

THE POTENTIAL IMPACT OF DANCE FOR DISABLED YOUNG ADULTS

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Abstract

Research has shown that dance may greatly benefit the disabled community. Regular participation in dance classes has been shown to have a positive effect on participants' mood (Barnstaple & DeSouza, 2017; Houston & McGill, 2012) while participation in community and leisure activities is linked to quality of life (QoL) measures of emotional and physical well-being in disabled populations (Badia, Orgaz, Verdugo, Ullán, & Martinez, 2013; Savage, McConnell, Emerson, & Llewellyn, 2014). A dance class designed for disabled adults was trialed with eight participants in ten classes over five weeks. This class design, rooted in a disability rights model, provides dance training as taught in a typical dance studio. Results from nine hours of video, three hours of recorded participant interviews, field notes, and research team observations indicate positive outcomes for both the participants and the class design. Participants showed increases in their dance knowledge and understanding, creativity, and social cohesion.

For Zachary

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Chapter One

Positionality

A Note on Person-First Language

In this thesis, I purposefully reject attempts to adhere to a ‘person-first language’ (PFL) style in writing. Using PFL reinforces the ableist perspective that disability makes one less than a person (Sinclair, 2013; Titchkosky, 2001). People are described with desirable, attractive, or commendable qualities with the adjective before the noun. We say ‘She’s a talented pianist’ or ‘He’s a handsome man.’; it would be incongruous for a native English speaker to say “She is a woman with beauty’. However, our language generally places undesirable or ‘bad’ attributes after the noun, as something that may be removed from the person as in ‘a person with cancer’ or ‘a child with a temper’. Speaking of disability as an unfortunate addition to the person allows others to view disability as something separate and distinct from the person as if they are afflicted with something, rather than having an attribute that is as much a part of their identity as their ethnicity or gender. As a disabled person, I am in agreement with a number of disability rights activists that have found no benefit in using the cumbersome and awkward wording (Collier, 2012). In various contexts, I have described myself as Canadian, Italian, autistic, and disabled; none of these adjectives requires the clarification that I am also a person.

Personal Relevant Background

This project has its roots in my personal experiences of being a disabled mother of two disabled children who danced from the time they were toddlers until they were young adults. I have been disabled all my life, but did not receive my diagnoses of autism and Ehler’s-Danlos Syndrome (Type III) until I was 40 years old. I grew up in the able-bodied world, struggling to fit in. I was immersed in the world of disability through the birth of my son, then my daughter, before I realized that I, too, belonged there.

My two children are also autistics and both have the same connective tissue disease inherited from me. The oldest, my son, was injured at birth and has limited use of his left arm. His sister, five years younger, has a learning disorder and a mental health diagnosis. They are talented dancers who have passed their Royal Academy of Dance (RAD) Intermediate ballet exams and performed for years in competitive dance.

When my son was two and one half years of age, he could not jump. He knew how to move his limbs in preparation but he couldn't get his feet off the ground because he lacked sufficient strength in his legs. I enrolled him in a pre-ballet class and, after three months of Saturday morning classes, he was able to jump. Thirteen years later, he was winning awards and titles at dance competitions; executing Russian jumps and *pirouettes* before slumping exhausted into his wheelchair offstage.

My daughter was four years old when she first danced in a competition. Having watched her brother dance, she was doing *pliés* in diapers and asked at the age of two when it would be her turn on stage. Always struggling in other areas of her life, she found self-esteem in her success at dance. She and her brother performed solos and in various sized groups, separately and together, through years of competition – winning awards and distinctions above many of their able-bodied peers. Both were homeschooled due to their disability needs and dance was their main nexus of social interaction.

Dance gave my children valuable life lessons and skills. I felt that performing in front of hundreds of strangers would give them confidence in public speaking. Their disability prevented contact sports due to the high risk of injury, but they learned the cooperative skills of working in teams through dance. Planning and coordination were necessary skills required for multiple costume changes but they also had to learn flexibility and how to deal with mishaps involving anything from faulty props to partners' injuries. Autistics struggle with sudden changes, but my

children learned how to cope with the unexpected through their study of dance. Along the way, they also learned about their bodies and how they had to prioritize their activities to get the most from their limited strength and energy.

As they grew older, they left competition and focused on RAD exams at a non-competitive studio where they danced in a performance group for enjoyment rather than awards. Eventually they became assistant dance teachers and choreographers there and my son became the studio's piano accompanist. Both made a seamless transition from dancing to acting and have enjoyed the opportunities of participating in theatre and film. Theatre, like most arts, allows for great diversity and they each find personal fulfillment through their connections with theatre and music.

I had returned to York University to upgrade my ordinary degree to an honours BA and joined Dr. Joseph DeSouza's lab to complete my thesis. His lab was investigating the benefits of dance for Parkinson's patients and I was excited by the work they were doing. After my year in Dr. DeSouza's lab, I started a Dance for PD[®] class in Cambridge, Ontario. I worked with a dance teacher who had trained in the program and I attended the training at Canada's National Ballet School (NBS). I was the program director and the first contact for participants, my daughter was a volunteer and second teacher, and my son was the accompanist.

As our class grew, I could see incredible changes in our dancers. One extremely shy woman who barely spoke English became outgoing and engaged within a few months of classes. Many participants told us how much the classes meant to them; in spite of their declining health, they made a great effort to come each week because of the community we had created. The social aspect of coming together, united by common issues, was very important to all of them.

Realizing the positive effects this dance class had on our participants was the catalyst for this project. I thought about how we had been able to create a safe and welcoming environment

for this group and how that had impacted their lives. Most disabled children are unable to ‘pass’ in able-bodied classes and it is a great strain on those who do. In addition to the physical toll, my children were never accepted socially and my son was mocked and ridiculed openly by another dancer. I began to plan what a dance class for all disabilities might entail and the possibilities for the disabled community it could cultivate.

Chapter Two

Literature

Background

The proliferation of dance classes for a variety of diverse populations supports the concept that dance is for everyone; all ages, all cultures, all abilities. Disabled people – long excluded from the physically-demanding world of dance – are now dancing in professional companies. Further, there are all-abilities classes or Adapted Dance classes for disabled and able-bodied children as well as inclusive adult community dance classes. In spite of this progress, opportunities for dance are not available for most disabled young people (Aujla & Redding, 2013). There is a discrepancy between the type of sequential skill-building classes available to able-bodied youth in multiple private studios within their various communities and the few inclusive community classes offered in specific locations, primarily larger cities.

A large selection of dance studios offer instruction in a wide variety of dance genres; in cities of various sizes throughout Canada there is often more than one studio from which to choose. Depending on the studio, children may progress through levels of classes to eventually qualify for examinations or to compete at dance competitions, or both. This traditional type of dance training reflects our society's dance culture; it is designed for able-bodied children, adolescents, and adults.

Dance

The cultural significance of dance is both obvious and subliminal. Various cultures have given rise to different dance genres throughout history; more recently, branching cultural movements have produced variations in dance forms similar to the evolution of music, such as rap and hip hop. In Western culture, particularly North America, the predominant dance form has been ballet. Ballet's influence on the cultural perception of dance is pervasive and ingrained; the

image of a ballerina tends to personify dance and its idealized physical attributes. A dancer is perceived to be someone who is not only physically fit to perform the movements, but who fits the exact specifications of the ‘dancerly body’. As Koppers (2000) points out, a classical ballet body exhibits an unrealistic two-dimensional quality. Movement in ballet is upward, the dancers’ backs held straight while arms and legs are extended with clear lines. Such dancers must also appear to defy the natural effects of weight and gravity as they leap, turn, and, if female, are lifted. Koppers (2000) notes that such characteristics contradict the reality of the disabled body. Disabled bodies, as evidenced by their inability to conform to the established norm, are incapable of such an illusion.

The concept of a ballet dancer is embedded in our collective societal consciousness to the point that dance is not considered an option for most people. Little girls fill ballet classes at the youngest ages and their numbers decrease as the class age increases; most notably when young women reach puberty and its inescapable physical reality. A common perception of ballet as an elitist activity has affected the perceptions of dance in general. Far from being the everyday source of free expression it has been for many societies throughout the world, in our society dance has often been a privileged art form reserved for a select minority of individuals.

Community Dance

Since the 1970s dance classes have been created in communities for mixed and varied populations. These classes may have a specific design, such as dance for older populations, or a purpose, such as bringing together seniors and children in recreation. An exact definition for community dance has been a debated subject for many years but there are certain attributes that comprise its modus operandi. Community dance is usually purposeful, existing to serve a need in the population. The needs may be complicated, as in providing social outreach for a particular issue; it may also be as simple as providing access to dance for the nonelite. A focus on

participants and inclusive practice are a few of the components that make community dance a particularly apt endeavour for disabled individuals (Amans, 2008). Classes often eschew the classical genres in favour of a wider range of movement to music but every class may differ in its repertoire.

The rise of community dance classes has allowed dance a broad participation base, yet there are still clear delineations between the type of dance classes available to able-bodied individuals and those offered for people with disabilities. Community dance is generally considered to be recreational, not performance or goal-oriented – although some may be – and while able-bodied children may dance in ballet, jazz, tap, or hip-hop dance classes, disabled children attend dance therapy (Zitomer & Reid, 2011). Private studios offer classes to able-bodied children and accessibility is not a consideration; parents are advised to look elsewhere if accommodations are needed. However, there are unpleasant connotations in describing an activity as therapy, even when it is enjoyable. It implies an obligatory chore that must be accomplished and takes away from the autonomy of the endeavour; it is something imposed from without rather than an act of individual choice.

Dance and Parkinson's disease

Parkinson's disease (PD) is a neurodegenerative disease caused by a lack of dopamine-producing cells in the substantia nigra, a part of the brain that modulates and coordinates motor activity. Originally described as "The Shaking Palsy" in 1817, it affects about 1% of the population at age 65. As the incidence of PD increases with age, with 5% of the population affected by age 85, approximately 100,000 Canadians are currently living with the disease with an expectation of over 5000 new cases each year. Canada's rising population of older adults will significantly impact these figures, perhaps doubling the rate of new diagnoses within a few years (Wong, Gilmour, & Ramage-Morin, 2014). The principal symptoms of PD are its motor

impairments: resting tremors, difficulty in initiating movement, slowness of movement, muscle rigidity, and a mask-like facial expression (Pinel & Edwards, 2008). Other typical symptoms include depression, sleep disturbances, a soft voice and slow speech, as well as poor handwriting. A stooped posture and shuffling gait are present at later stages in the disease progression (Parkinson Canada, 2017). Medical intervention for PD is limited in its efficacy; dopaminergic drugs have short-term benefits and any possible benefits of deep brain stimulation (DBS) surgery are only considered for specific candidates who fit the criteria (Pinel & Edwards, 2008).

Exercise has been associated with measurable improvements in PD and may slow the progression of the disease symptoms (Carvalho et al., 2015). Dance has now emerged as an effective tool to cope with the everyday physical and emotional difficulties associated with living with PD. A study that investigated the effects of a twice weekly Argentine Tango class for people with PD found improvements in gait, stability, and upper body strength (Duncan & Earhart, 2011). Since participants find dance to be an enjoyable activity, the adherence rate is higher than for other exercise regimes.

Dance for PD[®]

The Dance for PD[®] program was developed in 2001 as a collaboration between the Brooklyn Parkinson Group (BPG) and the Mark Morris Dance Group (MMDG). An experimental project, Dance for PD[®] has since become an international program offered in 25 countries. Its fundamental principle is that professionally trained dancers are movement experts and have valuable knowledge to offer people with PD (Dance for PD[®], 2020). The program is based on many of the components of community dance. Studies of participants in this program also note participants' advances in the associated symptoms of PD such as confidence, sociability, general health and well-being (Houston & McGill, 2012; Barnstaple, Hackney, Fontanesi, & DeSouza, 2019). Depression, a common feature of PD (Health Canada, 2003),

increases with the progression of disease symptoms. The manifestations of the disease make social interaction more difficult, adding to the isolation that contributes to depression. As the program participants experienced increased sociability and a decrease in depression, researchers of the program were prompted to begin gathering empirical data on the phenomenon dancers have always known: Dance is joyful (Dhami, Moreno, & DeSouza, 2015).

Although our class design adapted many of the components of Dance for PD[®], the theoretical basis of the two dance classes are very different. People who are recently disabled or experiencing a gradual loss of functioning ability have a very different perspective from those who have been disabled most or all of their lives. The former have lost something they wish to regain – they aspire to a standard of being able-bodied that they had previously enjoyed – whereas the latter group have experienced their lives as disabled – a static condition they do not seek to remedy. Such disparity necessitates divergent interests, goals, and methods.

Components of Dance for PD[®] Classes. Although the content and choreography of Dance for PD[®] classes vary widely according to the choices made by individual teachers, certain components are essential to the efficacy of the program. Naturally, the exercises and dances must accommodate the physical capabilities of the participants, but they are also based on culturally prominent conventional forms of dance – such as ballet, jazz, and tap. Many dance genres may be used as determined by the teachers' preferences and skills, but the posture is predominately vertical, like ballet, with movements suited to an older population.

Live music accompaniment, while not essential, is very important. It allows for changes in tempo to suit the varying abilities of the dancers so that no one is left behind in moving to the music. An ability to adapt to spontaneous situations is helpful in a class where the dancers' abilities may be changing not only between but sometimes within the sessions. Exercises often go around the circle or across the room in turns and a skilled accompanist is able to adjust the

music to fit each dancer's movements, adding bars of music with no discernible disruption to the flow or rhythm.

