

<table>
<thead>
<tr>
<th>Segment</th>
<th>Duration</th>
<th>Location</th>
<th>Objective</th>
</tr>
</thead>
</table>
| 1       | First 10 minutes | Centre           | - Therapists welcome participants  
- Lead therapist reviews the rule chart  
- Lead therapist reviews the token economy  
- Lead therapist leads a warm-up with one of the below options:  
  - Freeze-dance  
  - Stretches and jumping jacks  
  - ‘Make a pizza’ stretching activity |
| 2       | 15-20 minutes  | Across the Floor | - Introduce/work on specific dance targets for said session (Appendix A)  
- Lead therapist will introduce dance target to whole class at once  
- Back-up therapists will support the dancers as needed while they practise the movement across the floor  
- Lead therapist or back-up therapist can incorporate a ‘dancers-choice’ option near the end of this segment where the dancer is able to choose what he or she wants to practice for their last exercise. |
| 3       | 15-20 minutes  | Centre           | - Introduce/work on specific dance targets for said session (Appendix A).  
- Lead therapist will introduce dance target to whole class at once  
- Back-up therapists will support the dancers as needed while they practise the movement in the centre of the room  
- Dancers can work independently or in pairs with the therapist’s assistance  
- Dancers are to begin stringing single-step movements together (chaining) such as: chassé step + ball change |
| 4       | Time remaining | Centre           | - Lead therapist leads a cool down with one or more of the below options:  
  - Freeze-dance (if not already used in segment 1)  
  - Dancer’s form a circle; lead therapist leads dancer’s through relaxing stretches, yoga and balance poses, and deep breathing  
  - Therapists tally up each dancer’s points and distributes prizes if earned  
  - Therapists thank dancers and walk them to their parent/guardian for home time |
Appendix C: Parental Demographics Questionnaire

**DANCE WITH A B-E-A-T: BASIC DEMOGRAPHICS & PREVIOUS DANCE EXPERIENCE**

Dear parents. For research purposes, we ask you to provide some information about your family. The reason we do this is so that we can describe the characteristics of our participants so that other researchers and clinicians can see for what kinds of children and families this intervention may be efficacious. We thank you for providing this information, which of course, will remain confidential.

<table>
<thead>
<tr>
<th>Date: (M-D-Y)</th>
<th>Filled out by:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Childs Name:</strong> (Last, First)</td>
<td>□ M □ F ☐ Other: ___________</td>
</tr>
<tr>
<td>Ethnicity of Child:</td>
<td>□ Caucasian □ Latino/Latina □ Asian/Pacific Islander □ African Canadian □ Multiracial - Please specify: □ Rather not say</td>
</tr>
</tbody>
</table>

**PARENT/FAMILY INFORMATION**

| Marital Status of Primary Caregiver: | □ Single □ Married or Common-law □ Separated or Divorced |
| **Mother’s DOB:** (M-D-Y) | **Father’s DOB:** (M-D-Y) | **Other primary caregiver’s DOB:** (who? & M-D-Y) |
| **Current Occupation of Mother:** | **Current Occupation of Father:** | **Current Occupation of Other Primary Caregiver:** |
| **Total Family Income Before Taxes:** | □ less than $5,000 □ $5,000-9,999 □ $10,000-14,999 □ $20,000-24,999 □ $25,000-29,999 |
| □ $30,000-34,999 □ $35,000-39,999 □ $40,000-44,999 □ $45,000-49,999 □ $50,000-54,999 |
| □ $55,000-59,999 □ $60,000-64,999 □ $65,000-69,000 □ $70,000-74,999 □ $75,000-79,999 |
| □ $80,000-84,999 □ $85,000-89,000 □ $90,000-94,999 □ more than $95,000 |

**Education Level of Primary Caregivers:**

| Mother: | Father: | Other primary caregiver: |
| Less than High school | High school graduate | College graduate | University graduate |
| Less than High school | High school graduate | College graduate | University graduate |
| Less than High school | High school graduate | College graduate | University graduate |

**MEDICATIONS**

Is your child on any medications? □ Yes □ No (If so, please list medication, reason and dosage)

<table>
<thead>
<tr>
<th>Medication</th>
<th>Reason</th>
<th>Dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>

**SUPPLEMENTS**

Does your child take any vitamins or supplements? □ Yes □ No (If so, please list)

**PSYCHOSOCIAL/PSYCHOLOGICAL TREATMENTS**
Has your child received any psychological or mental health treatment? □ Yes □ No (If so; please list type of treatment, reason, and time period)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Reason</th>
<th>Time Period</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**DIAGNOSES:**

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Who Diagnosed?</th>
<th>When?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>
Appendix D: Task Analyses for the Eight Dance Probes

Target #1: Grand Battement Kicks in 2 Directions

Participant ID: ___________  Phase of program: Pre-test/Post-test

Observer Initials: ___________  Date: _______________

Verbal prompt: “Hi (name of participant), my name is Nicole! I’m going to show you a series of dance steps and one at a time I want you to try your best to repeat what I do. It doesn’t matter if you can do it or not, I just want you to try! Here’s our first one, are you ready? I’ll do the dance step first, and then you do it afterwards.”

