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Dance/Movement Therapy As An Intervention In The Treatment of Internet Gaming Disorder

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DANCE/ MOVEMENT THERAPY AS AN INTERVENTION IN THE TREATMENT OF
INTERNET GAMING DISORDER

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Abstract

This paper illuminates how the field of dance movement therapy can expand its reach to different populations in need of kinesthetic empathy. This heuristic review discusses the treatment option of dance/movement therapy for Internet Gaming Disorder (IGD). Dance/movement therapy is unique in the way it addresses the personal unconscious through creative non-verbal communication. Video gaming is a worldwide pastime that is captivating and fun for millions of people although the present concern is when video gaming becomes an uncontrolled behavioral addiction. Dance/movement theorist Trudy Schoop asserted, "It is only through the body that humans experience reality." It is this researcher's opinion that human interaction is a vital necessity to our well-being and cannot be replaced by digital contact through devices we have created to physically separate ourselves from one another. There is currently no literature on the use of dance/movement therapy as a treatment for IGD, thus this thesis explores how video games affect our minds and bodies and proposes that dance/movement therapy can be an effective intervention.

Keywords: internet gaming disorder, digital gaming, video gaming, dance/movement therapy, dance / movement psychotherapy, expressive arts therapy, creative arts therapy, behavioral addiction, neuroimaging, persuasive technology

What is Internet Gaming Disorder?

Internet Gaming Disorder (IGD) or Digital Gaming is one of the newest disorders to be added to the International Classification of Diseases (ICD-11; World Health Organization, 2019). This was foreshadowed in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; American Psychological Association, 2013) listing of IGD as a Condition for Further Study. Experts of different disciplines across different regions of the globe came to the consensus that determined the evidence for the pathological gaming criteria (Gansner, 2019). IGD is listed as an addiction because it meets the criteria set forth in the 'behavioral addiction' category.

Internet Gaming Disorder is characterized by at least 12 months or more of impairment to a gamer's educational, occupational, personal, social, and or family functioning. The disorder is diagnosed when continued priority is given to gaming over prioritizing daily activities, escalation of time-spent in games, or continuation of compulsive gaming despite negative consequences (World Health Organization, 2019).

These are the signs of a behavioral addiction that is destructive to a person's well-being and their future opportunities. Distinguishing what addictive video gaming looks like is challenging for the participants involved. Compulsively playing video games overrides the natural desire for the body to move, exercise, eat well, or sleep adequately, which consequently impairs the physiology of the body. Movement is a needed function of the body. Screen time immobilizes the full functionality of the body. Extensive video gameplay during puberty can result in the lack of muscle development required for strength and vitality. Video gaming's mental preoccupation overtakes a gamer's ability to be aware of the time spent playing, see value

in other achievements, or improve upon weaknesses. Video game developers exploit aspects of human psychology that persuade players to continue to play to an unhealthy level. (Kardefelt-Winther, 2017)

Technology corporations are using 'persuasive technology' in the creation of games currently on the market. Persuasive technology is designed to alter the behaviors and attitudes of the users through persuasion, but not through coercion. The persuasive tech/design model, which incorporates basic human drives such as making social connections is translated into gaming to obtain goals, win points, and level up in the digital environment of games. (Freed, 2018). The effect persuasive design has built into video games compels users to spend their time in for profit domains instead of attending to real world situations. Children and adolescent's hearts and minds are captured by the design of games that access their particular vulnerabilities which in turn can be used to control their behavior as consumers (Freed, 2018).

Behavior is not necessarily voluntary when games are so skillfully designed to keep us playing. Vulnerable gamers are not aware of the destructive merge between psychology and technology that predicts the consequence of their pathological gaming habits. They are unaware of the immense amount of financial and psychological firepower aimed at keeping them endlessly playing video games (Freed, 2015). Tristan Harris, formerly a design ethicist at Google, has stated, "The job of these companies is to hook people, and they do that by hijacking our psychological vulnerabilities" (Freed, 2018). Psychotherapy treatment is needed to counteract the effects of persuasive design built into games that negatively entrap gamer's minds.

A Brief History of Video Gaming

According to Walsh and Greenagel (2019), internet gaming has had a worldwide interest since its inception. Gaming entered the US market with the creation of the console entering

American homes in the 1970s. By the 1980s, the market was flooded with only subpar games that consumers lost interest in and the industry faded out. The revival happened when Nintendo launched its NES console in 1983 with the game Super Mario Brothers. Other companies followed (e.g., Sega with the Sega Genesis, Sony with the Playstation, and Microsoft's Xbox), reestablishing the interest in the American gaming public during the 1990s (Walsh and Greenagel, 2019).