The classes are taught in a circle, starting in chairs and eventually standing, with two teachers mirroring each other from opposite sides. Often one teacher will demonstrate and perform the exercise at full extension or speed while the second teacher demonstrates a less strenuous or slower version of the same movements. This allows participants an unobstructed view of the teachers and provides the flexibility of following the example they find most suitable to their own needs. It also allows the teachers a clear view of all the dancers while demonstrating. Volunteers are scattered throughout the class; some assisting certain dancers they know need support, others ready if needed, and all participating fully throughout the class.

Another staple of the class is the mirroring activity. This can take many forms and can offer increasing levels of difficulty but always involves dancers interacting with each other, watching and mimicking each other's movements. They create their own choreography as they improvise movements to the selected music, switching from leader to follower at the teacher's cues. Leading and following each other's movements are both valuable exercises as they demand creativity, attention, body and spatial awareness, and planning; still more important is the connection formed between the dancers as they work together. The connections in the class continue beyond dancing as another key component to the classes is the social time shared afterward. Refreshments are served as participants mingle and chat with each other, the teachers, and the volunteers.

Social interaction is vital to the success of the program as people with PD find it increasingly difficult to attend social events outside of their homes. As previously noted, speech may be affected, causing difficulty in initiating speech, slow and halting speech, and a barely audible voice. Patient listeners in the accepting atmosphere of the dance class provide the

security many people need to relax and enjoy talking with others. Although beneficial and therapeutic in nature, proponents of Dance for PD[®] stress that it is not a therapy for Parkinson's disease; it is a dance class, taught by dance professionals for people who want to dance.

Disability

People living with disabilities are more likely to encounter social challenges in their everyday lives. Common social challenges include social exclusion and experiences of marginalization which have both been related to poorer self-reported quality of life (QoL) outcomes (Viemerö & Krause, 1998). Disabled youth report lower global life satisfaction, face greater social disadvantage, and greater exposure to discrimination than their able-bodied peers (Savage, McConnell, Emerson, & Llewellyn, 2014).

Children with disabilities have more access to support than adults. Services for disabled individuals are intensely focused on the early childhood development stages, reduced at the beginning of grade one (at 6 years of age), and provide only the most basic of essential services after age 18. At that age, financial assistance provided to families to cover the extra costs of the disability is stopped and the individuals receive a monthly benefit to pay for their basic living needs; this amount is reduced if the individual has any other income. This is the standard social assistance model in Canada, with some variations between provinces.

According to the Canadian Survey on Disability 2017 (Morris, Fawcett, Brisebois, & Hughes, 2018) more than 13 % of youth aged 15 to 24 years (540 000) had one or more disabilities; this compares to 20% (3.7 million) of adults ages 25 to 64, and 38% (2 million) of seniors aged 65 and over. Of all disabled Canadians, 29% had one type of disability, 38% had two or three disabilities, and 33% had four or more. More specifically, 57% of all disabled Canadians were classified as having a “mild or moderate” disability while 43% were classified as having a “severe or very severe” disability. Morris, Fawcett, Brisebois, and Hughes (2018) also

note “Those with more severe disabilities often have lower rates of employment, lower income even when employed full-year and full-time, and a greater likelihood of living in poverty regardless of age” (p.4).

The rates of employment for disabled people depend on their level of education as well as the severity of their disability (Turcotte, 2014). Individuals with a developmental, learning, psychological, or mental health disorder are less likely to find and retain gainful employment. These individuals are also less likely to finish high school – another predictor of success in employment. Although disabled students are allowed to remain in high school until the age of 21, many do not receive a diploma (Uppal, 2017) and few go on to post-secondary education (PSE). A statistical analysis by Arim and Frenett (2019) compared PSE enrolment of three groups of disabled youth to a group of their peers with no long-term diagnosed health conditions. Disabled youth were divided into those with a neurodevelopmental condition (NDC), a mental health condition (MHC), and those who had both an NDC and MHC. Although 77% of the comparison group (no health conditions) enrolled in PSE by their early 20s, only 60% of the NDC group and 48% of the MHC group were enrolled; those with both an NDC and MHC were even less likely to pursue PSE at only 36% enrolment.

Depending on the severity of their disability, disabled young adults either remain living in their family home or in assisted housing with live-in or visiting attendants. Such situations do not allow for the opportunity to participate in community activities which require the financial means and independence to travel. For these reasons, once they leave school at 21, many disabled young adults may spend the majority of their time performing menial chores and watching television. Such a lifestyle could easily lead to weight gain and depression, creating a downward spiral of cause and effect that further decreases activity levels. In addition, many

disabled individuals require medications that may cause them to gain weight and their physical disabilities also limit their mobility.

The Social Model and Disability Rights

A social model of disability was developed to combat the deficiency the traditional medical model invoked. Within the social model, the deficiency exists in the society rather than the individual (Kuppers, 2000). In this model, a clear distinction must be made between the two terms ‘disability’ and ‘impairment’. Individuals have an impairment – be it physical, psychological, or intellectual – whereas a disability is socially constructed through barriers that do not accommodate the impairment. Accordingly, a person with impairment is only disabled by the social conventions that describe them as such.

Hence disability, according to the social model, is all the things that impose restrictions on disabled people; ranging from individual prejudice to institutional discrimination, from inaccessible public buildings to unusable transport systems, from segregated education to excluding work arrangements, and so on. (Oliver, 1983, p.21)

Our participants would share the common experience of living with disability, regardless of how their impairments may differ. In creating a class designed specifically to accommodate their impairments, without labelling them, we attempted to eliminate the influence of ableism.

Research studies strive for uniformity, choosing homogenous populations to reduce variance and reach statistical significance. To this end, most research considers populations according to individual disabilities, including current dance research. For instance, dance programs specifically designed for Parkinson’s disease (PD) or autism are therapeutic in nature regardless of whether they are labelled therapies; they are designed to address the deficiencies of the targeted population. This study followed a disability rights model; the social model of

disability situates disability in the ‘disabling social, environmental and attitudinal barriers rather than lack of ability’ (Crow, 1996) whereas the medical model considers only the functional limitations which need to be treated or cured. This study did not identify or label disabilities, nor impose any intent to ‘fix’ or improve any perceived deficits of the disabled person. By including all disabilities rather than one group of similarly impaired individuals, this study established a focus on the individual and not the disability. The benefits the research team hoped to find would be for the individual participants and not representative of a diagnosis.

Disabled people often feel victimized by the pervasive ableist attitudes inherent in our society, its history, and language. The depiction of disability as inferior is largely a result of the medical model of disability; the medical view promotes disability as an undesirable state that needs to be restored to normalcy, if possible (Oliver, 1983). The term ‘disabled’ is used in this paper to describe the participant population without specifying their impairments; this is to emphasize that the social construction of disability is the common variable for the formation of my dance class. Individual impairments are irrelevant to the intent of a dance class developed specifically to encompass the needs of its participants and, as such, the medical model of assigning labels to individuals is not as important as the functional ability of each participant. Although medical labels may provide the program facilitators with some information in regard to expectations of behaviour, they are far more likely to constrain and limit the options offered to the participants. The lack of opportunities for disabled people in dance is partly due to the perceptions of disability that prevail in our society (Kuppers, 2000).

One of the main tenets of the disability rights movement is “Nothing about us without us” (Charlton, 1998) so it is important to note that this dance class was designed by a disabled person (lead author) and all members of the research team, with the exception of the lead teacher, were physically and developmentally disabled. This class is not labelled inclusive as inclusivity is an

ableist term which implies the inherent normative society as naturally exclusive of disabled bodies. As Dolmage (2014) states “The body of rhetoric always both constrains and enables” (p.90). Designed for disabled people, the class is also accepting of able-bodied individuals.

Concurrence in Disability. Regardless of diagnostic labels, many physical and developmental disabilities are comorbid with other disorders that may or may not be formally diagnosed. For example, many people with a developmental disorder also have Developmental Coordination Disorder (DCD), commonly known as dyspraxia; a movement and coordination disorder that affects approximately 6% of the population (Farmer, Échenne, Drouin, & Bentourkia, 2017). Autism has a high comorbidity with bipolar disorder (Weissman, 2011) among other mood disorders.

Social deficits often accompany physical impairments and this may be true even in the absence of a developmental disorder or cognitive impairment. Children with disabilities requiring intervention at a young age often experience an atypical social environment during their early development. Their lives may be filled with therapy rather than play dates, they may spend hours in waiting rooms for medical appointments, clinics, and specialists, and experience isolation and anxiety during medical tests, procedures, and surgeries. Often such children socialize more with adults than other children due to the professionals involved in their care, particularly if their disability needs result in school absences. This can lead to social deficits that are not severe enough to warrant a diagnosis, but will result in impaired age appropriate social skills, particularly in adolescence, an important stage for establishing social roles (Strax, 1991). For these reasons, a dance class focusing on one type of disability excludes a number of people who would otherwise benefit from the experience.

Disability and Dance

Dance programs for people living with disabilities have been shown to improve participants' self-reported QoL. Murrock and Graor (2014) found that a 12-week community dance class had a significant effect on depression and physical health in a group of older, disabled adults. Participants in the Dance for PD[®] program (DfPD[®]) have shown improvements in confidence and sociability, and a decrease in depression which are all indicators of QoL (Houston & McGill, 2012). Dance combines physical exercise with a cognitive component; the movement is planned, timed, memorized, and coordinated with music. The nature of this multi-modal activity is helpful for a number of impairments that impact cognitive functioning. It is an enjoyable activity that promotes adherence and can reduce depression (Koch, Morlinghaus, & Fuchs, 2007; Akandere & Demir, 2011).

Although dance culture has evolved to suggest that dance is for only the few elite who possess an innate talent, there is good evidence to suggest that disabled individuals have the potential to pursue dance successfully. The ability to dance depends more on an individual's training and supportive environment than on innate abilities. A longitudinal interdisciplinary study was conducted in England to identify attributes of "talented young dancers" and how they develop over time (Walker, Nordin-Bates, & Redding, 2011). Over the course of two years, 800 dancers between the ages of 10 and 18 underwent physical and psychological testing. The results of this project provide significant observations for the consideration of an alternative model of dance training. Certain key physical elements of dance ability were found to be trainable; essentials such as turn out (external hip rotation), muscle power and strength, balance, and aerobic fitness improved over time. A dancer's talent – or capacity for achievement – is not an "innate or static" trait but is a result of the influence of many factors in their environment (Aujla & Redding, 2014).

Teachers are a large part of the environmental influence, not only in the level of training they can provide but in the motivational environment they create through involving students. Dancers who felt their instructors stressed self-reference learning, hard work and effort, and collaboration with peers had a greater passion for dance, a greater sense of creativity, and more adherence to the program. Self-reference in learning refers to the encoding of information based on its personal significance to the learner; although there is debate on how this works, it is known to be an effective way of learning new material. “In the realm of human information processing it is difficult to conceive of an encoding device that carries more potential for the rich embellishment of stimulus input than does self-reference” (Rogers, Kuiper, & Kirker, 1977, p. 687). Teachers who know and understand their students’ needs and abilities will be able to help them reach their potential. A psychologically safe environment allows dancers to take risks and be creative and it is the teacher who establishes the atmosphere of the class.

All the factors involved in the formation of successful dancers provide substantial arguments for the promotion of dance training for disabled people. In addition to community dance programs that have included many diverse populations according to age, ability, location, or socio-economic status (SES), there are professional companies that have been expressly created to include or feature disabled dancers. Mixed-abilities dance groups are more prevalent in the United Kingdom, although Canada is home to Propeller Dance in Ottawa and MoMo Dance Theatre in Alberta. Professional dance ensembles such as Candoco Dance Company, based in the United Kingdom, consist of both able-bodied and disabled dancers. Candoco, established in 1991 (Benjamin, 2010), has produced remarkable dance pieces on their own and in collaboration with a number of visiting choreographers. The company runs summer dance programs for youth of all abilities.

In 1987, Alito Alessi and Karen Nelson created DanceAbility; intended to be a fully inclusive style of dance. Beginning from a base of ‘contact improvisation’, dancers of all abilities are able to create artistic expressions of movement that redefine the concept of dance. The first mixed-abilities workshop was held that same year and 10 years later, as DanceAbility International (DAI), Alessi had produced the first DanceAbility Teacher Certification course. Through public performances (Street Performance Parades) and their Youth Outreach program, DAI is changing people’s perceptions of disability; its teacher training programs are bringing DanceAbility classes to increasing populations in a variety of countries (DanceAbility, 2008).

Although disabled dance is making inroads in some areas, most disabled youth in Ontario have no opportunities to dance. Children with very mild impairments may be able to attend mainstream dance classes with their age-appropriate peers but those whose impairments necessitate any accommodations, even as innocuous as a support person, are advised to find alternative options. When disabled children do manage to participate in regular classes, they must attempt to emulate able-bodied dancers and are presented with an aesthetic that they cannot attain.

According to Aujla and Redding (2014), passion and commitment are more important determinants for young dancers in training than the physical characteristics that can be trained over time. They suggest that disabled dancers are likely to be far more passionate about dance than their able-bodied peers due to the multitude of barriers they face in learning dance; the first hurdle is getting into a class. In light of this situation, our study aimed to address the inaccessibility of dance training for disabled younger adults and explore its potential impact.