<table>
<thead>
<tr>
<th>Steps:</th>
<th>Y/N?</th>
<th>Comments:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – Starting position 1 (with left foot).</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>2 – Transfer weight to step forward with left foot.</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>3 – Battement kick right foot forward and place right foot on ground to regain a centered balance.</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>4 – Battement kick left foot to the side and cross in front of right leg.</td>
<td>Y/N</td>
<td></td>
</tr>
</tbody>
</table>

Score (Number of Ys/4 * 100):

Legend:
Circle Y, if the Dance with a B-E-A-T! participant completed the step correctly AND without any assistance (e.g., vocal, gestural, or physical prompts).
Circle N, if the Dance with a B-E-A-T! participant did NOT complete the step correctly OR required any assistance (e.g., vocal, gestural, or physical prompts).

Notes:
- When no arm positions are assigned, the observer is not to code for any arms.
- In the comment section: (1) the observer is to comment whether or not ‘hands on hips’ were used by the participant or not. (2) the observer is to add any additional observations about the dancer’s ability/inability to conduct the step successfully.
**Target #2: Chassé Step Ball-Change: Forward Direction**

<table>
<thead>
<tr>
<th>Participant ID:</th>
<th>Phase of program: Pre-test/Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observer Initials:</td>
<td>Date: ____________________</td>
</tr>
</tbody>
</table>

**Verbal prompt:** “Okay (enter name), are you ready for our next dance step? Remember, it’s okay if you can’t do it, just try your best! I will show you the dance step first, and then you will go after me. Here we go!”

<table>
<thead>
<tr>
<th>Steps:</th>
<th>Y/N?</th>
<th>Comments:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – Starting position 1 (with right foot).</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>2 – Step forward with right foot, arms in forward ‘L’ position.</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>3 – Step together with left foot, arms in forward ‘L’ position.</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>4 – Step forward with right foot, arms in forward ‘L’ position.</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>5 – Ball change (left).</td>
<td>Y/N</td>
<td></td>
</tr>
</tbody>
</table>

**Score (Number of Ys/5 * 100):**

---

**Legend:**
Circle Y, if the *Dance with a B-E-A-T!* participant completed the step correctly AND without any assistance (e.g., vocal, gestural, or physical prompts).
Circle N, if the *Dance with a B-E-A-T!* participant did NOT complete the step correctly OR required any assistance (e.g., vocal, gestural, or physical prompts).

**Notes:**
- When no arm positions are assigned, the observer is not to code for any arms.
- In the comment section: (1) the observer is to comment whether or not ‘hands on hips’ were used by the participant or not. (2) the observer is to add any additional observations about the dancer’s ability/inability to conduct the step successfully.
Target #3: Chassé Step Ball-Change: Side to Side Direction

Participant ID: _________  
Observer Initials: _________  
Phase of program: Pre-test/Post-test  
Date: _______________

Verbal prompt: “Okay (enter name), are you ready for our next dance step? Remember, it’s okay if you can’t do it, just try your best! I will show you the dance step first, and then you will go after me. Here we go!”

<table>
<thead>
<tr>
<th>Steps</th>
<th>Y/N?</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RIGHT SIDE:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 – Starting position 2 (with right foot).</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>2 – Step to the right with right foot, arms in jazz second.</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>3 – Step together with left foot, arms in jazz second.</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>4 – Step to the right with right foot, arms in jazz second.</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>5 – Ball change (left).</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td><strong>LEFT SIDE:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 – Starting position 2 (with left foot).</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>7 – Step to the left with left foot, arms in jazz second.</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>8 – Step together with right foot, arms in jazz second.</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>9 – Step to the left with left foot, arms in jazz second.</td>
<td>Y/N</td>
<td></td>
</tr>
</tbody>
</table>
10 – Ball change (right). | Y/N
---|---

Score (Number of Ys/10 * 100):

**Legend:**
Circle Y, if the *Dance with a B-E-A-T!* participant completed the step correctly AND without any assistance (e.g., vocal, gestural, or physical prompts).
Circle N, if the *Dance with a B-E-A-T!* participant did NOT complete the step correctly OR required any assistance (e.g., vocal, gestural, or physical prompts).

**Notes:**
- When no arm positions are assigned, the observer is not to code for any arms.
- In the comment section: (1) the observer is to comment whether or not ‘hands on hips’ were used by the participant or not. (2) the observer is to add any additional observations about the dancer’s ability/ inability to conduct the step successfully.
Target #4: Pivot Turns (Right Side)

Participant ID: __________  Phase of program: Pre-test/Post-test

Observer Initials: __________  Date: ______________

Verbal prompt: “Okay (enter name), are you ready for our next dance step? Remember, it’s okay if you can’t do it, just try your best! I will show you the dance step first, and then you will go after me. Here we go!”