Physical interaction was introduced with the motion control Nintendo Wii launch in 2006 that got players moving while playing (Walsh and Greenagel, 2019). The Wii's popularity was enhanced by reports in 2005 from the National Center for Health Statistics at the CDC that obesity was on the rise in America and 39.6% of Americans' BMI was 30% greater than optimal. Increase in obesity rates among adults is currently calculated in different parts of the US showing rates vary. (NCHS Data Brief 2018). The Wii games only suited the appeal of a certain demographic and did not address broader gaming interests that needed more still concentration. Additionally, there are ea.com games for sports such as FIFA soccer, which appeals to kids who play such games in real life. Currently, there are 50 different game developers headquartered in many countries, including the US, Canada, Japan, South Korea, and Sweden. Recent research illustrates that gamers include every socioeconomic status, ethnicity, and generation (Walsh and Greenagel, 2019).

Currently, South Korea, China, and Japan are the leaders in game development and the main exporters to the rest of the globe. The rapid growth of the industry has expanded the appeal of gaming such that in 2016 the gaming industry generated three times as much revenue as the film industry's box office sales and four times as much as the music industry. Furthermore, a 2018 survey claimed 66% of Americans over the age of 13 identified as gamers (Walsh &

Greenagel, 2019). Additionally, the video game market is worth over $90 billion in 2020. This profitability acceleration, along with the COVID-19 pandemic keeping so many people isolated at home, suggests that video gaming will continue to attract many more participants. Influencers can be sought out by players on YouTube, Twitch, Discord, and Reddit who rate and promote new games and preview playing them. Watching these gaming personalities online becomes part of the gaming experience. There are more than 30 popular gaming influencers with millions of subscribers (Walsh and Greenagel, 2019).

Impacts of Video Gaming on the Brain

Does screen time overuse restructure our brains? A systematic review of 116 scientific studies aimed to observe whether any trends had emerged with regard to how video games impact the structure and activity of the brain. A total of 22 of the reviewed studies explored structural changes in the brain and 100 studies analyzed changes in brain functionality and behavior. (Palaus, Viejo-Sobera, Redolar-Ripoli, Marron, 2017) The studies show that video game players display improvements in sustained attention and selective attention. Furthermore, the regions of the brain that play a role in attention are more efficient in gamers compared with non-gamers, and they require less activation to stay focused on demanding tasks. However, in gaming addicts, there are functional and structural alterations in the neural reward system, a group of structures associated with feeling pleasure, learning, and motivation. Exposing video game addicts to game-related cues that cause cravings, and monitoring their brain responses, highlighted these changes - changes that are also seen in other addictive disorders. (Palaus, Viejo-Sobera, Redolar-Ripoli, Marron, 2020)

Neuroscientific studies are using neuroimaging of brain scans that show changes in a problematic gamer's brain activity and structure which involves the motivation, reward, memory,

and cognitive control regions of the brain. (Kuss, 2013). The compulsion to engage in the habitual behavior alters the activity in the dorsal striatum. This happens when it is flooded with dopaminergic innervation while interacting in high-intensity games. The longer the engagement in high-intensity games the more permanent the changes in the brain become. (Kuss, 2013). While understanding of the human brain is limited, many studies have shown the damaging effects technology has on brain cells that closely mirror the effects of drug addiction.

Although game designers research data stands behind game interaction as an activity that helps people sharpen their reasoning and decision-making skills, they are not acknowledging the compulsion to continue gaming that addicts experience. The hormone dopamine that functions as a neurotransmitter is released at the arousal stage activated by gaming and, over time, reduces brain neuron receptibility. Neuroimaging studies of compulsive gamers show increased activity in the same regions of the brain as substance abuse users (Gansner, 2019).

Embracing both the positive and negative effects of gaming encourages understanding of more complex research. Additionally, these studies showed that cognitive function is better enhanced by aerobic activity of the heart rather than mental activities. Physical fitness is the optimal choice for sustaining positive effects on cognition, brain function, and structure. Physical exercise and mind-body connection is lost when a gamer becomes addicted to the screen and lives the majority of their life in a virtual world. Regardless of the parental, educational, societal, or governmental concerns about the problems with excessive gaming, it continues to dominate the interest of a vast number of citizens worldwide (King, 2018).