Chapter Three

The Research Project

Introduction

Most research studies strive for uniformity; with the goal of reaching statistical significance, participants are chosen specifically in an attempt to minimize variance. For this reason, many research studies focus on one subset of the disabled population, choosing a specific disability to illustrate an effect. Past research has examined classes targeted at people with autism, Down syndrome, depression, PD, and Alzheimer's disease (AD), among others (Gutiérrez-Vilahú et al., 2016; Tavormina & Tavormina, 2018; Meekums et al., 2015; Hackney & McKee, 2014; dos Santos Delabary, 2017; Blumen et al., 2020). Classes for PD and AD are designed for seniors, but studies of dance with other disabled populations usually involve children (Mészáros et al., 2019; Chen, Bellama, Ryuh, & Ringenbach, 2019; Scharoun et al., 2014). Considering the classes available for disabled children, older adults, and specific disabilities, even if they are therapeutic in nature, younger disabled adults are largely overlooked.

Flawed attempts at inclusion demonstrate the need for a dance class designed for disabled people by disabled people. Les Grands Ballets Canadiens de Montréal's National Centre for Dance Therapy (NCDT), published *An Introductory Guide to Adapted Dance* (2020) resulting from "a certain expertise... developed over the past seven years of work on the ground" (p. 5). In the preface, the primary goal is stated to be recreation; this is clarified by acknowledging that, although there may be therapeutic benefits to adapted dance, it is not a therapy and its purpose is recreation. The 22-page guide then provides information on adapted dance classes for autism, intellectual disability, mental health problems, hospitalized patients, physical disabilities, seniors, and Parkinson's disease. Each section has stated goals, the first of which is always "enjoyment in an adapted and safe environment", but only the autistic section lists "respite for parents". While

dance for mental health and seniors lists “socialization” and “support group” as goals, for physical disability it is “development of a feeling of belonging, of being part of a family”. The ableism of this phrase is compounded by the accompanying photo of an attractive, physically fit person in a minimal support sports wheelchair. NCDT describes autistics as struggling with the “norms of communication” and lists their typical behaviours in terms of “the severity of the problem”.

Adapted dance classes are recreational and, although purportedly inclusive of disabled people, they are based on ableist assumptions. Recreational classes do not teach the vocabulary, technique, and conventions of dance in a progressive, sequenced program such as the type of dance training available to most able-bodied children, teens, and young adults. Therefore, the goal of this study was to design a dance class for disabled young adults that would incorporate a learning component comparable to that of mainstream studio classes.

In choosing to include a range of disabilities rather than one homogenous group of similarly impaired individuals, we established a focus on the individual rather than on the disability. The benefits we hoped to find are those of the participants and not representative of a diagnosis. To this end, diagnoses were not disclosed and the commonalities of the experience of living with disability was the main design consideration. As such, a disability rights model was adopted for use throughout the dance classes and study; this would be a dance class designed by disabled people for disabled people.

Quality of Life

Many research studies purport to improve participants’ quality of life (QoL) even where there is no QoL scale measurement used. Our study also aimed to improve QoL for our participants through this dance class, however QoL is a multi-layered concept and our intentions for improvement fall only within three of the five domains of General Wellbeing as compiled by

Felce & Perry (1995): Material Wellbeing, Physical Wellbeing, Social Wellbeing, Development and Activity, and Emotional Wellbeing. Although dance would certainly have an impact in the area of Physical Wellbeing, many forms of exercise will affect this domain. For the purposes of our study, we aspired to impact QoL in the areas of Social Wellbeing (SW), Development and Activity (DA), and Emotional Wellbeing (EW). Specifically, in SW: Interpersonal relationships and Community Involvement; in DA: Competence/Independence and Leisure/Hobbies; in EW: Positive Affect, and Self-Esteem.

In terms of Interpersonal Relationships and Community Involvement, the intent of this dance class was to create a community. Our classes were held within an established community setting; a daily activity centre for developmentally disabled adults. However, the nature of this dance class was intended to foster a different type of community, one that stressed an autonomy and respect not usually associated with assisted living. In such situations, concepts of disabled rights and empowerment are tempered with the practical considerations of group management and funding sources. Our approach signified a distinct change from the usual state of institutionalized (i.e. schools, hospitals) treatment of disabled people in offering an experience similar to that of their able-bodied peers, both in the dance class and through the social time.

Our research was intended to fill the gap in both the availability of this type of dance class and the lack of research on the effects of such a class. As the dance training was an important component of this research, the main criterion for participation would be “a desire to learn to dance”. The questions driving the study were:

1. Would formal dance training in a dance class designed specifically for disabled people have an effect on skills development?
2. Could this dance class foster community building and other areas of Quality of Life?

3. Can participation in a dance class for disabled young adults have a positive effect on their mood?
4. Is a disability rights model compatible with a progressive, sequenced learning component?

Hypotheses

1. Participants will engage with the dance training offered and develop new skills in the areas of a) dance terminology. b) preliminary dance positions, and c) basic dance technique.
2. Participants will become a coherent group and engage in empowering interactions with the potential for community development.
3. Participants will present with measurable differences in affect and mood, particularly in regard to depression, after participating in the dance class.

Chapter Four

Methods

We wanted to investigate the potential for formal dance training to impact skill-based learning and QoL for a group of disabled young people. Our primary hypotheses were that participants would acquire novel skills and vocabulary, show improvement in mood and affect, and increase their cohesion as a community. We planned to use quantitative and qualitative methods to collect and evaluate the data. Classes were held on Tuesday and Thursday afternoons for five weeks (August 22 - September 21, 2017).

Participants

A total of eight disabled participants (three males, five females, mean age 25.5 years, median age 20.5 years) were recruited for my research project from Community Living Cambridge, (CLC), in Cambridge, Ontario. CLC management had requested housing staff to provide suggestions for individuals, ages 21-28, who wanted to “learn to dance”. The participants varied in age: five were between the ages of 19 and 21, two were 27 and 28, and there was one 50-year old. All participants were developmentally disabled; two participants also had physical disabilities and participants may have had mental health issues which were not required to be revealed and thus unknown. Table 1 lists the fictional names of the participants and their ages as well as their relative dance experience and/or level of participation in exercise; their attendance over the 10 classes is also noted.

Table 1***Participants***

Pseudonym (gender)	Age	Dance/exercise experience	Classes attended
Mia (F)	20	- ballet and tap age 4 - cheerleading 1 yr ago	8
Lisa (F)	50	- tap and ballet as child - line dancing as adult	10
Kennedy (F)	27	- used to play baseball	10
Jade (F)	19	- walks 20min/day - danced with <i>Wii Dance</i>	10 ^a
Theresa (F)	20	- ballet class at 7yrs old - used to bowl	10
Marc (M)	28	- plays hockey and basketball	10
Gary (M)	21	- attends YMCA 5x/week, 45min - 1hr	10
Dylan (M)	19	- hip hop class - 14yrs old - attends YMCA 2x/week	4

^a left one class early due to illness

Of the eight participants, six attended all 10 classes over the 5-week period. One participant attended only four classes and one participant missed two classes. Another participant had to leave one class shortly after it began, due to illness. Only one participant had received more than one year of formal dance training; this participant had taken ballet lessons as a child, more than 30 years ago. Another participant had cheerleading experience over a 2-4-year period within the last five years. The rest of the participants enjoyed dancing at social events and at a dance program offered at CLC's Franklin Centre, which is free-style dancing using a video game console.

Participants were compensated for their time with their choice of a gift card worth \$30. Ethical approval for this research was provided by York University's Office of Research Services Human Participants Review Committee (Certificate #STU 2017-117).

Research Team

The research team consisted of the principal investigator (PI), the principal teacher (T1), a second teacher (T2), and a piano accompanist (PA). Both teachers led the classes at different times; each took responsibility for creating the choreography used and took turns in leading certain class activities. In general, the exercises and activities followed the research team's collaborative plan, with continual adaptations and revisions as agreed upon through daily discussions and emails. Both teachers coordinated the music with the PA as selections for each exercise were chosen for their tempo, rhythm, and genre. The music used for each part of the classes is listed in Appendix A. As the classes progressed, the teachers also solicited feedback from the participants to determine what was enjoyable, challenging, or just unpopular; although certain modifications stemmed from the team's daily review, the participants' input also helped shape the content of the classes.

Venue/Set up

Classes were held at the Franklin Centre in Cambridge; a multi-purpose building used for various day programs run by Community Living Cambridge (CLC). Participants were all consumers of the same service provider and most had been involved previously with the organization's activities. Two of the participants were housemates in assisted living. The dance classes took place in a fitness room and participants moved down a short hallway to a cafeteria area after the 1 hour class for a social time with refreshments. Timing of the dance classes was scheduled to coincide with the end of the Centre's daily programming to ensure participants' privacy. Support workers and visitors in the class were required to participate in the dance class.

This rule of ‘everyone dances’ served to reduce any perceived hierarchy that may have existed in the participants’ relationships with support workers and the researcher(s); everyone present was subject to the same self-consciousness and physical exposure.

The Franklin Centre was formerly used as a sheltered workshop for CLC clients. When the Ontario Liberal government passed Bill 148 in 2017 to end sheltered workshops in Ontario by 2019, CLC renovated the space to provide a variety of programming options for their clients (note that the Conservative government’s passage of Bill 47 in 2018 has suspended the closure of sheltered workshops). A small workspace is still used for a few clients who want to work, and there are also offices, a cafeteria, and a number of rooms used for a wide variety of rotating activities. CLC typically offers 15 different programs on a daily basis; drumming, karaoke, painting, knitting, community outings, exercise, and games are some examples of the activities for clients who sign up for available timeslots.

Our dance class used the “Exercise Room”; a rectangular room with exercise/multipurpose flooring that was open on one end to a wide hallway. There was one door on the side wall near the opposite end of the room that also connected to a hallway and three windows on the same wall. A physical description of the room is requisite to understanding some of the issues encountered during the classes. Dance classes were scheduled to begin at a time when other centre programs were finished for the day but there were still people walking through the hallways, which caused a distraction for some participants. The open end and doorway provided opportunities for people to observe the class and made it easy for staff to disrupt the class by walking in to speak to a member of the research team or support workers. On two occasions, the Principal Investigator (PI) left the class to ask observers to leave the area. Folding chairs were readily available and a small trampoline and exercise machines were stored at the closed end of the room. The equipment was occasionally a slight distraction for participants but

also reduced the amount of useable space in the narrow room. Our video camera was set on a tripod in front of the equipment, toward the corner. It was always positioned to one side or the other at that end of the room, near the equipment, but was not consistently in the same spot. A flat screen television was mounted on one wall halfway down the room and a shelving unit on the same wall near the open hallway provided a space to place a box of tissues and hand sanitizer. The piano (Yamaha digital piano, P-115) was set up just inside the open area beside the shelving unit.

Quantitative Measures

Electroencephalogram (EEG)

In my lab's previous research with Dance for PD[®] classes, resting state EEG (rsEEG) was used to measure changes in brain activity that may result from dancing. Also, asymmetry between left and right hemispheres as measured with EEG has been shown to indicate depression (Hinrikus et al., 2009; Grimshaw & Carmel, 2014). Beginning with the second week of classes, one participant per class underwent an EEG scan pre- and post-class. An Emotiv Epoc 2 headset was used to measure the participant's rsEEG immediately before and after the class. Each participant also completed the Positive and Negative Affect Scale (with assistance) before the class and then again after the EEG was completed. With these measures, we hoped to indicate changes in mood and affect related to the participants' activities in the class.

EEG data were collected using the Emotiv EEG Neuroheadset and TestBench software (Emotiv Systems, 2012, San Francisco, CA). The Neuroheadset is a wireless device with 14 electrodes and two reference locations (CMS and DRL at P3/4). It samples at a rate of 128Hz with 16-bit ADC resolution and 0.02 to 45 Hz resolution with digital notch filters at 50 and 60Hz. Designed for use in video gaming, the headset is lightweight and non-invasive. MediaLab v2012 (Jarvis, 2011, New York, NY) was used to create and present the instructions to

participants. Data markers were sent from MediaLab to TestBench via Eltima's Virtual Serial Port Driver (Eltima Software, 2013, Bellevue, WA).

The Principal Investigator conducted the EEG scans and administered the accompanying measures. During the 6-minute EEG (3 minutes eyes open, 3 minutes eyes closed), participants were instructed to allow their minds to wander, not thinking of anything in particular. The procedure was explained to the participants prior to starting and the instructions were read aloud as they appeared on the computer screen. A picture of an eye, open or closed, in the centre of the screen was paired with an auditory prompt; a white cross in the middle of the screen provided a fixation point during the eyes open condition. Participants were given verbal prompts and reminders as needed. Some participants chose to use ear buds.

Questionnaires

An initial interview was held with each participant to determine eligibility (i.e. interest in learning dance) and to complete an initial intake questionnaire (Appendix B). All eight participants met the criteria for inclusion. A second interview was held, when each participant completed an informed consent form (Appendix C) and when information about the class and the research team also was provided (Appendix D). Two measures of mood were also administered at this meeting; the Beck Depression Inventory (BDI) and the Positive and Negative Affect Schedule (PANAS). The BDI is a 21-item, self-report rating of attitudes and symptoms of depression in which participants are asked to choose a statement that best describes how they have felt within the past two weeks (Beck, Steer, & Carbin, 1988). The PANAS uses rating scales for 20 adjectives indicating positive and negative affect. Participants rate the extent to which they have experienced these moods within the last few hours or in the past week (Watson, Clark, & Tellegen, 1988). It usually takes less than 5 minutes to complete. All forms and both measures were read aloud and explained in depth to each participant with simplified language and examples to ensure participants' full understanding of the

study (Appendix E, Appendix F). A visual representation of the response options was later used to further clarify the participants' choices (Appendix G). A standard dance class participation liability waiver (Appendix H) was also signed at that time.