<table>
<thead>
<tr>
<th>Steps:</th>
<th>Y/N?</th>
<th>Comments:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – Starting position 4.</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>2 – Transfer weight onto right foot.</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>3 – Pivot body away from front leg until body is facing back wall, transferring weight onto left foot.</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>4 – Step forward with the right foot (transfer weight onto right foot).</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>5 – Pivot away from front leg, switching direction to front wall, transferring weight onto left foot.</td>
<td>Y/N</td>
<td></td>
</tr>
</tbody>
</table>

Score (Number of Ys/5 * 100):

Legend:
Circle Y, if the Dance with a B-E-A-T! participant completed the step correctly AND without any assistance (e.g., vocal, gestural, or physical prompts).
Circle N, if the Dance with a B-E-A-T! participant did NOT complete the step correctly OR required any assistance (e.g., vocal, gestural, or physical prompts).

Notes:
- When no arm positions are assigned, the observer is not to code for any arms.
- In the comment section: (1) the observer is to comment whether or not ‘hands on hips’ were used by the participant or not. (2) the observer is to add any additional observations about the dancer’s ability/ inability to conduct the step successfully.
Target #5: Kick Ball-Change (Right and Left Foot)

Participant ID: ___________  Phase of program: Pre-test/Post-test
Observer Initials: ___________  Date: _______________

Verbal prompt: “Okay (enter name), are you ready for our next dance step? Remember, it’s okay if you can’t do it, just try your best! I will show you the dance step first, and then you will go after me. Here we go!”

Steps:  Y/N?  Comments:

<table>
<thead>
<tr>
<th>Steps</th>
<th>Y/N?</th>
<th>Comments:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RIGHT SIDE:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 – Starting position 4.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 – Low developé kick right leg forwards.</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>3 – Ball change (right).</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>LEFT SIDE:</strong></td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>4 – Starting position 4.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 – Low developé kick left leg forwards.</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>6 – Ball change (left).</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Score (Number of Ys/6 * 100):

Legend:
Circle Y, if the Dance with a B-E-A-T! participant completed the step correctly AND without any assistance (e.g., vocal, gestural, or physical prompts).
Circle N, if the Dance with a B-E-A-T! participant did NOT complete the step correctly OR required any assistance (e.g., vocal, gestural, or physical prompts).

Notes:
• When no arm positions are assigned, the observer is not to code for any arms.
• In the comment section: (1) the observer is to comment whether or not ‘hands on hips’ were used by the participant or not. (2) the observer is to add any additional observations about the dancers ability/inability to conduct the step successfully.
**Target #6: Fan Kick Roll (Right Side)**

**Participant ID:**

**Phase of program:** Pre-test/Post-test

**Observer Initials:**

**Date:**

**Verbal prompt:** “Okay (enter name), are you ready for our next dance step? Remember, it’s okay if you can’t do it, just try your best! I will show you the dance step first, and then you will go after me. Here we go!”

<table>
<thead>
<tr>
<th>Steps:</th>
<th>Y/N?</th>
<th>Comments:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – Starting position 4.</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>2 – Right knee down on floor, upper body stays straight up.</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>3 – Transfer weight onto right hip so he/she is sitting on the floor, momentum moving to the right, both hands on ground behind you for support.</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>4 – Left leg points straight out to back left corner.</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>5 – While continuing the roll towards the back of the room, left leg fans from front left corner, to back right corner, hands on ground for support.</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>6 – Left leg lands on floor bent at knee.</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>7 – Right arm leaves floor, right foot crosses over left leg, left arm pushes off the ground to stand up facing the right wall, left toe points behind right supporting leg.</td>
<td>Y/N</td>
<td></td>
</tr>
</tbody>
</table>

**Score (Number of Ys/7 * 100):**
Legend:
Circle Y, if the Dance with a B-E-A-T! participant completed the step correctly AND without any assistance (e.g., vocal, gestural, or physical prompts).
Circle N, if the Dance with a B-E-A-T! participant did NOT complete the step correctly OR required any assistance (e.g., vocal, gestural, or physical prompts).

Notes:
- When no arm positions are assigned, the observer is not to code for any arms.
- In the comment section: (1) the observer is to comment whether or not ‘hands on hips’ were used by the participant or not. (2) the observer is to add any additional observations about the dancers ability/inability to conduct the step successfully.
Target #7: Ballet Sequence

Participant ID: _______  Phase of program: Pre-test/Post-test

Observer Initials: _______  Date: _______________

Verbal prompt: “Okay (enter name), are you ready for our next dance step? Remember, it’s okay if you can’t do it, just try your best! I will show you the dance step first, and then you will go after me. Here we go!”

<table>
<thead>
<tr>
<th>Steps:</th>
<th>Y/N?</th>
<th>Comments:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – Feet in first position, demi plié and stretch.</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>2 – Feet in first position, relevé and lower.</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>3 – Right foot tendus to second position.</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>4 – Feet in second position, demi plié and stretch.</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>5 – Feet in second position, relevé and lower.</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>6 – Right foot tendus back to first position.</td>
<td>Y/N</td>
<td></td>
</tr>
</tbody>
</table>

Score (Number of Ys/6 * 100):

Legend:
Circle Y, if the Dance with a B-E-A-T! participant completed the step correctly AND without any assistance (e.g., vocal, gestural, or physical prompts).
Circle N, if the Dance with a B-E-A-T! participant did NOT complete the step correctly OR required any assistance (e.g., vocal, gestural, or physical prompts).