In a study of more than 1300 adult video gamers (age 18 to 43), Przybylski and colleagues at the University of Rochester (2014) found that a small percentage of gamers, who played many hours per day, described themselves as obsessively engaged--they felt that they did not just 'want' to play, but 'needed' to play. These players, when they stopped a session of playing, did not feel refreshed and energized as

other players did, but felt tense and unhappy. This study also revealed that these 'obsessed' players were, in general, those whose basic psychological needs--their needs for freedom, competence, and social relationships--were not being met in real life (Gray, 2012). What happens to our minds when we devote a significant amount of time to video gaming? Stickgold (2019) discovered that people who played the puzzle game Tetris for seven-hours over a period of three days experienced hallucinatory replay of the game activity as they fell asleep (Stickgold, 2019). This study demonstrates that the effects of hours of video gameplay dominates areas of the brain that learn from repeated exposure to information and pulls focus away from remembering other information, much like a song that is repeatedly listened to comes to mind when a person is trying to recall something else. Bowen-Jones (2020) also argues that changes in the brain due to addiction to games are similar to changes due to addiction to drugs and alcohol.

Video Gaming Impacts on the Body

The World Health Organization (2019) reports that one in four adults are not moving enough to maintain a healthy body. One hour of intense exercise does not override the other hours of the day spent sitting. The body's metabolic markers show negative effects if inactivity is counteracted with only an hour of activity per day (Leech, 2019). Furthermore, physical engagement in daily activities governs the overall health of the body. Movement throughout waking hours establishes mental alertness and presence of mind in action.

The time invested in video gaming constricts the body while the mind is racing through a maze of events that brings tension into the seated body. When sitting for long periods of time, a gamer's body is in a compromised position, which affects circulation and overall health. The most prominent symptoms of immobility due to extended video gameplay are sleep deprivation,

migraines, carpal tunnel syndrome, back pain, eating irregularities, eye strain, malnutrition or weight gain, hemorrhoids, and neglect of personal hygiene (Doan, 2012).

Players are accustomed to staying stationary for hours in a chair while playing with intense focus in this state which is harmful to the gamer's overall health. Doan (2012) reports that in his 50 to 100 hours a week playing throughout his medical school training, he developed high blood pressure because of the adrenaline rush of gaming with carpal tunnel syndrome, and hemorrhoids. He also reports falling asleep at the wheel while driving many times because of his constant state of sleep deprivation. Doan (2012) claims that people addicted to gaming and still functioning as students or workers trade sleep for gaming until they can no longer make that trade-off (Doan, 2012). Game researchers who study the effects of screen time on our brains are not, as of yet, researching how video games affect the body in its entirety. Much could be learned if tests to see what happens to the rest of our bodies while sitting for hours could be conducted specifically on gamers. Osteopathic sports medicine physicians and complementary medical professionals, such as massage therapists, chiropractors, and acupuncturists treat gaming clients who come to them to counteract their weakened musculature and hand and arm injuries from time spent gaming. These professionals are involved with developing strategies to help gamers, specifically Esport competitors, on how to cope physically with the intensity of game competition(New York Institute of Technology, 2019; Esports Healthcare, 2020). Because of the rising patient population of video gaming sports, the Cleveland Clinic has recently developed an Esport Medical program incorporated into their Sports Medicine department that addresses overuse injuries such as eye fatigue and stress levels of these competitive players (Cleveland Clinic, 2019).

Some Positive Effects of Video Gaming

The United States Department of Veteran Affairs promotes virtual reality use in Veterans Administration hospitals as a distraction therapy treatment for post-operative pain management for their patients. While this advancement in military pain management is a beneficial relief for injured vets, it raises the question of what effect this digital drug is having on the brains of seven to fourteen-year-olds ingesting similar games into their nervous systems (Kardaras, 2016). If virtual reality has been asserted to be a more powerful drug than morphine in managing pain, it also demonstrates the power it has on the most vulnerable or susceptible to addiction. The mental health impact of time spent on video gaming depends on the player.

Problematic Video Gaming

A video gaming habit only becomes a problem in an individual's life when the amount of time invested in gaming becomes extreme. When a person who plays games is controlled by their gaming habit such that they lose the self-control needed to stop then this level demonstrates a problem. The most studied demographic of gamers are adolescent males who appear to be the most attracted to gaming and susceptible to the lure of incessant competitive play. The criteria in determining Internet Gaming Disorder is impaired control over gaming and the significant negative consequences of persistent uncontrolled use of games (King & Delfabbro, 2018).

When a player is immersed in playing online games, it starts as a fun activity that through their competitive nature drives a game player to practice longer and longer to get better at beating the game or other online opponents. The path to addiction is established by how an individual uses gaming to fill a void, escape a circumstance beyond their control or avoid real-life problems in favor of virtual interactions online. A casual player finds social interaction with

friends through gaming, yet as these friends put more and more time into playing, the competitive drive takes hold to keep up with the most active players in the group. Gamers say there comes a point where a player has to decide if they are going to become a passionate, hardcore gamer to stay in or get out. This dynamic of commitment to gaming relates to how badly the player wants to remain in the group. Adolescent brains are particularly at risk because they are not equipped to determine their vulnerabilities of habits being established that lead to problem gaming (Gentiles, 2009).