One participant was later unable to attend the classes due to their school schedule, however, another participant was accepted on the day of the first class, maintaining a total of eight participants.

Interviews for two participants were held at the Franklin Centre and the other participants were interviewed individually in their homes in Cambridge, ON. Most participants had one interview, due to time restraints, during which eligibility was determined and the paperwork completed. There was an exception to this as one participant whom the PI had not met previously joined the study on the first day of classes and only signed the dance class waiver that day; the BDI and PANAS were completed before the third class and the study consent also was signed at that time. All interviews were conducted by the Principal Investigator who also administered the questionnaires.

All participants completed the BDI and PANAS measures before the classes began (with the exception noted above) and all completed both measures again after the 10 classes were completed. The PANAS measure was administered to each participant two more times; before and after each EEG testing. The participant who only attended four classes did not have an EEG session and so did not complete the measures while the classes were running. In addition to the participant who did not sit for an EEG, one declined to complete the PANAS after his EEG. Table 2 provides a summary of the measures and when they were administered.

Table 2***Measures***

	Before Start of Classes	Single Participant at the Beginning of One Class Weeks 2-5	Same Participant at the End of One Class Weeks 2-5	2-3 Weeks After Last Dance Class
Measures Used	<ul style="list-style-type: none"> • Intake interview • BDI • PANAS 	<ul style="list-style-type: none"> • PANAS • rsEEG 	<ul style="list-style-type: none"> • PANAS • rsEEG 	<ul style="list-style-type: none"> • BDI • PANAS • Final Interview
Number of Participants	8	7	7* * PANAS - 6	8
Result	N/A	5 EEGs were analyzed	5 EEGs were analyzed	N/A

As the PI was administering and scoring all measures, the BDI and PANAS were not scored until after all the classes had ended in order to avoid bias. The last BDI and PANAS were scheduled during the final interviews after the dance classes had ended.

Qualitative Measures***Observation and Video***

The PI took notes following each class detailing who was present, along with observations about participants or the running of the class. Additionally, the PT emailed her comments and observations to the PI after classes; both engaged in ongoing email and telephone discussions regarding choices and timing of exercises, music, and the structure of class and social time. Additional observations were given by T2 and PA, with their individual participant interactions also related to the PI after each class.

A fixed video camera (Sony Handycam[®], DCR-SX22) was used on a tripod during classes to assist the PI in taking notes on individual participants' movements, behaviours, and class activities. This was necessary to provide thorough observations as both researchers were fully involved in the implementation of the classes and could not note everything that happened. The position of the

camera was consistently at the same end of the room and did not move during the class; however, the tripod was not always placed in the same position for each class. Technical difficulties with the camera at the beginning of one class necessitated the use of a team member's phone to record the class; the recording was removed from the phone that evening and the file erased from the phone.

These video recordings were used to analyse the participants' movements and behaviour throughout the study; however, researchers did not view the recordings until after the study had been completed to avoid influencing their behaviour toward participants. After the videos were edited to exclude the footage of participants' arrival and departure before and after classes, they were examined by the PI and PT for relevant data. Over 9 hours of videotaped dance classes were viewed independently; the PI's focus was on participant involvement, interactions, and progression through the classes, whereas the PT examined the footage using a perspective that analysed the structure of the classes, focusing on the time allotted for movement versus passive listening and verbal versus visual demonstration. Technical difficulties with editing the videos resulted in a shortened time to view the recordings within the limitations of the consent form.

An additional video was filmed on the PT's phone during the final class. This video was made by the unanimous consent of the dancers who wanted their final jazz routine recorded for their own enjoyment; it was just over 1-minute in length and was not analysed as part of the video data. Copies of this video clip were made for distribution to all the participants involved, as well as for the one participant who had missed that class.

Final Interviews

Final interviews were conducted by the PI with each participant after the classes had ended. Due to the PI's physical health and the limited availability of staff and participants, the interviews were delayed and most took place two to three weeks after the end of classes; two were held four weeks past the last dance class. Interviews were held at participants' homes except for one that was

held at the Franklin Centre and one at a local Tim Hortons restaurant. Three participants had a staff member present for all or part of the final interview with varying levels of involvement; one participant was accompanied by his mother who had attended one class and facilitated the final interview.

The PI met with participants to ask for their responses to the classes and to give them their gift cards. Interviews were recorded to assist the PI in note-taking. Similar questions were asked of each participant regarding the class components and team members, but participants were also encouraged to express themselves freely about all aspects of the classes and dance in general. Two participants share a residence; although they each had an individual interview, they also joined together to share their views on a number of related topics.

Recorded final interviews with each participant resulted in a combined total of over 2 hours of conversation which was later transcribed. Although the PI followed a set of questions to be asked during the interviews, each participant guided the conversation according to their individual needs, i.e. some participants required multiple questions or a choice of answers to convey their responses. If a participant wanted to talk about a different topic or ask questions, their pace and their interests were respected. The interview conversations were reviewed for information regarding the participants' experiences in the class. Additional information about the participants' personal connections in the class was also shared and contributed to a greater understanding of their individual perspectives. Specific phrasing used during the interviews varied for each participant, but followed this line of questioning:

1. What did you think of the dance class/Did you like the dance class?
2. What did you like best/not like about the dance class? (Opinions about different parts of class, i.e., barre, traveling, combinations, social time, etc.)
3. What did you think of PT/T2/PA and their teaching/playing?

4. Is there anything you would change about the class/What would you like us to do differently?

Chapter Five

The Dance Classes

Dance Class Design

Each dance class followed a set pattern of exercises and activities that varied in style and complexity throughout the five weeks. As participants and support people entered the room, they were greeted by the team members. If needed, they were reminded to take off their shoes and remove or put aside items that would interfere with their dancing, such as lanyards with keys, hats, sweaters, etc.; they were invited to sit wherever they liked in the circle of chairs that had been arranged for them. Table 3 provides definitions and explanations of the dance terms used in the classes and throughout this paper.

Table 3

Dance Terms

RAD Ballet Arm Positions	
<i>bras bas</i>	'bras' means 'arms' in French; 'bas' means 'low'; this term refers to the arm position held low and close in front of the body.
<i>demi-bras</i>	also called 'demi-second'; this refers to the arms lifted slightly to the sides as if half-way from <i>bras bas</i> to second position.
1st position	arms are held together in ballet positioning in front of the body, palms facing body, raised to about 80°, no higher than the sternum.
2nd position	arms are held horizontally to the sides (men at shoulder level, women slightly lower), palms facing forward, tilted down, still holding rounded arms with arms slightly lower below elbows.
5th position	arms are held above the head, still holding the same shape and spacing of the other positions, with the palms facing downward.
5th open or closed	refers to the orientation of the hand when one arm is held in 5th position; open means the wrist is turned so that the palm is facing out from the body, closed means it is turned facing the body (the standard position).
RAD Ballet Positions of the Feet	
1st position	feet are placed with heels together and toes pointed out to each side.
2nd position	feet are placed in the same orientation but the heels are about a shoulder's width apart. The position is attained from starting in 1st position and pointing one foot to the side, then placing that foot down
Jazz Positions of the Feet	
1st position	feet are placed with heels together, toes pointing forward.
2nd position	feet are placed in the same orientation, but approximately shoulder's width apart.

Table 3 – continued

Ballet Terms	
<i>Arabesque</i>	refers to the body being supported by one leg while the other is extended behind the body and raised off the floor.
<i>Barre</i>	a horizontal wooden bar fastened to a wall along the side of a dance studio, (may also be metal or on a stand in the middle of the room); it is used to aid in balance but hands are to be placed lightly on the barre; it is not to be gripped tightly or leaned on with force. The term also refers to the exercises that are done at the barre which are standard practice throughout ballet at all levels.
Gallops	in moving across the floor, one foot extends with pointed toes to step forward, when the body's weight is shifted to that foot, the other leg is brought forward to follow, 'hitting' the starting leg and taking the body's weight while the starting foot moves forward again in the same way. This can be continued with the same leg in the forward position across the room or changed from one leg to the other when the back leg swings past the front leg to become the one that steps forward.
<i>Pirouette</i>	a spin or turn of the body performed on one leg.
<i>Plié</i>	the bending of the knees, this can be done in any position of the feet; the knees bend so that they extend over the feet in the same direction as the toes are pointing.
<i>Retiré</i>	this refers to one foot being placed by the knee or ankle, the foot may be pointed and the knee turned out to the side or straight ahead, depending on whether it originated from a ballet or jazz first position
Rises	Lifting the body to balance supported on the toes – in pointe shoes, this would be fully on the top of the toes, otherwise it refers to a demi-pointe position which places the weight on the metatarsal or 'ball' of the foot.
Skips	in moving across the floor, one foot extends with pointed toes to step forward while the other leg is lifted up with the foot touching the knee (or lower on the leg); the weight-bearing foot that stepped forward hops while the other foot is lifted, then the lifted foot is extended to repeat the step to continue moving forward. The difference between a ballet skip and jazz skip is in the body's posture and how the arms are held; straight upright lines for ballet, a lower, relaxed posture for jazz with loose arms.
<i>Tendu</i>	stretching the foot along the floor from one position to another.

Table 3 – continued

Dance Movements and Terms	
arms for partnering	both dancers hold hands extended out to the side with the lead partner placing the other hand on the partner's back (below the shoulder blade) and the other hand for the following partner is placed on the lead partner's shoulder. Learning 'arms in partnering' also refers to the etiquette of touching/holding another dancer and the amount of appropriate pressure to apply; pressure on a partner's back indicates where the lead dancer intends to move while hands are generally placed lightly on the shoulder and spinning a partner requires a loose grip to allow for repositioning while turning.
Bob and Weave	a hip hop move where the legs are apart (2nd position jazz) and the knees are bent while the upper body moves down and then up and to the side as the legs straighten and the weight is transferred from one foot to the other, ending upright over the leg that supports the weight. Also refers to the motion when the legs do not straighten, but stay bent while the upper body moves lower and to the side with the transfer of weight. This can also be done as a travelling step.
CC Step	this is a type of hip hop step; starting with feet placed apart, the dancer steps forward and diagonally across the other foot, rocking the weight from the back foot to the forward one and back again, lifting the heel of the back foot briefly while stepping, then jumping slightly together as the stepping foot is returned to the original position and the other foot repeats the step across to the other side.
Counting in dance	to understand cues for timing dance steps, a count of eight is used to identify the beats of the music. Dancers count 'one & two &...' up to eight and then start again at one; double time is twice as fast, so each '&' beat is treated as a full beat.
Heel toe, heel toe	stepping to one side to place the heel only on the floor, with a flexed foot and the weight remaining on the other foot and then turning the leg, knee toward the body, foot still flexed, to touch the floor with the toes
Isolations	refers to exercises which involve moving only specific areas of the body while trying to hold the rest of the body still.
Jazz hands	with the elbows held close to the body, the hands are extended out to both sides with the fingers and thumbs spread wide; the hands are shaken from the wrists with a very quick back and forth motion.
Russian	in modern and jazz – a jump with legs in a split position in the air, toes pointed outward with arms outstretched over the legs.
Step-touch	stepping forward with one foot and bringing the back foot forward to briefly touch the toes down beside it, before then stepping forward with that back foot, repeating process with the other foot to move across the room.

Each week focused on a different dance style or theme:

Week 1: Hawaiian (Disney's Lilo & Stitch)

Week 2: Hip Hop

Week 3: Latin Salsa

Weeks 4 and 5: Jazz (Broadway musicals)

Short reviews of previous styles were given and the final week was initially planned to be a review week. However, participants so enjoyed the jazz dance introduced in Class 7, it was decided to expand on the choreography to produce a short dance routine they could perform for the last class. Table 4 lists the essential components of the class in the order they were presented; also noted is when new exercises were introduced over the 10 classes.