Notes:
- When no arm positions are assigned, the observer is not to code for any arms.
- In the comment section: (1) the observer is to comment whether or not ‘hands on hips’ were used by the participant or not. (2) the observer is to add any additional observations about the dancers ability/inability to conduct the step successfully.
Target #8: Seated Leg Hold (Right Side)

Participant ID: __________ Phase of program: Pre-test/Post-test

Observer Initials: __________ Date: _______________

Verbal prompt: “Okay (enter name), are you ready for our next dance step? Remember, it’s okay if you can’t do it, just try your best! I will show you the dance step first, and then you will go after me. Here we go!”

<table>
<thead>
<tr>
<th>Steps:</th>
<th>Y/N?</th>
<th>Comments:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – Starting position 5.</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>2 – Shift weight backwards to sit on heels (upper body still straight up).</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>3 – Weight shifts onto right hip and right elbow/hand (elbow is placed far away from body straight out to the side, on the ground).</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>4 – Left foot points straight out and kicks towards face, left hand catches ankle/calf and holds.</td>
<td>Y/N</td>
<td></td>
</tr>
</tbody>
</table>

Score (Number of Ys/4 * 100):

Legend:
Circle Y, if the Dance with a B-E-A-T! participant completed the step correctly AND without any assistance (e.g., vocal, gestural, or physical prompts).
Circle N, if the Dance with a B-E-A-T! participant did NOT complete the step correctly OR required any assistance (e.g., vocal, gestural, or physical prompts).

Notes:
- When no arm positions are assigned, the observer is not to code for any arms.
- In the comment section: (1) the observer is to comment whether or not ‘hands on hips’ were used by the participant or not. (2) the observer is to add any additional observations about the dancer’s ability/ inability to conduct the step successfully.
Appendix E: Task Analyses for the Two Balance Probes

**Target #11: Tree Pose (Both Sides)**

<table>
<thead>
<tr>
<th>Steps:</th>
<th>Y/N?</th>
<th>Comments:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RIGHT FOOT</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 – Left foot stays planted on the ground with a straight leg, right foot places flat below or above the left knee, right knee turned out (not directly on the knee, can use hand to pull foot up if needed).</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>2 – Dancer holds tree pose for 30 seconds without right foot touching the ground.</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td><strong>LEFT FOOT</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 – Right foot stays planted on the ground with a straight leg, left foot places flat below or above the right knee, left knee turned out (not directly on the knee, can use hand to pull foot up if needed).</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>4 – Dancer holds tree pose for 30 seconds without left foot touching the ground.</td>
<td>Y/N</td>
<td></td>
</tr>
</tbody>
</table>

**Score (Number of Ys/4 * 100):**

---

Legend:
Circle Y, if the *Dance with a B-E-A-T!* participant completed the step correctly AND without any assistance (e.g., vocal, gestural, or physical prompts).
Circle N, if the *Dance with a B-E-A-T!* participant did NOT complete the step correctly OR required any assistance (e.g., vocal, gestural, or physical prompts).

**Notes:**
- When no arm positions are assigned, the observer is not to code for any arms.
- In the comment section: (1) the observer is to comment whether or not ‘hands on hips’ were used by the participant or not. (2) the observer is to add any additional observations about the dancer’s ability/ inability to conduct the step successfully.
**Target #12: Dancer Pose (Both Sides)**

**Participant ID:** __________

**Observer Initials:** __________

**Phase of program:** Pre-test/Post-test

**Date:** ________________

**Verbal prompt:** “Okay (enter name), are you ready for our next dance step? Remember, it’s okay if you can’t do it, just try your best! I will show you the balance move first, and then you will go after me and try to hold as long as you can. Here we go!”

<table>
<thead>
<tr>
<th>Steps</th>
<th>Y/N?</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RIGHT SIDE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 – Left foot planted firmly on the ground, right leg kicks behind body and right hand catches right foot.</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>2 – Left arm out in front of body.</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>3 – Dancer holds pose for 10 seconds without right hand letting go of right foot/without right foot hitting the ground.</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td><strong>LEFT SIDE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 – Right foot planted firmly on the ground, left leg kicks behind body and left-hand catches left foot.</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>5 – Right arm out in front of body.</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>6 – Dancer holds pose for 10 seconds without left hand letting go of left foot/without left foot hitting the ground.</td>
<td>Y/N</td>
<td></td>
</tr>
</tbody>
</table>

**Score (Number of Ys/6 * 100):**
Legend:
Circle Y, if the Dance with a B-E-A-T! participant completed the step correctly AND without any assistance (e.g., vocal, gestural, or physical prompts).
Circle N, if the Dance with a B-E-A-T! participant did NOT complete the step correctly OR required any assistance (e.g., vocal, gestural, or physical prompts).
Notes:
- When no arm positions are assigned, the observer is not to code for any arms.
- In the comment section: (1) the observer is to comment whether or not ‘hands on hips’ were used by the participant or not. (2) the observer is to add any additional observations about the dancer’s ability/inability to conduct the step successfully.
Appendix F: Parental Self-Efficacy Questionnaire

Participant ID: _________

Date:______________


This questionnaire is intended to assist us in understanding your child’s level of perceived confidence towards their dance, movement and balance abilities, as well as your perceived level of confidence that they can interact socially and feel like they belong in a group. Using the number scale, please rate how certain you are that your child can do each of the things described below.