Effect on Adolescents

Adolescence is a particularly vulnerable time for the acquisition of addiction disorders, including gaming (Stubblefield, et al., 2017). Video gameplay is different from other pastimes as game designers have learned how to tap into brain sensory receptors to make games compelling (Begley, 2017). Video gaming statistics in 2019 claim there were more than 2.5 billion video game players worldwide. (WePC, 2019) Youth between 18-24 make the most game purchases in the US. Because of game popularity, the number of video game players are predicted to keep increasing, especially among the world's youth.

Door (2011) claimed that video games may not be for everyone, but they appeal to more people than anything else. More recent surveys show, in contrast to the stereotype gamer as a socially awkward reclusive male, that game players are college students, employed individuals, socially connected people with intact attached family relationships. Although 57% of gamers are calculated to be under 36 years of age, studies estimate that, in 2018, 43% of those game players were female (Walsh & Greenagle, 2019).

Gentile (2009) examined the video game habits of 1, 200 youths from age eight to eighteen and found that approximately 8% of participants exhibited pathological gaming

tendencies (Gentile, 2009). The explosion of the 2017 game Fortnite Battle Royal brought to the forefront American parents' concerns about the compulsory behavior displayed primarily by their school-aged sons in this particular game. Comparing recent international studies, the number of gamers who are susceptible to IGD remains between eight and 10%. Gaming can run along the continuum of healthy to hazardous, with many casual gaming enthusiasts who do not meet the IGD criteria of impaired control, feeling stigmatized by such diagnoses while others are clearly needing help (Walsh, and Greenagle, 2019). Addicted gamers are more anxious and depressed and exhibit poorer impulse control and decreases in cognitive functioning (Walsh and Greenagle, 2019).

APA Standards of Care

Freed (2018) argues that the American Psychology Association (APA) should take more responsibility in raising awareness with parents and schools of the tech industry's psychological manipulation of children and adolescents through gaming. He recommends the APA follow its Ethical Standards by making strong efforts to correct the misuse of psychological persuasion by the tech industry by following its own code to protect children and adolescents because of their developmental vulnerabilities. They further suggest the APA join the tech industry in developing regulations in video games recommending the APA demand the tech industry's behavioral manipulation techniques be exposed to public awareness. According to Freed, the APA needs to take a stronger stance to educate parents, schools, and fellow child advocates about the harm of kids' overuse of digital devices (Freed, 2018).

The Role of Comorbidity

A major contributing factor for Internet Gaming Disorder is comorbidity with other psychological disorders. Combined with an existing psychiatric illness, IGD can contribute to

more negative impacts on the excessive gamer. Gamers with additional psychiatric diagnoses such as Asperger's, anxiety, depression, or ADHD, run a greater risk of developing IGD (Wang, Cho, & Kim 2018).

Autism and Aspergers

There are no definitive statistics on the prevalence of gaming among autistic *adults*, but it has been found that 41.4% of children and adolescents with autism spend the majority of their free time playing video games versus 18% of youths in the general population (Mazurek, Shattuck, Wagner, & Cooper, 2013). These numbers underscore the importance of taking a look at the amount of time spent on video games by gamers with autism, paying close attention to signs of addiction. High functioning individuals on the autistic spectrum appreciate the autonomy of internet use and the engagement of video games where their differences from neurotypical kids are not detected as in their day-to-day encounters are in the exterior world (Mazurek, 2013). Although children with autism are vulnerable to excessive use of games for the aforementioned reasons there could be some value to video game use without creating a dependency. High levels of monitoring will be necessary for youth with Autism and Asperger's.

Attention Deficit Hyperactivity Disorder

IGD has also been found to be comorbid with the condition of Attention Deficit Hyperactivity Disorder (ADHD). People who are diagnosed with ADHD have executive functioning immaturity, meaning they lag behind in processing speed and impulse control by approximately two to three years from their peers in adolescence. This can contribute to a strong connection to games. Gamers with this disorder become fixated on solving the puzzle, getting to the next level, winning a particular round, or finishing a creative build, as in a game like Mindcraft, before they can stop playing. Individuals with ADHD manage multi challenging

stimuli in games very well, which makes the thrill of gaming something difficult for them to resist. Gaming has the properties to hold the attention of a person with ADHD because of the fast pass concentration it demands. Of course, other activities are sufficiently compelling to hold a person with ADHD, such as learning to read music and adapting that to playing an instrument or learning a dance phrase.