Table 4

Dance Class Components and Description

<p>Intro</p>	<ul style="list-style-type: none"> • PT eased into the class by asking the group in turn around the circle to answer a question about music or dance and give some personal information such as their likes, dislikes, or recent activities • this sharing of ‘news’ brought the participants into conversation together in preparation for working as a group in class; it promoted a social atmosphere in the group that was particularly important in the first class after the four-day break • when all the participants had arrived and were included in the discussion, the cue to begin class was given to the PA, the timer was set for one hour, and the class began with the Warm Up • the 8” Time Timer[®] (Time Timer LLC, 2016, Cincinnati, OH) displays a red disk that disappears as time elapses, providing a concrete visual cue as to how much time is left in the activity
<p>Warm Up</p>	<p>*seated in a circle, participants visually followed the teachers’ example, listening to the PT’s verbal description of movements and reminders</p> <ul style="list-style-type: none"> • PT explained and demonstrated new exercises and any additions to familiar exercises • all warm up exercises were accompanied by music suited to the type of movement, i.e. slow, fast, dreamy, jazzy, etc. • music used for each exercise is listed in Appendix A • ‘right’ and ‘left’ did not designate which appendages to use; participants were told it did not matter which one they used first and were then instructed to use ‘the other’
<p><i>Head And Shoulders</i></p>	<ul style="list-style-type: none"> • warm up began with head movements to look side to side, up and down • head tilted with ears to each shoulder, and in a rolling motion from one side to the other (head down) and back again • movements were done slowly and then slightly faster for a second round • shoulders were next, lifted to the ears and dropped down, both together and then one at a time, and then in a pattern; up, up, down, down • lifted and rolled forward, then backward in circles, first together and then each in turn
<p><i>Arms and Torso</i></p>	<ul style="list-style-type: none"> • flowing movements, both arms reached from sides to above head and back down, breathing in on lifting up, breathing out with the downward motion • next, one arm was brought forward and up, circling around back to original position; this was repeated with the other arm • then arms were stretched wide to be brought crossed over the body in a ‘self-hug’; the ‘hug’ was repeated a few more times before all arm movements were repeated in a sequence of two each • next, focus turned to the ribcage which was expanded and contracted, then isolations to each side, and finally the motions put together to “make a circle” repeatedly; expand, side, contract, other side, changing direction and slightly increasing speed
<p><i>Hips</i></p>	<ul style="list-style-type: none"> • added in Class 4 • standing, this followed the same pattern as the ribcage exercise • the hips were isolated to move side to side • then the pelvis was tilted to the front and to the back • then a ‘circle’ pattern of side, back, other side, front and also in reverse order

Table 4 - continued

<p><i>Feet</i></p>	<p>*arms relaxed with hands kept loosely on legs above knees</p> <ul style="list-style-type: none"> • began with tapping toes, then heels, both feet together, switched after 8 counts • switched from toe to heel on each count, increased speed to within each count (“one-and”) for one bar of 8 • knee movement was added by holding toes in place and moving the heels together to one side and then the other, swaying the knees from side to side to the same counts • one foot at a time, the toes were lifted to move out away from the body, then the heels, then the toes – ‘walking’ the foot out to the side • the movement was then reversed; toes, heels, toes, heels, ‘walking’ the foot toward the body back to the starting position • other foot followed the same pattern for the same counts, increasing the speed for the second count of 16 (8 out, 8 back) • using both feet simultaneously for this exercise was suggested and tried at the end of the exercise
<p><i>Legs</i></p>	<ul style="list-style-type: none"> • with one straight leg raised off the ground in front of them, participants were asked to ‘draw a circle’ with their foot, circling the foot at the ankle • then made circles with the whole leg before placing it back on the ground • same movements with the other foot and leg • exercises finished with ‘shaking’ the legs and feet; running quickly on the spot until the music ended
<p>Creative Group Exercise</p>	<ul style="list-style-type: none"> • in turn around the circle, participants were encouraged to use their own creativity in moving from a ‘large’ shape – standing, expanded to fill their space – to a ‘small’ shape – low to the ground, contracting within their space • initial and final shapes were held until everyone had finished their movements • in Class 4, PT began counting aloud to 8 so each participant would take more time for their movements to reach their shapes • in Class 7, a different creative group exercise was introduced; dancers started in any position but had to complete their movement by somehow connecting with the participants who had gone before them to create one large, connected shape • participants were cautioned to take note of where they were in the sequencing when choosing their ending position as the first participants had to maintain their ending pose longer than those following • this exercise was complicated further in Class 9 and 10 by telling participants to connect to another person in two ways
<p>Barre</p>	<p>*chairs were turned for participants to hold onto the backs as a ballet barre; if preferred, participants’ walkers were brought to them for support</p> <ul style="list-style-type: none"> • pliés, tendus, and rises, in both jazz and ballet 1st and 2nd positions were taught in a sequence that increased in complexity over the course of the classes • foot and leg positions were introduced and described in detail - arm positions were also added • an arabesque was added to the end of the barre exercises in later classes • participants were taught to hold onto the ‘barre’ lightly throughout the exercises; during the arabesque, they were encouraged to try lifting their hands briefly to balance on one leg

Table 4 – continued

<p>Travelling</p>	<p>*chairs were moved to the sides against the wall - starting at one end, participants moved across the room in pairs</p> <ul style="list-style-type: none"> • differences in types of walks were explored as participants moved leisurely or purposefully to the music • ballet and jazz walks were demonstrated and practiced regularly • in Class 3, small bean bags were used on participants' heads as they walked to encourage posture and focus • type of walks and rhythms practiced matched the dance genre the participants were learning • i.e., during the hip hop classes, participants moved across the room in a low hip hop pattern with matching arm movements; during the Hawaiian dance classes, a step-touch-step pattern was used
<p>Partnering</p>	<ul style="list-style-type: none"> • in Class 5, participants were paired during the traveling salsa step; partners held each other's hands while stepping out to each side and back, emphasizing hip movement • in Class 6, basic etiquette of partnering was taught i.e. holding your partner's hands lightly, using slight pressure to indicate direction of movement, counting together, etc. • participants moved across the room in pairs with one partner facing forward and the other backward • in Class 8, a spin was added; one partner spinning the other on a specific count, the other partner would be spun on that count in the next sequence • two participants who used walkers paired together and used their walkers touching to produce the same effect as one walked forward and one backward • their spin consisted of one partner turning their walker in a circle while the other partner waited to continue the movement across the room
<p>Mirroring</p>	<ul style="list-style-type: none"> • mirroring was introduced in Class 3 and then became a regular part of the classes • dancers were assigned partners and positioned themselves around the room, facing each other either sitting or standing (their choice) • one dancer was designated the 'leader' and initiated movements; the other dancer had to make the same movements in a mirror image of the leader • halfway through the allotted time, the roles were reversed so that each participant had time as both a leader and a follower • in class 10, a group mirroring exercise was used in which the class formed a circle and took turns at being the leader for 8 counts while the rest of the class followed their movement
<p>Choreographed Dance</p>	<ul style="list-style-type: none"> • each week participants were introduced to a new dance form and were taught a choreographed routine in that style • music selection and tempo were chosen to fit the style of dance with the exception of Hip Hop, which required recorded music • exercises and floor work of the class incorporated some of the movements and steps that would be used in the routine • the last 4 classes incorporated a Broadway theme throughout

Table 4 – continued

<p>Ending ritual (variation on Pass the Pulse)</p>	<ul style="list-style-type: none"> • dancers formed a circle standing; if a participant was sitting, the circle was formed according to their position in the room • each participant in turn created their own movements, reflecting their energy, before touching the person next to them in order to ‘pass their energy’ to that person • it was then that person’s turn to dance until they chose to touch the next person and, in this way, the movement or ‘energy’ passed through every member of the group back to where it had started • all participants then held hands and lifted them in the air before bringing them back down in a group bow • finally, the class applauded to thank the accompanist, teachers, and their fellow dancers
<p>Social Time</p>	<ul style="list-style-type: none"> • team members assisted participants to gather their belongings, while offering hand sanitizer • participants moved from the exercise room to the cafeteria area down the hall where 2 rectangular tables had been placed together and covered with tablecloths for participants to sit around • small paper plates were put out along with larger plastic plates of cookies or mini brownies, bowls of potato chips, and a small vegetable tray with dips • two plates of each item were placed at each side and passed to participants to take onto their individual paper plates; napkins were also distributed and left on the table • team members asked participants for their drink preference and poured coffee and tea in ‘to-go-cups’, placed in front of participants with milk, cream, sugar/sweetener packets, and stir sticks available on the table • participants were asked if they would like assistance with their drinks • cold drinks and fruit juice were available; most participants also drank cucumber water before their hot drink was served • those who did not finish their coffee or tea before the end of social time were given a lid for their cup to take home
<p>Exceptions</p>	<ul style="list-style-type: none"> • in the first two classes, an additional component was attempted • Class 1 included a ‘free dance’ time with a recorded popular song • Class 2 also included a free dance time, but added a ‘freeze frame’ game; music was stopped at random points and the participants were required to hold their position at that moment until the music began again • after the first week of classes, these activities were dropped from the class routine

The time allotted for each exercise varied according to the participants’ needs. At the beginning of the program, more time was spent on the warm-up exercises and barre work but as these became routine, less time was needed and more exercises were introduced. Rather than adhere to a strict schedule of a number of minutes per exercise, the PT allowed the participants

sufficient time to continue an exercise to their satisfaction. Often the participants were asked if they were ready to move on to another activity and they were occasionally asked to decide between options of how to spend the remaining time. The exception to untimed exercises was the Mirroring component, when the PT made sure the same time was allotted for each participant as leader and follower. Participants relied on the Time Timer[®] (Table 3, Intro) to see how much time remained in the class. As they had left their phones and belongings outside the room, the visual device helped to alleviate participants' scheduling anxiety while allowing them the independence of understanding their situation without needing to ask and disrupt the class.

Voice and Autonomy

Throughout the classes, the research team maintained an attitude that respected the autonomy of the participants. T1 set the tone of the classes through her choice of language and feedback or notes. Participants were not criticised for their efforts; they were first praised and then given a suggestion. For example, a participant travelling down the room would be told "I like your arm movements! Can you point your toes while you skip?" This non-judgmental atmosphere was consistent throughout all aspects of the dance class. Participants' questions, comments, and stories were heard and their input respected as their opinions contributed to the class content. Keeping in mind that disabled people – particularly those in assisted living situations – are often disempowered, the research team aimed to foster the participants' autonomy in the dance class and Social Time.

Chapter Six

Results

Quantitative Results

EEG

Of the seven EEG scans completed, only five were analyzed; two were unusable due to equipment issues. There was not enough data to produce any meaningful results.

PANAS and BDI

During the administration of the questionnaires it became apparent that the measures would not be reliable due to the participants' difficulty with understanding the questions. Even with simplified language and elaborate explanations, some concepts were difficult for them to grasp. The PANAS requires participants to rate a number of words, indicating the degree to which they are feeling that emotion either at that time or within the past week. Some participants responded to this as a word-association – providing examples of how much they felt the emotion in certain circumstances. For example, a participant chose “extremely” for the word “scared” and, when questioned, said that she was scared of her father. Upon further inquiry, it became clear that she had had no contact with her father in the past two years; he was only an example of something that scared her. Some participants were able to answer with an accurate account of their feelings, but not with any consistency.

The BDI posed similar issues for participants; some participants were excited by the event of someone visiting to engage in the activity and answered all questions with happy enthusiasm. One participant's BDI score, however, indicated severe depression in the initial measure with a slightly higher rating of severe depression in the second test. As the measures were not scored until after the classes had ended, the PI arranged an extra meeting with this individual after the final interviews to disclose and discuss the BDI score. During this meeting it was disclosed that the participant had been

severely depressed with suicidal ideation for some time and had been trying to access services to address the issue. The participant requested that the PI provide the results of the BDI scores to the participant's medical doctor and the PI agreed. As the participant had a scheduled appointment within the week, the PI was able to meet the participant at the doctor's office and explain why the test had been administered and what the results were. The PI's involvement ended with that meeting, although the participant did contact the PI to provide brief updates on her situation after that.

The quantitative measurements were unproductive and the sample was too small to be reliable. However, administering them was a valuable exercise that provided auxiliary information about each participant. Their personalities were further revealed through the discussion process and the PI gained an understanding of how they each viewed themselves and the process of the study.

Qualitative Results

Video Recordings

The video footage obtained through the stationary camera provided valuable information about the participants' progress throughout the 10 classes. It was not a very reliable source of data for all participants; it did not consistently capture all the class activity and other participants often obscured the view of those dancing. However, the group exercises that involved individual creativity were generally clear. A participant's movements could be determined even if they were not fully visible and total occlusion occurred only for a few different participants in each class. Therefore, it was possible to observe changes that occurred as the classes progressed, although not for every participant in every area of interest. The most consistent data provides confirmation of improvement in creativity for all participants, dance learning acquisition for most participants, and creativity, learning, and behavioural changes in one participant who figured prominently in the videos of all 10 classes.

Creativity

Improvement in creativity was determined by the amount of time used by participants in their creative movements as well as the type of movements used; the baseline used was the individual's original creative movements. For participants who began the program demonstrating small, timid movements, we looked for a progression toward larger, more energetic, and bold movements. Participants who showed a tendency toward big movements from the start were watched for the addition of more complicated, intricate movements to assess an improvement. In all participants, the increased variety in their use of space was considered as a marker for creativity in addition to the use of their time. For the purposes of our study, use of space may be considered as the variety of weight given to a movement as well as variation in the use of levels (i.e. movements made with both strong, forceful motions and light, floating motions or participants moving through standing tall to positions on the floor or placing their limbs in varying levels in comparison to their bodies).

The two most easily observable examples of creativity occurred during the Creative Shapes exercise and the Ending Ritual as these exercises allowed participants to perform their own choreography without restriction. Mirroring also offered an opportunity to observe the participants' movement choices, but it was more difficult to see participants clearly as they were scattered around the room, often obscuring others from view. It was also not always clear whether they were leading or following the movements and they were also constrained in Mirroring by the consideration of what their partners could see and follow.

Group shapes. In Class 4, the PT began counting aloud to encourage participants to use all their creative time. Either counting up to or down from eight, she provided participants with a concrete example of how long they should take to change from a small shape to a large and vice versa. Counting for their individual time continued after the exercise changed in Class 7;

participants still had eight counts to move into the centre of the circle and create a pose of their choice. This exercise provided more opportunity for creativity as their movements were not bound by the instructions to be small/low or big/tall; the only condition was that they needed to connect to another dancer in any manner they chose.

An obvious change in all participants was noticed in and after Class 5. This may have been the natural result of settling in to a familiar routine, but a slow improvement in participants' creativity was noticeable as early as the second and third classes. Table 5 provides a detailed account, class by class, of the observed changes in creativity as defined above. Participants whose movements demonstrated a departure from the usual or typical are described using the pseudonyms assigned to them for the purposes of this study.