Using the below scale, please rate your degree of perceived confidence by recording the appropriate number next to each question.

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all confident</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Extremely confident</td>
</tr>
</tbody>
</table>

Confidence (0-10)

1. Dance/Motor/Balance Skills
   1. My child can watch a movement and copy it
   2. My child is ‘coordinated’
   3. My child has good balance skills
   4. My child is a ‘good dancer’
   5. My child would consider him/herself a ‘good dancer’
   6. My child likes to dance
   7. My child likes to be active
   8. My child quickly learns new dance skills

2. Social Skills/Sense of Belonging
   1. My child can make and maintain friendships
   2. My child can initiate and maintain conversation with others
   3. My child works well in a group of other kids
   4. My child feels like he/she belongs in a group of friends
   5. My child feels like he/she belongs in a group activity/extracurricular or sport program
   6. My child feels confident in his/her relationships
7. My child feels confident in general
8. My child wishes they could be more like ‘the other kids’
9. My child often feels ‘socially excluded’

3. Worry and Coping Skills
   1. My child readily tries new things
   2. My child is not worried about ‘being perfect’
   3. My child is not worried about failing
   4. My child does not get anxious before social interactions
   5. My child does not get anxious during social interactions
   6. My child does not worry about being judged by other kids
   7. My child has coping skills to use when experiencing anxiety
   8. My child uses coping skills when he/she is anxious

4. Emotion Regulation Skills
   1. My child can resist copying other peer’s inappropriate behaviors
   2. My child can manage his/her temper
   3. My child can manage his/her frustration
   4. My child is able resist hitting, shoving, throwing, or yelling
      when a peer is annoying him/her
   5. My child can recognize and label when he/she is upset or frustrated
   6. My child can use strategies to calm him/herself down when he/she
      is hurt/upset/frustrated
   7. My child can regulate his/her emotions without the help of an adult

5. Other
   1. Once my child has gone to the first session of a new program,
      he/she can’t wait to go back
   2. I have to persuade my child to start or continue new activities/programs,
      or else he/she won’t go

6. Please comment generally on your child’s experiences within our dance program:

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

This questionnaire is now complete – thank you for your time!
Appendix G: Child/Youth Self-Efficacy Questionnaire

Participant ID: _________
Date: ________________

Children’s Non-Standardized Self Report Measure of Self-Efficacy for Dance with a B-E-A-T!

This questionnaire is intended to help us understand how good you think you are at dance and balancing skills; how strongly you feel you can interact socially and belong in a group. Using the face scale, please rate how certain you are that you can do each of the things described below.

Using the below scale, please rate how much you feel you can do each thing by circling the appropriate face beside each question.

No Not sure? Yes

1. Dance/Motor/Balance Skills
   1. I have good balance skills
   2. I like to dance
   3. I’m a good dancer
   4. I like to be active

2. Social Skills/Sense of Belonging
   1. I make friends often
2. I work well in a group of other kids
3. I wish I could be more like ‘the other kids’
4. I often feel excluded by other kids
5. I’m proud to be me

3. Worry and Coping Skills
   1. I feel nervous/anxious when trying new things
2. I always want to be perfect
3. I worry about what other kids think of me
4. I get nervous to talk to new people

4. Emotion Regulation Skills
   1. I can calm myself down when I’m frustrated, mad or sad
2. I can resist hitting, shoving, throwing, or yelling when a peer is annoying me
3. I get frustrated easily
4. I can take deep breaths to calm myself down when I’m upset or frustrated

5. Other
   1. I like to try new activities/programs/clubs
2. I get nervous to try new activities/programs/clubs 😞🤔😊

3. Once I have gone to the first session of a new program, I can’t wait to go back 😞🤔😊

6. Did you like being a part of the dance program?

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

This questionnaire is now complete – thank you for your time!
Appendix H: Parental Consumer Satisfaction Questionnaire

CONSUMER SATISFACTION QUESTIONNAIRE FOR DANCE WITH A B-E-A-T (Parents)

Participant ID:  Date:

Overall, how satisfied were you with the choice of skills taught in Dance with a B-E-A-T? (ex. across the floor or centre work, turns, steps, positions, combinations)

1 2 3 4 5 6 7
not satisfied very satisfied

Comments: 

Overall, how satisfied were you with the way these skills were taught to your child? (ex. modelling by the therapists, learning combinations one step at a time)

1 2 3 4 5 6 7
not satisfied very satisfied

Comments: 

Overall, how satisfied were you with the coping strategies learned by your child for managing feelings and reactions? (ex. relaxation through stretching, deep breaths, etc.)