Anxiety Disorders

People suffering from anxiety use the distraction of gaming to help them take their minds off of what makes them feel anxious. Additionally, many people suffering from anxiety can have difficulties with social interaction. Both of these symptoms come under the heading of 'worry' which is the feeling created by anxiety. While using games to alleviate anxiety another situation can be activated, that of fear that other players are advancing when they are not playing, fostering the anxious feeling that they are falling behind in their game of choice. If they are not ranking up as fast as others, concern accumulates over losing ground in the competition. The worry may be expressed in a feeling that if they play less then they will not be able to keep up or be part of the online group anymore. The remedy of playing video games to distract the person with anxiety creates another anxiety within the competition of gaming. Slower-paced games tend to be sought after for calming anxiety, yet they can become equally as engrossing as a fast-paced game (King & Delfabbro, 2018).

Depression

Virtual social worlds such as role-playing games have the dual ability to boost a player's self-esteem and allow a gamer to create their own persona. A virtual world game is an attractive lure for those who are excluded from real-life peer circles because of mental or physical illness

or social awkwardness that can lead to feelings of depression. The world they are accepted in is the fantasy world created in a role-playing game. Additionally, abusive home life situations can also make online gaming an escape to avoid their depressed feelings. Being connected to an online world is related to a sense of belonging and can be a self-determining confidence builder (Burleigh, Stavropoulos, Liew, Adams & Griffiths, 2018). The problem with this type of escape is that it doesn't fix real-life situations.

In attempting to help individuals by removing their access to video games, parents or even therapy programs could make the gamer feel lost and more depressed by abruptly taking all access to gaming away without replacing it with an equally connecting activity. If an individual is using video games as a coping mechanism, removing the games could worsen their depression if it is not replaced with a healthier outlet or another means in which to connect with others. Many studies have shown that those people struggling with depression use gaming as an avoidant behavior or a coping mechanism (Doan, 2012).

When a person has another comorbid psychological disorder, it is necessary to determine if gaming is a remedy or a distraction to enable avoidance. Monitoring games' ability to be a coping strategy without allowing it to become an additional issue for those with an underlying condition is a matter of achieving balance through awareness, discipline, and restriction from caregivers (Doan, 2012).

Internet Gaming Disorder is a Worldwide Concern

Gentile's (2009) finding that 8% of gamers demonstrate pathological gaming tendencies could mean that, in 2020, over 160 million people that currently play games could potentially be afflicted with IGD. No wonder IGD has become a concern in Asian countries such as South

Korea, China, and Vietnam, where, since 2003, the intrigue with gaming in these countries has increased exponentially. The region's government's observed that more than 10% of their male youth between 10-19 years of age were qualifying as having IGD. This was viewed as a public health issue serious enough to develop treatment centers and create internet time restrictions to tackle the problem (Kardaras, 2016).

Japan has demonstrated significant innovation in gaming, but has been the slowest to acknowledge the potential addictiveness of gaming (Tras, 2019). The most popular way to play in Japan is in video game cafes where gamers play up to 12 hours a day. The measures most often taken to curb the amount of time their youth are gaming is to recommend they stop gaming completely. This measure is not working successfully. In Japan, it is reported by doctors and clinicians treating young men, who spend hours in gaming cafes, that young gamers are having problems associated with inactivity and symptoms which are associated with addiction. They have reported seeing weight loss, increased nicotine use, and malnutrition in the youth who frequent these cafes. Likewise, signs of prioritizing gaming resulting in functional impairment in school performance and attendance. (Tras, 2019)

Tras (2019) finds one of our basic human needs in our association is connection to family and community. Tras (2019) notes that a sense of loneliness is experienced by people whose social contact is not met and this manifests in a deep sense of inadequacy. The connection between game dependency and loneliness is strong in adolescence. It has been determined that addiction to games increased the adolescent's sense of loneliness even though they are interacting with others virtually (Tras, 2019). Human interaction is a vital necessity to our well-being and cannot be replaced by digital contact through devices we have created to separate ourselves from one another. This recognition has been illuminated for everyone isolating at home

throughout the COVID-19 pandemic. Virtual contact with doctors, friends, and loved ones omits the healing components of touch and limits our capacity to truly see and be seen by another person. Returning to safe in-person care is the challenge of our time. Meanwhile, many more hours are added to gamers lives when other activities have stopped (Kardefelt-Winther, 2017).