Table 5***Group Creative Observation***

Class 1	<ul style="list-style-type: none"> • most participants went down to the floor immediately or within 2 counts • most imitated the teachers exactly or with a slight variation in arm position.
Class 2	<ul style="list-style-type: none"> • two participants, Lisa and Gary, took more time and had greater movement • others were slightly slower, but still moved straight down and up
Class 3	<p>(Theresa had requested song from The Little Mermaid)</p> <ul style="list-style-type: none"> • Gary's movements were more elaborate • all participants used more inventive poses
Class 4^a	<ul style="list-style-type: none"> • first two participants used 6 counts • PT began counting down from 8, more participants used full count • more expressive in movements – ex. swaying arms
Class 5	<ul style="list-style-type: none"> • small to big poses; good variety of poses, participants following T2 showed some similarities • legs were crossed, knees bent, using space in front and behind of their bodies • moving up: 3 participants - 7 counts; 3 participants - 6 counts • moving down: 2 participants - 8 counts; 3 participants - 7 counts; 1 participant - 5 counts • Mia - arms in sync with movements ending with hands together, propped under her chin.
Class 6	<ul style="list-style-type: none"> • 2-3 participants used full 8 counts; most took 6 counts • greater variety in ending poses • Marc used his usual arm motions; unusual side-lying ending pose with one curved arm raised
Class 7^b	<ul style="list-style-type: none"> • first 2 participants took full 8 counts or more • second participant used walker, also used walker to connect • next participant also connected to walker • variety of connections used; shoulders, arms, legs, standing up and on floor
Class 8	<ul style="list-style-type: none"> • Jade asked to be first - lifted arms high and asked for quiet to start by saying "Ok, let's focus on me right now – or nobody's gonna dance" • Gary used very wide, large movements, walked around to the opposite side of the circle to connect • all held poses after the last connection for an extra four counts

^a PT began counting aloud for each participant ^b Exercise changed to creation of one large, connected shape

Table 5 - continued

<p>Class 9^c</p>	<ul style="list-style-type: none"> • 2 participants volunteered to be first • greater use of varying levels • Kennedy (1st) crawled slowly to sit back on one leg with one knee bent, both hands on floor • Gary – longer time to crouch on one knee, connected with both hands on Kennedy’s back • Theresa connected with one hand and her walker • Marc started with his usual hand motions, when prompted, moved arms side to side as well and twisted at the waist to make large, sweeping movements, ended in a crawling position, holding onto walker and touching walker with one foot • good variety of ways to connect; hands, feet, shoulders, backs, walker • spontaneous laughter and applause as shape broke up after completion
<p>Class 10</p>	<ul style="list-style-type: none"> • Gary was first (as planned in Class 9); wide, sweeping movements over his head, palms flat, large steps ended in pose with one knee and hand on floor, other arm extended straight and high behind him with his head bent down • Theresa again connected with one hand and walker • another participant connected with walker and a different dancer • murmurs of excitement and comments as shape grew • excited chatter as dancers moved to the Barre exercise, some telling Gary about moves he couldn’t see while in his pose

^cFor Classes 9 and 10, participants were asked to connect in two ways

Ending ritual. During the Ending Ritual, which was a dance variation on Pass the Pulse, a similar progression was observed. By Class 4, participants were asking to be the first to begin the round. Some participants generally used the same ‘signature’ movements in every class and it was easy to see an increase in their creativity through any alterations to the usual pattern. Participants began to add details to their movements, often motions that had been practised in class, and began to take longer before touching the next dancer. Conversely, Dylan – who had attended only three classes by that point – took only two counts to touch the next person in Class 8. Table 6 shows participants’ significant moments of creativity observed over the 10 classes.

Table 6

Ending Ritual Observation

<p>Marc</p>	<p>Class 5 - usual arm motions but took longer, lifted arms higher, and paused before touching next person with two hands – lifting his hands off quickly, as if they bounced</p> <p>Class 6 - made the touch more ceremonial using both hands, bowed head</p> <p>Class 9 - usual arm movements, but ended by lifting both arms extended over his head before putting both hands on next person</p> <p>Class 10 - usual arm movements, bigger and slower, turned with arms high over his head, stopped, then turned back to bend forward to touch the floor before raising his arms high again to touch the next person</p>
<p>Gary</p>	<p>Class 5 - used a version of Marc's move but bigger, wider, arms bent out to sides</p> <p>Class 6 - balanced on one foot with the other leg lifted behind him, longer arm movements before touching</p> <p>Class 8 - took 4 counts before touching next dancer; used a motion similar to Marc's but larger, more elaborate movements with wide open arms</p> <p>Class 9 - performed an elaborate dance with big arm movements, ending with touching next person on their head</p> <p>Class 10 - large swimming motions, moved forward into centre of circle to reach past and tap person in the wrong direction; when reminded, he continued motion – no break in tempo to touch person on other side</p>
<p>Theresa</p>	<p>Class 5 - took 6 counts, wider, higher arms</p> <p>Class 7 - swaying, held one arm curved over head and leaned to the opposite side before touching person next to her</p> <p>Class 10 - lifted arms high, bowed down to floor and held there, leaned to one side while lifting one arm up to touch next person</p>
<p>Lisa</p>	<p>Class 6 - turned with ballet arms in 5th and 1st positions</p> <p>Class 9 - large arm movements to turn, used only one finger to touch next person</p>
<p>Jade</p>	<p>Class 7 - usually goes quickly but added an exaggerated 'push' to touch Support Person next to her</p>
<p>Mia</p>	<p>Class 6 - usual arm movements but had one heel 'popped' and intertwined her arms to touch the next person</p>

Learning component

In addition to the physical dance steps and movements taught, the learning component included dance terms, styles, and other concepts related to dance and the body. Prior to beginning the classes, the research team considered that participants might resent being required to follow a regimented lesson in dance when they were used to freestyle recreational dancing. Although the teachers were prepared for some opposition, the participants embraced learning about everything dance-related and enjoyed being challenged. As the classes progressed, the participants learned terminology, positions of feet and arms, counting to music, and dance combinations of different genres.

Throughout the classes, T1 also taught participants about anatomy as she pointed out which muscles were being used. Some movements also led to a greater awareness of their bodies as in the Warm Up hips exercise where some participants initially found it difficult to move their hips in isolation. The participants also learned different dance genres and some dance culture; this was often in connection to their interest in the music selections and, in later classes, reinforced through viewing dance videos during Social Time. Participants added to their dance vocabulary and knowledge as the classes continued. Table 7 provides a list of the dance terms and concepts introduced throughout the 10 classes.

Table 7***Learning Component***

Positions		Terms/ Concepts	Dance Steps
Upper Body	Lower Body	warm up	ballet walk
<i>bras bas</i>	ballet 1 st	flexed/pointed foot	jazz walk
arms 1 st	ballet 2 nd	musical count of 8	ballet skip
arms 2 nd	jazz 1 st	isolations	hip hop skip
arms 5 th open	jazz 2 nd	jazz hands	gallops
arms 5 th closed	plié (1 st & 2 nd)	props	CC step
<i>demi bras</i>	<i>tendu</i>	holding for counts	bob and weave
arms in partnering	<i>retiré</i>	mirroring	heel-toe/ toe-heel
	<i>arabesque</i>	ballet/jazz posture	step-touch
	rises		

Social engagement

In addition to the increase in dance ability, participants showed an increasing willingness to engage with the research team and fellow dancers. Although interaction at Social Time was enthusiastic from the beginning, discussion became more focused on dance-related topics over time. Music was a popular topic, eliciting spirited conversations among all participants. When other questions and topics arose during classes, participants were asked to wait to discuss them at Social Time. Knowing they would have ample opportunity to express themselves after class, the participants were content to wait and class could continue without disruption. Research team

members did their best to remind those participants at Social Time in case they had forgotten their queries by then. The communal atmosphere of team members and participants sharing refreshments and engaging in a wide range of conversational topics facilitated the dancers' rapport in class.

As the classes continued, participants began to ask the research team members more personal questions, in particular, there was an interest in their disabilities and other employment (i.e. school). Sharing their individual experiences with disabilities (e.g. pain, mobility aids, etc.) provided another connection with the participants, who often expressed surprise at the similarities. This social experience may be commonplace for able-bodied people, but such interactions are difficult for disabled populations who are limited by a lack of autonomy and agency, among other societal barriers (Hästbacka, Nygård, & Nyqvist, 2016). For example, Kennedy shared a home with Theresa in assisted living, but in her final interview expressed how happy she was to have been able to spend time having tea and chatting with her friend. Both women were kept busy throughout their week and one spent her weekends with her family; as a result, neither had the opportunity to simply share time to chat.

Final Interviews

Participant response in the final interviews was unanimously positive; all eight participants expressed their total satisfaction with the dance class. Table 8 lists some of the comments of each participant. All participants expressed their interest in continuing the class, asking when it would start again. When asked for their favourite part of the class, The Hawaiian dance, CC step, and jazz routine (One) were most often mentioned, but the 'growing' exercise and 'group shape' were also chosen as most enjoyable. Participants were enthusiastic and excited in recalling parts of the class and particular moments or events.

Table 8***Participant Comments***

Participant	Comments on Class - Final Interview
Marc	“It was awesome, I really enjoyed it.” “...and I’m very happy so thank you very much for picking me”
Lisa	“I like sit down, my feet are moving, my legs side and back, I like that” “Y’know, I like more ballet.”
Kennedy	“You guys made me so energetic, yeah, when I come into dance classes with you guys it just makes me more wanting to do more than just being - just there.”
Theresa	“Good! And happy!” “I liked to sit on the chairs”
Gary	“Uh I want to do it again. Soon.” “Uh the dance class, I liked everything about it - I like the dancing steps - the one where you pop the hat up, step together, and then you said - hand in - in - look - look - look - front. Yeah I like that part...” “... And then when we got all into a weird shape that was fun.” “When are we going to do another one?”
Dylan	“Oh yes, ‘cause I met some new friends” And traveling? Oh my God, that was my favourite. And mirror image (sic) was, like, so interesting. I was, like, laughing in my head, I’m like, oh my God, I can’t believe I’m making someone copy me.”
Jade	“I want it to start again.”
Mia	“Really fun” “I like tap dancing. I like jazz. I like everything. Meeting new people!”

Overall, the participants enjoyed having the piano accompaniment and felt that the mix of recorded and live music was ‘just right’ or could have had more live music. There were no criticisms of the class or research team; when pressed as to what they would like to do differently the next time, participant replies were “more jazz”, “more hip-hop”, “more arm movements”, and to “play more Five Seconds of Summer”.

Acquiescence

In evaluating participants' answers to the interview questions as well as the BDI and PANAS measures, consideration must be given to the extent to which the power dynamic and acquiescence may have influenced their responses. Although acquiescence is defined as the tendency to agree with or say 'yes' to statements or questions, regardless of the content of the items, some research has used the term to describe a general willingness to agree or appear affable to authority. This general description of agreeableness best fits the purposes of this paper in describing what may have influenced our participants.

Finlay and Lyons (2001) state that acquiescence in cognitively challenged individuals is often ascribed to either a desire to please or excessive submissiveness, but instead may be a result of the type of questioning used. Interview questions that are too complex, either in grammatical structure or in the type of judgement they require, may result in a participant's acquiescence. A literary search by Griego et al. (2019) found a difference in the suggestibility and false memories of intellectually impaired individuals and those with autism. Their findings suggest that those with developmental disabilities may not share the same issues with acquiescence; perhaps this is a further indication that complexity is an important factor.

Although our measures were adapted for simplicity and ease of decision, the concepts involved complicated assessments of their feelings and opinions. The final interviews were conducted with a great deal of leeway; participants often led the conversation to talk about their personal perspectives on the experience. However, acquiescence may still have played a part in the participants' unanimously positive responses.

Chapter Seven

Discussion

Our study was significantly different from those in the existing literature. Drawing from elements of successful community classes, our dance class was designed by disabled people specifically for disabled people; respect for disability rights and culture was a defining attribute. Having a participant population of disabled adults sets our study apart from the current literature, but ours is also, to my knowledge, the only study of this kind that has a learning component of formal dance training. The participants were not identified by their deficits (i.e. their diagnoses) so that their accomplishments were their own, rather than representative of a label imposed from an outside authority. Autonomy and agency were respected and encouraged throughout the classes and research study, representing a significant departure from typical situations involving this population. In addition, it should be noted that, although no diagnoses were disclosed, many of our participants had multiple impairments that would further complicate any attempts to clinically define them as a group.

In planning this class, two specific issues were identified as potentially problematic. One was our intent to include partnering as an important component of the class. Tactile stimulation is essential to dance; a dancer uses their body's relationship to their spatial environment in specific ways. Even in the simplest space, alone, a dancer uses the floor as part of their energy flow and movement, using its resistance to propel their jumps and provide their stability. It also serves as a feedback loop for proprioception (the perception of the body's position and movement), providing valuable information on one's body. Learning to dance in close proximity to others is an important part of the teamwork involved. The value of learning reciprocity and cooperation through team sports is widely accepted, but dance also teaches team skills through group choreography and partnering. Trust, confidence, communication, respect, discipline, and mindfulness are all involved when dancing with others. Dance partners must be aware of each

other's movements and intentions in the moment; they have to trust each other and communicate, often non-verbally. This was considered to be a potentially difficult part of the class due to the restrictions on physical contact generally taught to this population. Partnering, however, was enthusiastically received by the participants and there were no contentions with physical proximity, contact, or in choice of pairings.