1 2 3 4 5 6 7
not satisfied very satisfied

Comments: 

Overall, how satisfied were you with the additional tools used in Dance with a B-E-A-T (e.g. stickers on the wall to help
DANCE WITH A B-E-A-T

with spotting, tokens swapped for prizes)

<table>
<thead>
<tr>
<th></th>
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<th>2</th>
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<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>not satisfied</td>
<td>very satisfied</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Comments:

Overall, how satisfied were you with your child's therapists?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>not satisfied</td>
<td>very satisfied</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Comments:

Overall, how satisfied were you with your child's level of social interaction in Dance with a B-E-A-T?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
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<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>not satisfied</td>
<td>very satisfied</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Comments:

Overall, how effective did you feel Dance with a B-E-A-T was?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>not effective</td>
<td>very effective</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments:

Any additional comments regarding your level of satisfaction with the therapy (and the questions asked above) is appreciated.
Comments:


Appendix I: Child/Youth Consumer Satisfaction Questionnaire

CONSUMER SATISFACTION QUESTIONNAIRE FOR DANCE WITH A B-E-A-T (Children)

Participant ID:  
Date:  

Overall, how much were you satisfied with the choice of skills taught in Dance with a B-E-A-T?  
(ex. across the floor or centre work, turns, steps, positions, combinations)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>not much</th>
<th>very much</th>
</tr>
</thead>
</table>

Comments: 

Overall, how much did you like the way these skills were taught to you?  
(ex. modelling by the therapists, learning combinations one step at a time)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>not much</th>
<th>very much</th>
</tr>
</thead>
</table>

Comments: 

Overall, how much did you like the coping strategies learned for managing feelings and reactions?  
(ex. relaxation through stretching, deep breaths, etc.)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>not much</th>
<th>very much</th>
</tr>
</thead>
</table>

Comments: 

Overall, how satisfied were you with the additional tools used in Dance with a B-E-A-T?  
(e.g. stickers on the wall to help with spotting, tokens swapped for prizes)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>not much</th>
<th>very much</th>
</tr>
</thead>
</table>

Comments: 

Overall, how much did you like working with the therapists?

Comments:  

Overall, how much did you like being with the other kids in Dance with a B-E-A-T?

Comments:  

Overall, how much did you learn and like being a part of Dance with a B-E-A-T?

Comments:  

Any additional comments regarding your level of satisfaction with the therapy (and the questions asked above) is appreciated.
Appendix J: Operational Definitions of Dance Terms

**Starting Position 1 (with left foot):** Dancer starts with hips facing forward and left foot pointed forward on the ground, hands on hips.

**Starting Position 1 (with right foot):** Dancer starts with hips facing forward and right foot pointed forward on the ground, hands on hips.

**Starting Position 2 (with left foot):** Dancer starts with hips facing forward, right foot on the ground facing forward, and left foot on the ground facing forward, left foot pointed to the left side, hands on hips.

**Starting Position 2 (with right foot):** Dancer starts with hips facing forward, left foot on the ground facing forward, and right foot on the ground and pointed to the right side, hands on hips.

**Starting Position 3 (with left foot):** Dancer starts facing forward with hands on hips, right foot on the ground and left foot is pointed and behind right leg with left ankle placed against the back of the right ankle.

**Starting Position 3 (with right foot):** Dancer starts facing forward with hands on hips, left foot on the ground and right foot is pointed and behind left leg with right ankle placed against the back of the left ankle.

**Starting Position 4:** Dancer starts standing facing forward with hands on hips, and both left and right foot positioned side by side together.

**Starting Position 5:** Dancer kneels with both knees positioned side by side on ground to support upper body.

**Grand Battement Kicks in 2 Directions:** Starting Position 1 with left foot. With hands on hips, transfer weight in step forward with left foot. Right foot following behind and swinging at the hip to lift leg up into a forward kick, and then landing their right foot on the ground beside left foot. With hands remaining on hips, dancer then kicks left foot to the side and lands left foot on the ground in front of right foot.

**Chassé Step Ball-Change: Forward Direction:** Starting position 1 with right foot. Dancer’s left arm pointed forward at shoulder height, and right arm pointed the right side at shoulder height (L shaped). Dancer transfers weight in step forward with right foot, left foot follows behind and lands next to right foot, arms remain unchanged. Dancer transfers weight in step forward with right foot, arms remain unchanged. Dancer puts hands on hips, lifts right foot off ground to transfer weight onto left foot that lands crossing behind right foot. Dancer then lifts left foot off ground to transfer weight onto right foot, which lands in front.

**Chassé Step Ball-Change: Side to Side Direction:**

- **Right side:** Starting position 2 with right foot, and each arm pointed to the side at shoulder height. Dancer transfers weight to step to the right side with right foot, left foot follows and lands beside right foot, arms remain unchanged. Dancer transfers weight to step to right with right foot, arms remain unchanged. Dancer puts hands on hips, and lifts right foot off ground and transfers weight to left foot and left foot lands crossing behind right foot. Dancer then lifts left foot off ground to transfer weight and land onto right foot.