Treatments for Internet Gaming Disorder

Since IGD is a newly recognized disorder, treatments are in the innovation stages. Dong and Potenza (2014) propose that the Cognitive-Behavioral Model (CBT), which has been used to help other addictive disorders, might be useful in treating IGD. CBT is a psychotherapeutic approach that explores patterns that direct a person's thoughts and behavior to help develop new strategies to incorporate into the individual's daily life (https://americanaddictioncenters.org/). Dance Movement Therapy is embodied psychotherapy that involves creative imagination, emotional self-discovery in a group or individual format that promotes the recovery process of addition. For the same reason that motivational drives contribute to IGD and diminish cognitive control over those drives, effective therapy can be used to assist in developing self-acceptance and self-control over decision-making in the persistent engagement in Internet game-playing of IGD. Dance/movement therapy can be used in collaboration with CBT to expand the treatment model of IGD interventions.

China and Korea have approached this disorder by opening what they refer to as internet fasting camps as treatment solutions. This kind of forced abstinence has not been met with complete cooperation with young Chinese and Korean adolescents (Walsh & Greenagel, 2019). Gaming is a habitual pattern of behavior that becomes an escape to avoid participating in the parts of life that aren't fun in comparison to gaming. Dunckley (2016) recommends a four-week

abstention of any screen interaction to begin treatment of IGD. Dunckley (2016) also asserts that this month of no screen time is important as a preventative measure to anyone showing tendencies of becoming addicted to gaming or social media (Dunckley, 2016). These measures can be taken by parents observing the accelerating increase in gaming. During a complete break from screens is when DMT could be introduced as an effective intervention in helping the child, adolescent, or adult, supplement their time away from the screen by becoming reacquainted with the way their body moves and how it feels to connect to that awareness.

Dance/movement therapy has been used as a treatment with other addictive disorders and could be applicable in treating IGD. Brown (2009) used dance/movement therapy in a methadone maintenance program and found that DMT lessened the participant's interest in drug use (Brown, 2009). Another danger for a gamer suffering from IGD is that even when they are not actively playing, their minds can still be preoccupied and fixated on strategizing how to win the next game they will play. This mental distraction inhibits the gamer from accomplishing other work effectively. Dance/movement therapy may be able to dissuade the preoccupation of reality-based games with the creative interplay of engaging with other gamers in dance/movement sessions. Face to face interaction with like-minded people trying to overcome the same diagnosis of a behavioral disorder together in the group format can only be beneficial. To feel understood by fellow participants could be motivational in conquering an addiction recognized as defeating to the progress of their lives.

Purpose and Benefits of Dance/Movement Therapy Intervention

Dance/movement therapy can be a positive means of breaking the cycle of compulsive gaming with techniques developed specifically designed for the gamer. By bringing a group of game players together into a relatable experience, expressed through movement, they can share

social integration of like-minded people in a real-life setting. Learning how to interact together face to face, instead of hiding behind screens and through avatars, gives these isolated gamers real human connections and a chance to practice social skills. Dance/movement therapists, along with other psychotherapists, can help individuals discover what will help them disengage from screens to better integrate into the world around them.

One of the key components to what is missing in a gamer's life is physical movement, so it stands to reason that the psychotherapeutic use of movement that dance/movement therapy provides would help to return a pathological gamer back to a homeostatic relationship with his/her body and mind. Dance/movement therapy could be applied to IGD in conjunction with other talk therapies such as Cognitive Behavioral Therapy (CBT). A combination of therapies which incorporates the mind and body in overcoming an addiction may have a better success rate than one single approach. Achievable adjustments in movement into a game player's daily life can be advised through a dance movement therapist educating the gamer about the value of movement integration into their daily life. Dance/movement therapists can teach players during dance/movement sessions to take regular breaks to stand and express the challenge won or lost to help the gamer reconnect to their physical self. Dance/movement therapy can be instructional in self-monitoring, self awareness and self-discipline which can bring a more balanced satisfaction to IGD clients acclimating to less gaming. Furthermore, Raskey (2014) argued in her study that women receiving ADD treatment services may be better equipped to walk the course of recovery with higher self-esteem. Her findings suggested that dance/movement therapy has a positive effect on increasing self-esteem. Many gamers use games to boost their self-esteem. Yet if gaming confidence doesn't transfer from the world of gaming into real-life circumstances, then it

is left in the virtual experience. In order to give up a behavioral addiction, the positive feeling found in that addiction needs to be replaced by the experience of a healthier activity.

Dance/movement therapy introduces the gamer's body into a process of imaginative play that is grounded in reality and human interaction. Dance/movement therapy can be designed to meet clinical goals and objectives for gamers by showing them how to disengage from their devices while still involving the spirit of play. Nonverbal interaction with an IGD client and a therapist is unique to dance/movement therapy. Dance/movement therapy unifies the mind, body, and spirit in full engagement for a more effective understanding of ourselves.