The learning component was another concern prior to starting the classes; an assumption was made that participants may resent being unable to dance freely without constraints or imposed criteria. Again, this assumption proved to be false. Participants enjoyed the challenges of learning dance; the terminology, the positions, counting to music, and learning dance combinations. The classes were peppered throughout with information; muscles and physical knowledge, explanations of terminology and music, and some basic dance history were part of the teacher's instructional patten. Participants enjoyed this aspect of the class and, after only a few classes, most participants were enthusiastic and eager to show their knowledge when asked to demonstrate first position or *bras bas*.

Agency and Autonomy

The excellent dedication and care that CLC staff provide their clients on a daily basis must be acknowledged; this is an exemplary facility and many people are waiting to access their services. Our research team came into a functioning system as visitors and our goal of teaching a dance program to a small group cannot compare to the roles CLC staff fulfill. Yet as outside observers, and perhaps more importantly as developmentally and physically disabled individuals, we were in a position to observe the inadequacies of the system.

Certain issues arose during our program that exemplified the participants' lack of autonomy in their everyday lives. Social time is scheduled in other dance classes with which our group is involved at Canada's National Ballet School (Bearss, McDonald, Bar, & DeSouza,

2017). Firstly, it should be noted that *our* Social Time after class had the atmosphere of a special occasion. We were often asked by other CLC clients if we were having a party. This was an effect we strived to create through the choice of refreshments placed on the table, as well as having the research team waiting on the participants to serve drinks. We also chose to keep the setting communal by having everything on the table to be passed around and shared family style. At our first Social Time, we were confronted about the food we offered; there was a concern about a participant's behaviour if she consumed too much sugar. It was suggested by a staff member that we should limit the participants' choices and portions, controlling their intake by using a buffet style where they would select their preferences and then sit down. This issue was followed up with the PI the next day by two other administrative staff. We felt that it was not in our purview to police our participants' choices; we were providing a program for their enjoyment and benefit and any constraints on their behaviour should be addressed through their workers, either in attendance at the dance class or at home. It would also be very inappropriate to say anything to the participants about their eating habits; it would be analogous to approaching someone at a party and saying "Do you really think you should be eating that?"

The staff member who made the initial complaint was not involved in our dance class, but had been working at a table in the cafeteria near us at Social Time. This interaction compelled us to only allow people who were involved in our program to be present. It was already stipulated that anyone coming into the dance class venue must join in the class; support workers who accompanied participants into class were enthusiastic dancers. We extended that rule to Social Time to avoid the restrictive feeling of being observed by an authority. Some workers chose to wait outside of the dance class for their clients and were invited to join in the Social Time with us afterward.

At the beginning of Class 2, we were informed that a staff member had told a participant she must attend the dance classes to receive the incentive gift card. Staff were present during the signing of the consent forms before classes began and the participant's rights were explained at length. In using the study's incentive to compel a participant to come to class, the worker had disregarded the participant's rights and compromised the study's integrity. During Social Time, we reinforced the fact that everyone would receive a gift card at the end of the classes, regardless of their level of attendance or level of participation.

Another Social Time incident emphasized our participants' vulnerability: The same worker drove two participants home after classes. We were informed that these participants were no longer allowed to take their beverages home with them. After the previous class, their worker failed to notice a drink on a walker when lifting it into their van and the liquid had spilled. The unilateral decision to deny the participants their beverages demonstrated how little control the participants had over simple daily events in their structured lives.

The PI, T2, and PA were waiting in a hallway before dance class when a participant came out to meet two staff members at the front door. Our participant was happily walking down the hallway with a slight, rocking, side-to-side tilt. When the participant reached the staff members, they asked why she was walking that way and if she was hurt. Her usual smile disappeared as she admitted she was not hurt and the staff member told her to stop walking "like that". Our participant was older than the two staff members chastising her and as she looked over at us during this exchange, she seemed embarrassed that we had witnessed it.

All of these examples illustrate the lack of autonomy and respect our participants experience on a daily basis while we were reinforcing the values of our program. We provided an experience in which their rights were respected and their opinions valued. They were given a voice in the classes and at Social Time; the participants' creativity was appreciated and they

were not told that they were wrong. Our dance class created a social environment that is uncommon for many disabled individuals. It is not unreasonable to assume that, over time, this environment could become a community that provides significant social capital to this population.

Discussion and Future Directions

Participants demonstrated progress in their creativity and dance skills as their movements changed over the 10 classes. They enjoyed the challenges of the progressive learning component and developed their dance vocabulary as well as their general knowledge and appreciation of the art. The participants' learning had steadily progressed over the five weeks and, in some cases, their retention of terminology was evident two to three weeks after classes had ended. Further studies may prove valuable in assessing the length of retention for these new skills, providing a strong argument for the cognitive benefits of the classes in promoting brain plasticity.

The preliminary observations suggest that a longer program with weekly classes over a number of months could lead to the development of a significant social community for this population. A future study into the benefits of this dance class design should strive to provide a consistent presence in participants' lives to accurately assess these benefits. Our project proved this was feasible with this population, but unfortunately our group had no resources to continue the classes.

Although the qualitative methods used provided valuable insight into the participants' experiences, a number of changes could be implemented in future studies to improve their efficacy. The use of a single, stationary camera was limiting and more cameras placed strategically in the room to eliminate obscured areas would be beneficial. Many of our observations relied on the information provided in the video footage of the classes but certain participants were often out of the camera's view, especially if they were restricted in their

mobility. However, viewing and analyzing 9 hours of video over 10 classes was time consuming; a lengthier program would entail far more footage and to multiply that with additional camera angles could prove very arduous. An option to more easily determine the progress of individual participants would be to film certain exercises repeated each week with one participant at a time in view. With repeated sequences of the same exercise over time, such as Travelling, it would be easy to assess the level of advancement – i.e. developing a battery of movement tests like the Unified Parkinson’s Disease Rating Scale (UPDRS). Other tests like the Timed-Up-And-Go (TUG) or the Berg Balance Scale could be employed where needed or deemed necessary (Bearss, McDonald, Bar, & DeSouza, 2017). Another possible option would be the use of motion-activated cameras to capture participants’ movement in areas obscured to the stationary camera’s view. For further study, a larger research team could provide additional people to view the video footage; multiple appraisers would help to ensure a reliable evaluation of the participants.

In addition to the semi-structured interviews, another method to assess participants’ perspectives throughout the program would be useful. This could be a few questions either on a simple questionnaire using visual representations of emotions or a semi-regular verbal checklist with one of the team members. One of the major limitations of this study was the small research team. All four members of the team were involved in every aspect of running the dance class; the PI missed some dance class and Social Time due to administering tests, while the PA, T1, and T2 were occupied during classes. Continual sharing of information filled in the gaps for the purposes of this study, but more research support would have improved the richness of the data collection. One difficulty inherent in this class design is that there can be no ‘observers’; everyone in the class must be actively involved to maintain the social dynamic. However, additional ‘observant dancers’ would be ideal, particularly if they were also disabled. If more

people were involved in future studies, it would be possible to implement additional qualitative measures and film from multiple angles. Furthermore, we could begin to implement devices to measure movements, steps, heart rate, and/or galvanic skin responses like we have in previous studies (Fontanesi & DeSouza, 2020). This work does show that indeed future studies need to continue to be implemented due to the important benefits to participants.

Conclusion

Although this was a small sample over five weeks, the results indicate positive outcomes for both the participants and the class design. Participants showed increases in their dance knowledge and understanding, creativity, and social cohesion as determined through observation. Further studies using this design have the potential to identify more specific benefits over a longer period of time. The development of this hybrid class is rooted in a disability rights model and its implementation requires an adherence to principles that exceed its individual components. Whereas most studies identify diagnoses and focus on impairments, our study focused on the individual and their abilities. Our dance class is unique in being designed for young adults, with a range of disabilities, and in using a progressive, sequenced teaching program. Therefore, the goal of this study was to design a dance class for disabled young adults that would incorporate a learning component comparable to that of mainstream classes for able-bodied people. The potential benefits warrant further exploration.

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Appendix A

Class Music

Warm Up

Taylor Swift: Love Story

Ed King, Gary Rossington, Ronnie Van Zant: Sweet Home Alabama

John Lennon, Paul McCartney:

- Can't Buy Me Love
- Ticket to Ride

Cyndi Lauper, Rob Hyman: Time After Time

Siedah Garrett, Glen Ballard: Man in the Mirror

Brian Wilson, Tony Ashe: God Only Knows

Andrew Lloyd Webber, Tim Rice: Don't Cry for Me, Argentina (Evita)

Jim Jacobs, Warren Casey: Summer Lovin' (Grease)

Andy Razaf, J.C. Johnson, Fats Waller: The Joint is Jumpin' (Ain't Misbehavin')

Sara Bareilles:

- Uncharted
- Fairytale

Jonathan Larson: Season of Love (Rent)

Travelling

Taylor Swift, Liz Rose:

- You Belong With Me
- White Horse

George Harrison: Here Comes the Sun

John Lennon, Paul McCartney:

- Hey Jude
- Ob La Di, Ob La Da

Frederick Loewe, Alan Jay Lerner: I'm Getting Married in the Morning (My Fair Lady)

Jerry Herman: Hello Dolly! (Hello Dolly!)

Frank Loesser: Brotherhood of Man (How to Succeed in Business Without Really Trying)

Andy Razaf, Fats Waller, Harry Brooks: Ain't Misbehaving (Ain't Misbehaving)

Antônio Carlos Jobim, Vinicius de Moraes, Norman Gimbel: The Girl from Ipanema
Ann Orson, Carte Blanche (Elton John, Bernie Taupin): Don't Go Breakin' My Heart
Andy Razaf, J.C. Johnson, Fats Waller: The Joint is Jumpin' (Ain't Misbehavin')
Randy Newman: You've Got a Friend in Me (Toy Story)
Terry Gilkyson: The Bare Necessities (The Jungle Book)
Antonín Dvořák: Humoresque No. 7
Isaac Albéniz: Tango in D
Ernest Seitz, Gene Lockhart: The World Is Waiting for the Sunrise
Jayme Silva, Neuza Teixeira: O Pato
Antônio Carlos Jobim, Vinicius de Moraes: Chega de Saudade
Django Reinhardt: Daphne

Recordings:

Lou Adler, Herb Alpert, Sam Cooke: Wonderful World
Mark Keali'i Ho'omalulu, Alan Silvestri: He Mele No Lilo (Lilo and Stitch)
Calum Hood, Michael Clifford, David Hodges, Jon Green: Jet Black Heart
Savan Kotecha, Rami Yacoub, Carl Falk: What Makes You Beautiful
Shawn Mendes, Teddy Geiger, Geoff Warburton, Scott Harris: There's Nothing Holdin' Me Back
Stefani Germanotta, Jeppe Laursen: Born This Way
Justin Bieber, Julia Michaels, Justin Tranter, Sonny Moore, Michael Tucker: Sorry
Miley Cyrus, Oren Yoel: Malibu

Rise and Fall Creative

Claude Debussy: La fille aux cheveux de lin

Howard Ashman, Alan Menken:

- Beauty and the Beast (Beauty and the Beast)
- Part of Your World (Little Mermaid)

Johann Sebastian Bach: Prelude No. 1

Akira Yamaoka: Promise

Group Shape Creative

Ryuichi Sakamoto:

- Energy Flow
- Shining Boy
- Aqua

Pyotr Ilyich Tchaikovsky: Once Upon a Dream (Sleeping Beauty)

Barre

Claude-Michel Schönberg, Alain Boublil: I Dreamed a Dream (Les Miserables)

Marvin Hamlisch, Carole Bayer Sager: If You Really Knew Me

Ludwig van Beethoven: Piano Sonata No. 8

Taylor Swift: The Best Day

Wolfgang Amadeus Mozart: Piano Sonata No. 16

Frédéric Chopin: Valse du petit chien

Mirroring

John Williams: Family Portrait (Harry Potter and the Philosopher's Stone)

Wolfgang Amadeus Mozart: Twelve Variations on "Ah vous dirai-je, Maman"

Group Mirroring

Johann Sebastian Bach: Prelude No. 1

James Flannigan, Steve Garrigan, Vincent May, Mark Prendergast: All I Want (*recording*)

Partnering

Charles Strouse, Martin Charnin: Tomorrow (Annie)

Frederick Loewe, Alan Jay Lerner: Get Me to the Church on Time (My Fair Lady)

Richard Rodgers, Lorenz Hart: Ten Cents A Dance

Elton John, Tim Rice: Can You Feel the Love Tonight (Lion King)

Choreographed Routines

Mark Keali'i Ho'omalulu, Alan Silvestri:

- Hawaiian Roller Coaster Ride (Lilo and Stitch) (*recording*)
- He Mele No Lilo (Lilo and Stitch) (*recording*)

Marvin Hamlisch, Edward Kleban: One (A Chorus Line)

Free-Style Dance and Freeze Dance (*recordings*)

Ashton Irwin, Michael Clifford, John Feldmann, Alex Gaskarth: Long Way Home

Justin Bieber, Julia Michaels, Justin Tranter, Sonny Moore, Michael Tucker: Sorry

Ending Ritual

John Williams: Leaving Hogwarts (Harry Potter and the Philosopher's Stone)

Appendix B
Intake Questionnaire

1. What are the initials of your first and last name? _____
2. Age: _____
3. Sex: Male ____ Female ____
4. Which hand do you use to
 - Brush your teeth? R / L
 - Write your name? R / L
 - Eat soup with a spoon? R / L
 - Throw a ball? R \ L
5. How many hours do you sleep at night? _____
6. Eye Dominance R / L
7. Can you wink with your left eye? _____
Can you wink with your right eye? _____
8. Corrected vision? Yes / No
9. Have you ever taken a dance class? Yes / No
 - At what age did you start? _____
 - At what age did you stop? _____
 - What type of dance classes have you taken? _____
10. Do you do any other physical exercise programs besides dance? Yes / No
11. If yes, what kind of physical exercise(s) do you do? _____
How many hours per week? _____
12. What kind of dance do you hope to learn in this class? _____

13. What kind of music do you like? Favourite bands/singers? _____

What snacks and drinks would you like us to have for our social time? _____

14. Do you have anything else you would like to tell us about dancing or how you feel about taking this class? _____

15. Do you think of yourself as a dancer? _____

Notes:

Appendix C Informed Consent Form

Researchers:

Principal Investigator: Ruth-Anne Andrew, BA., currently an MA candidate in Interdisciplinary Studies at York University, Toronto.