- **Left side:** Starting position 2 with left foot, and each arm pointed to the side at shoulder height. Dancer transfers weight to step to the left side with left foot, right foot follows and lands beside left foot, arms remain unchanged. Dancer transfers weight to step to left with left foot, arms remain unchanged. Dancer puts hands on hips, and lifts left foot off ground and transfers weight to right foot and right foot lands crossing behind left foot. Dancer then lifts right foot off ground to transfer weight and land onto left foot.
**Hop, Step, Cross, Passé Jump:** Starting position 1 with left foot. Dancer hops to transfer weight and balance only on left foot. Right foot is lifted off ground and while pointed it moves behind left leg so that the right ankle is placed against the back of the left ankle, arms remain unchanged. Dancer then transfers weight to take step forward with right foot and then transfers weight to take another step forward with left foot, arms remain unchanged. Dancer hops to transfer weight to left foot and balance on left foot with right toe touching left knee and hands on hips.

**Pivot Turns (Right Side):** Starting position 4 with right foot. Arms raise to 45 degree angle above shoulders (high-V) and dancer transfers weight to take step forward with right foot, arms unchanged. With weight fully transferred to right foot pivot body 180 degrees away from front wall until body is facing back wall. Dancer transfers weight to take step forward with left foot, hands on hips. With weight fully transferred to left foot, dancer then transfers weight again in taking step forward with right foot and arms raised to 45 degree angle above shoulders (high-V). Dancer pivots body 180 degrees away from right back wall until body is facing front wall. Dancer transfers weight to take step forward onto left foot, hands on hips.

**Kick Ball-Change:**

**Right side:** Starting position 4 with right foot. Right foot is pointed and moves behind left leg so that the right ankle is placed against the back of the left ankle. Right foot is drawn up the shin up until the knee and then the knee fully extends outwards into a kick at knee height of the leg, hands on hips. Dancer steps down to transfer weight onto right foot crossing it behind left foot, lift left foot, transfer weight back to left foot, lift right foot, hands remain on hips.

**Left side:** Starting position 4 with left foot. Left foot is pointed and moves behind right leg so that the left ankle is placed against the back of the right ankle. Left foot is drawn up the shin up until the knee and then the knee fully extends outwards into a kick at knee height of the leg, hands on hips. Dancer steps down to transfer weight onto left foot crossing it behind right foot, lift right foot, transfer weight back to right foot, lift left foot, hands remain on hips.

**Fan Kick Roll (right side):** Dancer starts with right knee on the ground, arms extend 45 degree angle below waist and upper body holds straight posture. Dancer transfers weight onto right hip to sit on the floor. Once seated, dancer’s momentum is still moving to the right and hands are on ground behind their body for support. Dancer points straight out (kicks) to the left back corner and keeps leg extended to fan from front left corner to back right corner while dancer rolls 180 degrees towards the back of room, hands remain on ground. Dancer puts their left leg on ground bent at knee and the right arm lifts off ground. Dancer’s right foot then crosses over left leg and left arm pushes off the ground to stand up facing the right wall. Left toe points behind right supporting leg and arms extend 45 degree angle below waist (low-V).

**Ballet Sequence:** Dancer starts with hands on hips, and legs straight with ankles and heels pointed inwards and touching, with toes pointed to the sides. Dancer bends knees half way, keeping their heels on the ground and then straightens legs back to previous position, hands remain on hips. Dancer has legs straight with ankles and heels touching and toes pointed to the sides and hands and arms unchanged. Dancer raises heels off ground to transfer weight onto balls of feet and places heels back onto ground. Dancer then extends the right leg out to the right side along the ground so the right pointed toes are the only part of right foot touching the ground at the end of the extension. Dancer then places heel of working leg on ground so their feet are shoulder width apart and their heels are pointed inwards towards each other and their toes are pointed outwards to the sides, hands remain on hips. Dancer bends knees half way, keeping their
heels on the ground and then straightens legs back to previous position with feet shoulder width apart, heels pointed inwards and their toes pointed outwards, hands remain on hips. Dancer raises heels off ground to transfer weight onto balls of feet and places heels back onto ground. With hands on hips dancer then points right foot so right pointed toes are the only part of right foot touching the ground. Dancer then pulls right leg in to have both legs placed beside each other with straight with ankles and heels pointed inwards and touching with toes pointed to the sides, arms remain unchanged.

**Seated Leg Hold (Right Side) :** Starting position 5, and upper body maintains straight posture. Weight shifts onto right hip and right elbow/hand (elbow is placed far away from body straight out to the side, on the ground) as lower body lands on floor. Dancer pointes left foot straight out and kicks towards face, left hand catches ankle/calf and holds. Dancer extends right supporting leg straight out with a pointed foot.

**Pique ½ Turns (Right Side) :** Starting position 2 with right foot. Dancer then shifts weight onto the ball of the right foot, left foot slides up the right leg until reaching the calf and is held behind the right calf, hands unchanged. The ball of right foot turns so body is facing the back of the room, hands on hips. Dancer shifts weight onto left foot stepping down behind the right leg, right extends in front of left leg with toe pointed and facing the front of the room.