Trudy Schoop, one of the early theorists in dance/movement therapy stated, "Mind and Body are in constant reciprocal interaction, so that whatever the inner self experiences realizes the body and whatever the body experiences influences the inner self" (Lewis,1986, p. 46). During gameplay, the mind disassociates from the body to connect to the avatar being controlled on the screen. Identifying with an avatar disconnects a player from engaging their actual physical body. Dance/movement therapy reconnects a person to the experience of living in and through their whole body bringing awareness to the whole of the self. Dance/movement therapy supports the emotional, intellectual, and motor function of the body. Even the gamer who is physically impaired can benefit from engaging in the concepts of dance/ movement therapy to discover they do not need to only live through a digital re-enactment of life to feel vital.

When a gamer disengages from their screen, the internal feeling of fight or flight and the hormone release of dopamine are no longer locked in the brain and the nervous system. A dance/movement therapist can teach the gamer to release their held tension into a healthier physical expression. This improvement in the ability to disengage from a mentally absorbing

video game is one way dance/movement therapy can have a positive effect on a gamer afflicted with IGD.

In a group format, the participants can observe the similar challenges of trying new interactions together. Expressing ourselves through movement can be both difficult and freeing in a nonjudgmental space that becomes familiar to its members over time. A dance/movement therapist would adapt their facilitation of sessions to how the gamers respond to this form of therapy. Through observation and discussion with the participants, the dance/movement therapist designs what the group needs collectively and individually. Dance is a human expression used as a healing vehicle in tribal ritual ceremonies and community celebrations throughout human history. Dance has been a generational connector that taps into our "rhythmic body action" (Lewis, 1986) at any age. Dance has the power to transform a shutdown, restrained or inactive body into an open body of kinesthetic awareness that helps us discover our deeper selves or higher state of consciousness.

Game players with IGD may find themselves available to this type of psychotherapy more readily than other forms of treatment because intense gamers may prefer non-verbal expression to verbal processing for the simple reason of not having to defend why they game. Connecting through gestures and movement with other participants can be easier than finding something to say with a new group of people. At first, gamers may only be able to talk to each other about games, whereas experiencing ways of communicating through movement brings new discoveries about themselves and interactions that are enriching. Dance/movement therapy can also address the feeling of aggression created by the actions of a first-person shooter (FPS) video game or why an individual is drawn to this style of game. Safe ways of expressing aggression can be led by a dance/movement therapist.

Since video games are not designed with stop gaps in them, such as commercial breaks in TV shows, the idea of setting screen time shutdowns at pause points in a game, like an intermission in a theatrical play, is necessary for game disengagement. During this pause point, the gamer could be trained by a dance/movement therapy in an individual one on one session, to take the rush of the game's excitement into their whole body, acting out the character they were mentally playing and unabashedly embodying that persona. Processing feelings created by a game experience with a dance/movement therapist's guidance could be an insightful experience. It could lead to answering why the gamer gets stuck playing 200 hours of a particular game. What attracts them to one style of game versus another? What does it say about their views of themselves, the environment they live in, or what their hopes and dreams are for their future? Disconnecting from the digital world to embody the movement of the game's character brings the physical expression into the gamer's whole being. This may sound appealing in its application of dance/movement therapy to a gamer because it allows the gamer to experience more satisfaction from playing with the added enhancement of movement not provided by the video game itself. This is how movement can be relatable and therapeutic. Attuning to the experience the gamer is having, the dance/movement therapist explores with the individual how this disconnection from the console or handheld device was experienced by the gamer.

Group dance/movement therapy sessions could also be helpful as Alcoholic Anonymous (AA) group meetings are valuable to people suffering from alcohol addiction. Gamers supporting one another by coming together in movement therapy sessions on a once a week basis would be ongoing management of IGD. Imaginative play provides a creative outlet that is one of the components of role-playing video games. If that can be translated from the virtual experience to a real physical manifestation through dance/movement therapy sessions, the need for escaping

into games for such expression could lessen. On the other hand, gamers who turn to gaming for relaxation and then lose sleep because they become locked into the transfixing imagery on their screen can also benefit from incorporating movement to help with their stress levels that may have them seeking gaming.

<h3 style="text-align:center">**Structuring a Dance/Movement Therapy Group for IGD Participants**</h3>

My recommendations for a dance/movement therapy session with Internet Gaming Disorder clients would be to limit a group of no more than twelve participants that could commit to coming to a 90-minute session, once a week for twelve weeks for the group to develop social skills and relationships, build trust in the dance/movement therapist as a facilitator and the other group members. The group would come together to create purposeful goals, discuss why gaming holds their attention so firmly and how to explore other types of screen free games that are satisfying. The group would learn how to share and support one another with strategies that encourage suspending video games dominance in their lives. The dance/movement therapist could help guide the group to explore how and why the choice to disengage from video gaming would be a healthy choice for their self-development and futures.