XXXXXXXX@XXXXX.XX

XXX-XXX-XXXX

Dance Teacher: Nicole Reinders, BS., MSc., currently a PhD candidate in Kinesiology at Wilfrid Laurier University, Waterloo.

This research has been reviewed and approved for compliance to research ethics protocols by the Human Participants Review Subcommittee (HPRC) of York University. Certificate # STU 2017-117

Purpose of the Research: Dance is an enjoyable and healthy activity. Many people think dance is something you have to learn when you are a child but people are now learning to dance in classes made for adults.

We have created a dance class for adults with disabilities. This class is new in Waterloo Region and this study is trying to find out how people will feel about dancing in this program.

There will be 10 dance classes and they will be held twice each week. The class will be one hour of learning dance and time to hang out after the class and enjoy snacks and drinks.

What You Will Be Asked to Do in the Research: You will be asked to share how you feel about dance, your experiences with dance, what you think about dancing and how dancing makes you feel. The researcher will ask about these things in meetings with you and with other people in the dance class. There is a 45-minute group meeting before the start of classes. If you want to meet with the researcher alone, it will take about 15 minutes.

Questions you might be asked:

Do you like dance?

How do you feel about dancing?

Can you tell me about a time when you danced?

There will also be two forms to fill out before all the classes start and again after all the classes are finished. You can take the form home with you to fill out or ask the researcher to help you fill it out during a 15-minute meeting. These forms will ask you about how you feel. Filling out the forms will take about 10-15 minutes for each.

There is also an EEG part of the study. This is done with a headset we put on your head and adjust to fit you. It is the same kind of headset that people use to play video games. This will be shown to you and explained before classes start. It does not hurt. The only uncomfortable part is that you have to try to stay still for about six minutes and your hair may be messed up. If you are taking part in the EEG scans, you will be asked to come in 45 minutes early and stay 45 minutes

late on one class day and we will ask you to fill out the forms again during that time.

You will also be asked to come to the dance classes every week and join in the dancing. There is also a social time to enjoy talking with the other dancers, teachers, and volunteers while you have snacks. The class is one hour long and the social time is about a half hour or less if you want to leave early.

After the classes are all finished, there will be another meeting to talk about the classes. This meeting may be alone for about 15 minutes or with another person from the group which will take about 30 minutes. You will be asked about what you liked or did not like about the classes and anything else you would like to say.

Risks and Discomforts: There are no risks or discomforts in being a part of this research. You will not have to talk about anything that might upset you. The dance classes have the usual risks that are part of learning to dance. The teachers are careful and know how people can move safely, but there is always a small risk of injury through dancing; falling or even just sore muscles.

Benefits of the Research and Benefits to You: There is a benefit in taking the dance class; you will learn to dance and there is no cost for the lessons. There is no benefit to being in the research study. Taking part in the research study will help to make the dance classes better for disabled people.

Voluntary Participation: You are volunteering to help in this study and you may stop at any time. You can choose which questions you want to answer and you don't have to answer any question you do not like.

Withdrawal from the Study: You can stop being in the study at any time for any reason. You can still be in the dance class and learn to dance just the same. If you decide to stop the study, everything you have told the researcher will be thrown out.

Confidentiality: Confidentiality will be provided to the fullest extent possible by law.

We will learn about the dance class in these ways:

- (1) The researcher will take notes and use forms to check off answers on paper
- (2) The researcher will use an audio recorder to tape conversations
- (3) The researcher will have video cameras in the room to record the dance classes. A hand-held camera will be used only if the dancers agree and want to record one of their dances for themselves.
- (4) No real names will be used in this study. The researcher will use codes for the information and will make up fake initials to use when writing the study report. All information will be anonymous, which means that no one will know who was in the study.
- (5) Another researcher may use the information from this study for her own research, but will not have any personal information about the participants; the other researcher will only have the coded information.

Only the researcher will be allowed to keep this information. All the information on paper will be kept locked safely in an office at the university and be saved on computer with a password.

Your consent forms will be stored for two years and then shredded. The information and recordings will also be destroyed by April 30, 2019. All videos are used to help the researcher make notes; it will not be seen by anyone who is not in the dance class.

If the dancers agree to make a video recording of themselves to keep, that will be copied onto a disc for each dancer and the original recording destroyed. This video will only be made if all the dancers agree.

Reimbursement: You will have 10 dance classes of one hour twice a week with snacks and drinks afterward. You may bring a support person with you if you want. After the classes are finished, you will also receive a \$30 gift card. If you decide to stop the study at any time, you will still receive this reward.

Questions About the Research?

Interdisciplinary Studies Office, York University, [REDACTED], phone [REDACTED]
Supervisor: Dr. Joseph DeSouza [REDACTED], phone: [REDACTED]

Manager, Office of Research Ethics, York University, 309 York Lanes, phone 416-736-5914

Legal Rights and Signatures:

I _____, consent to participate in this research study. I have understood the nature of this project and wish to participate. I am not waiving any of my legal rights by signing this form and I understand that I can stop participating at any time. My signature below indicates my consent.

I give permission for the researcher to audio-record interviews and group discussions for the purposes of this study.

I give permission for the researcher to videotape the dance classes for the purposes of this study.

Signature _____
Participant

Date _____

Signature _____
Principal Investigator

Date _____

Appendix D

Our Research Team

Nicole



Nicole Reinders is a PhD candidate in the department of Kinesiology and Physical Education at Wilfrid Laurier University. Her primary research interest is exploring the effects of recreational dance programs for special populations, including young adults with Down Syndrome and children with Autism Spectrum Disorder. She has conducted both qualitative and quantitative research methods, and is currently conducting mixed methods research. Nicole has been a dancer and dance instructor for the majority of her life and hopes that her research will help to make recreational dance classes more accessible to people with additional needs.

Faith



Faith Andrew has been dancing since the age of two. She has passed her Royal Academy of Dance examinations in Grades 3, 6, 7, and 8, as well as the vocational exams of Intermediate Foundations and Intermediate. She has trained in classical ballet, jazz, tap, lyrical, modern, and ballroom dancing. Faith danced competitively for 5 years and won many awards. Faith is also an accomplished singer and actor; she has trained at the Stratford Festival Shakespeare School and has successfully completed their Theatre Performance Intensive course. Dance, music, and theatre have always been Faith's passion and she enjoys sharing her talents in teaching others.

Nathaniel



Nathaniel Andrew is an accomplished pianist who has been providing musical accompaniment for dancers, singers, and actors for the past 7 years. He has passed the Royal Conservatory of Music Grade 7 and 8 Practical examinations and the Grade 1 and 2 Theory examination, and has also successfully completed the Musicians' Mentoring Program at the National Ballet School of Canada. He is a pianist for Guelph Little Theatre, currently rehearsing for their October performance of Gilbert and Sullivan's *The Gondoliers*. Nathaniel also has over 17 years of experience in various forms of dance. He has choreographed for children and adults and teaches piano to all ages. Nathaniel is a recent graduate of Wilfrid Laurier University, where he earned an honours BA in Psychology.

Ruth-Anne



Ruth-Anne Andrew has a BA in Psychology from York University, where she is currently an MA candidate in Interdisciplinary Studies. Her current research integrates the fields of Neuroscience, Critical Disability Studies, and Dance. Ruth-Anne is the co-founder of Dancers with PD, a dance class for people with Parkinson's disease in Cambridge.

Appendix E
Simplified BDI

0	1	2	3
I do not feel sad.	I feel sad much of the time.	I am sad all the time.	I am so sad or unhappy that I can't stand it.
I am not discouraged about my future.	I feel more discouraged about my future than I used to be.	I do not expect things to work out for me.	I feel my future is hopeless and will only get worse.
I do not feel like a failure.	I have failed more than I should have.	As I look back, I see a lot of failures.	I feel I am a total failure as a person.
I get as much pleasure as I ever did from the things I enjoy.	I don't enjoy things as much as I used to.	I get very little pleasure from the things I used to enjoy.	I can't get any pleasure from the things I used to enjoy.
I don't feel particularly guilty.	I feel guilty over many things I have done or should have done.	I feel quite guilty most of the time.	I feel guilty all of the time.
I don't feel I am being punished.	I feel I may be punished.	I expect to be punished.	I feel I am being punished.
I feel the same about myself as ever.	I have lost confidence in myself.	I am disappointed in myself.	I dislike myself.
I don't criticize or blame myself more than usual.	I am critical of myself than I used to be.	I criticize myself for all of my faults.	I blame myself for everything bad that happens.
I don't have any thoughts of killing myself.	I have thoughts of killing myself, but I would not carry them out.	I would like to kill myself.	I would kill myself if I had the chance.

0	1	2	3
I don't cry anymore than I used to.	I cry more than I used to.	I cry over every little thing.	I feel like crying, but I can't.
I am no more restless or wound up than usual.	I feel more restless or wound up than usual.	I am so restless or agitated that it's hard to stay still.	I am so restless or agitated that I have to keep moving or doing something.
I have not lost interest in other people or activities.	I am less interested in other people or things than before.	I have lost most of my interest in other people or things.	It's hard to get interested in anything.
I make decisions about as well as ever.	I find it more difficult to make decisions than usual.	I have much greater difficulty in making decisions than I used to.	I have trouble making any decisions.
I do not feel I am worthless.	I don't consider myself as worthwhile and useful as I used to.	I feel more worthless as compared to other people.	I feel utterly worthless.
I have as much energy as ever.	I have less energy than I used to have.	I don't have enough energy to do very much.	I don't have enough energy to do anything.
I have not experienced any change in my sleeping pattern.	I sleep somewhat more than usual.	I sleep a lot more than usual.	I sleep most of the day.
	I sleep somewhat less than usual.	I sleep a lot less than usual.	I wake up 1-2 hours early and can't get back to sleep.
I am no more irritable than usual.	I am more irritable than usual.	I am much more irritable than usual.	I am irritable all the time.

0	1	2	3
I have not experienced any change in my appetite.	My appetite is somewhat less than usual. My appetite is somewhat greater than usual.	My appetite is much less than before. My appetite is much greater than usual.	I have no appetite at all. I crave food all the time.
I can concentrate as well as ever.	I can't concentrate as well as usual.	It's hard to keep my mind on anything for very long.	I find I can't concentrate on anything.
I am no more tired or fatigued than usual.	I get more tired or fatigued more easily than usual.	I am too tired or fatigued to do a lot of the things I used to do.	I am too tired or fatigued to do most of the things I used to do.
I have not noticed any recent change in my interest in sex.	I am less interested in sex than I used to be.	I am much less interested in sex now.	I have lost interest in sex completely.

Appendix F
Simplified PANAS

Very slightly
or not at all A little Moderately Quite a bit Extremely

Interested					
Distressed					
Excited					
Upset					
Strong					
Guilty					
Scared					
Hostile					
Enthusiastic					
Proud					
Irritable					
Alert					
Ashamed					
Inspired					
Nervous					
Determined					
Attentive					
Jittery					
Active					
Afraid					

Appendix G
Response Options Visual

Slightly
or not at all



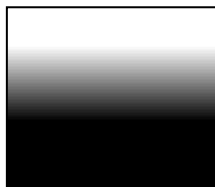
A little



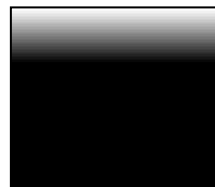
Moderately



Quite a bit



Extremely



Appendix H

WAIVER OF LIABILITY

As dancers, you will be learning the technique of a variety of dance styles. The movements and choreography may be new and challenging; we want you to always dance at your own pace.

I understand I am taking responsibility for my own health and that this program can contribute to my overall health and well-being.

I understand the program provides no medical supervision.

I understand the importance of receiving physician approval for exercising prior to embarking on an exercise program.

I understand there are some risks involved in participating in an exercise program including, but not limited to, injuries to my limbs (such as strains, sprains, and broken bones), fainting, lightheadedness, dizziness, shortness of breath, heat illness, irregular heartbeat, and in rare cases, cardiac arrest, heart attack, or death.

I hereby, for myself, my heir, executors, assigns, and personal representatives, waive and release any and all rights and claims for damages, including any claims arising out of the negligence of the program providers, I now, or may hereafter have, whether now known or unknown, against York University, Wilfrid Laurier University, its employees and agents or any injuries suffered by me in connection with participating in said program. This release and waiver is continuing and effective from August 22nd 2017 to September 22nd 2017.

Name (please print): _____

Signature: _____ Date: _____