**Tree Pose:**
- **Right foot:** Dancer keeps left foot planted on ground with straight leg while right foot is placed flat above or below the left knee, with right knee facing right side. Dancer can use help of hand to pull foot up if needed. Upper body maintains straight posture and hands on hips. Dancer holds tree pose for 30 seconds without right foot touching ground.
- **Left foot:** Dancer keeps right foot on ground with straight leg while left foot is placed above or below the right knee, with the left knee facing left side. Dancer can use hand to pull foot up if needed. Upper body maintains straight posture and hands on hips. Dancer holds tree pose for 30 seconds without left foot touching ground.

**Dancers Pose:**
- **Right Side:** Dancer keeps left foot planted on ground to support weight with straight leg while right leg kicks behind body and right hand catches and holds right foot. Left arm is extended forward and straight in front of body, in line with shoulder. Dancer holds pose for 10 seconds without right hand letting go of right foot and without right foot hitting the ground.
- **Left Side:** Dancer keeps right foot planted on ground to support weight with straight leg while left leg kicks behind body and left hand catches and holds left foot. Right arm is extended forward and straight in front of body, in line with shoulder. Dancer holds pose for 10 seconds without left hand letting go of left foot and without left foot hitting the ground.
Appendix K: Treatment Integrity Checklist

<table>
<thead>
<tr>
<th>Program Component</th>
<th>Was the element demonstrated: Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introduction</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Instructor welcomed participants</strong></td>
<td>Y/N</td>
</tr>
<tr>
<td>Said hello, invited participants into the room, had participants introduce each other in first class, showed schedule on wall</td>
<td></td>
</tr>
<tr>
<td><strong>Instructor listed goals and expectations of the session, and asked participants for feedback</strong> (session one only)</td>
<td>Y/N</td>
</tr>
<tr>
<td>Wrote down children’s ideas for goals/expectations on chart paper</td>
<td></td>
</tr>
<tr>
<td><strong>Instructor explained/reviewed the token economy</strong></td>
<td>Y/N</td>
</tr>
<tr>
<td>Used child-friendly language, clearly explained the number of tokens needed for a reward, explained group contingency (all dancers working together for reward)</td>
<td></td>
</tr>
<tr>
<td><strong>Instructor encouraged/modelled/or used relaxation techniques at least once with the group and as needed individually</strong> (ex. deep breathing, stretching, meditation)</td>
<td>Y/N</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Basic structure elements</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Instructor led a warm-up for at least 5 minutes, warm-up included stretching or a dynamic activity</strong> (ex. freeze dance)</td>
<td>Y/N</td>
</tr>
<tr>
<td><strong>Provided an opportunity to complete movements in the centre of the room</strong></td>
<td>Y/N</td>
</tr>
<tr>
<td><strong>Provided an opportunity to complete movements across the floor</strong></td>
<td>Y/N</td>
</tr>
<tr>
<td><strong>Instructor led a cool-down</strong></td>
<td>Y/N</td>
</tr>
<tr>
<td>Cool-down included one of: freeze dance, short routines, conditioning, and ended with stretching.</td>
<td></td>
</tr>
<tr>
<td><strong>Reward was distributed if dancers met session goal for tokens</strong></td>
<td>Y/N</td>
</tr>
<tr>
<td>Instructor collected tokens, counted tokens and distributed reward(s) if earned</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Teaching Elements</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The Instructor labels the step (and explains)</strong></td>
<td>Y/N</td>
</tr>
<tr>
<td>Activity</td>
<td>Feedback/Answer</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td><strong>to the children that this the ‘special dance term’</strong></td>
<td></td>
</tr>
<tr>
<td>Using technical language (e.g., plie)</td>
<td></td>
</tr>
<tr>
<td><strong>The Instructor vocally describes the step</strong></td>
<td>Y/N</td>
</tr>
<tr>
<td>Using non-technical language (e.g., bend your knees a little bit) and highlights spotting targets, and lanes or marks on floor (if needed for the step)</td>
<td></td>
</tr>
<tr>
<td><strong>The Instructor models the step</strong></td>
<td>Y/N</td>
</tr>
<tr>
<td>An instructor demonstrates the dance movement for the children</td>
<td></td>
</tr>
<tr>
<td><strong>The Instructor provides prompting, when necessary</strong></td>
<td>Y/N</td>
</tr>
<tr>
<td>Using a least-to-most prompting strategy (i.e. gestural, visual, model, verbal, physical)</td>
<td></td>
</tr>
<tr>
<td><strong>The Instructor provides the children feedback on their performance of the dance movements</strong></td>
<td>Y/N</td>
</tr>
<tr>
<td>Feedback includes: (1) gentle corrective feedback (e.g., “next step, try this”), which may also include the instructor re-demonstrating the dance movement and/or providing prompting for dance movements completed incorrectly, and/or (2) positive reinforcement, which can include descriptive social praise (e.g., “Great job, bending your legs”) and/or token delivery for dance movements completed correctly.</td>
<td></td>
</tr>
</tbody>
</table>
Appendix L: Images of the Gymnasium Set-Up, Rule Chart and Class Schedule Chart