The dance/movement therapist could encourage members to create non-verbal physical games as a means of communication. The group could help support each other during their time away from video gaming and jointly come up with ideas to fill that time with other engaging activities. The creative process of planning what to do with the time they have that gaming formerly took up could be an ongoing topic. The sessions would encourage members to discover how to express themselves through movement, incorporate other interests into their lives, explore what self-care looks like at home, and design self-discipline habits collaboratively. The session might be most helpful to non-mentored youth or less advantaged socio-economically youth, who

have less access to one-on-one therapy opportunities, foreseeing dance/movement therapy sessions held in community centers to be beneficial.

Sessions could consist of keeping balloons aloft or tossing balls to one another which brings unconscious involuntary activity to start interaction among the participants. Once engagement has been established, the session could progress to non-verbal communication through rhythm-based movement play. The facilitator can start stomping around the room, listening to see who joins in and see if others change the rhythm, follow new rhythms introduced by another group member or keep with their own. Using music can be an important component to engage participants. Placing group members in a circle where the facilitator can pass a movement suggestion to each member of the group to express their individual interpretation of movement is a standard technique in dance/movement therapy sessions. Observing who is making connections in the group, the dance/movement therapist could pair participants into dyads for mirroring one another's movements. This may be a relatable skill developed in gaming to anticipate opponent's moves. Closing sessions with breathing techniques shifts consciousness into the felt body through the simple awareness of the movement of breath. Together the group is developing empathy, social, and physical interactive play skills with one another. Connecting with fellow gamers in real-life sessions can be a challenge for individuals who have grown accustomed to only relating to people through screens. Rebuilding human connections is another goal of dance/movement therapy sessions.

The dance/movement therapy sessions would have more impact if the dance/movement therapist asked that a pledge was voluntarily taken by each member for the duration of the treatment period that video gaming was suspended entirely for the first month. Then a trial of gaming added into weekends for a limit of two hours per day with only the participants in the

group playing together from their respective homes. Eventually, the goal would be to see if video game play could be reintroduced with appropriate time restrictions applied, through the participants understanding, of when games fit into their lives. A hard stop time must be put in place before any video game play begins. The IGD participants may never be able to return to playing with unrestricted gamers who they formerly played with because of the risk of relapsing into the same behavioral addiction.

Conclusion

What circumstances make a person introduced to gaming more vulnerable to addiction than another person? This question concerning this newly recognized disorder needs a greater examination in the scientific community in large scale research studies. Recommendations for further comparative studies to other addictions should be conducted to have better information on how to treat Internet Gaming Disorder and understand its course of development. Applying the appropriate therapeutic treatment, at the right time, to make a positive difference in a gamer's wellbeing, will be a trial and error process. Dance/movement therapy is an in-person, whole-body analysis of a client's interaction capabilities. It is the group interaction with other gamers that will establish the human connection that they have been missing or avoiding in the retreat into digital worlds. This researcher believes the recognition, willingness, and desire for in-person contact begins in a group where the entrenched gamers overcome fears of in-person engagement developing their social capacity to relate to one another.

Additionally, the skill of a dance movement therapist who establishes trust in the game player to experience new methods of interaction demonstrates a safe guide to rewarding person to person contact. Dance/movement therapists are particularly skilled in observing the whole

person in how and why they move towards or away from engagement with others. They are trained to attune themselves to their clients with a keen eye for seeing emotional connections in the movement a client is making. Their sensitivity in re-establishing healthy human contact is an important feature of dance/movement therapy.

During the writing and compiling of information for this thesis, the COVID-19 virus began to spread across the globe. The isolation of quarantine and mandated practice of "social distancing" may exacerbate the tendency to retreat into the virtual worlds of online gaming, especially for those already indoctrinated into this digital existence. Personal fear, combined with pandemic fear of human contact, can serve to bolster isolation. This is a psychologically unhealthy combination of events. Gaming has and will continue to increase because games are at the core of our current entertainment interaction today.

Discovering access to our bodies and how we feel about ourselves in relationship to others is a process of healing. Sometimes this healing is needed from prior traumatic or deeply negative experiences. The right treatment leads us into being present in the here and now. Dance/movement therapy is a process, a guided path to recognizing what is needed for our personal growth. Progress in overcoming blocks that have been used consciously or unconsciously in the past for self-protection can be re-evaluated through dance/movement therapy sessions. Although virtual therapy sessions are how therapists are working with clients during the COVID-19 pandemic, a virtual therapy session may be counterproductive for video game addicted clients who already spend the majority of their day on screens. Further experimental group sessions will determine the right approach to dance/movement therapy as an effective strategy for overcoming Internet Gaming Disorder.

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