

Art Therapy Interventions for Individuals with Down Syndrome

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Submitted to the faculty of the University Graduate School

in partial fulfillment of the requirements for the degree

Master of Art in Art Therapy

in the Herron School of Art and Design

Indiana University

May 2015

Art Therapy Interventions for Working with People who have Down syndrome

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Master of Arts

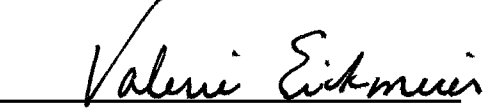
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Accepted: May 2015


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May 3, 2015

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Abstract

This study was an integrative literature review exploring the research published on art therapy interventions with individuals with Down syndrome. In order to expand the collected resources, secondary sources and expanded search terms, such as developmental disabilities and intellectual disability, were used for gathering more data to support this study. Three important outcomes were categorized: 1) Intellectual and communicative difficulties are present; 2) Developmental and behavioral art therapy approaches and haptic art materials are particularly suitable for working with developmentally impaired people; 3) Facilitating personal expression, improving social skills, enhancing self-esteem, and fostering cognitive development are four therapeutic goals for this population. Based on these outcomes and the analyses of the collected data, an art therapy treatment plan for people diagnosed with Down syndrome was generated. The limitations and recommendations were also discussed.

Keywords: Art therapy, art intervention, Down syndrome, developmental disabilities

Dedication

This thesis is dedicated to my mother, who inspires me to work with people who have special needs, and my father, who constantly supports me in various ways. I would also like to especially thank my mentor and friends who continuously encouraged me during this process.

Acknowledgements

I sincerely give thanks to Juliet King, Eileen Misluk, and Michelle Itczak for your continuous support, guidance, and reassurance. Every encouragement from you inspired and sustained me to complete this whole journey.

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CHAPTER I:

INTRODUCTION

Down syndrome (DS) is a congenital disorder which occurs when a person has a full or partial extra copy of chromosome 21 (Herron-Foster & Bustos, 2014). People diagnosed with DS have a range of physical difficulties and developmental delays in language, interpersonal skills, cognitive skills, self-esteem, and intellectual ability (Rogers, 2005; Sherman, Allen, Bean, & Freeman, 2007; Jackson, Cavenagh, & Clibbens, 2014). Many people with DS feel as though they have limited control in their lives, and little chance for their voices to be heard (Lister, Snow, & D'Amico, 2009). Approximately one in six children were identified with developmental delays in the United States from 2006 to 2008 (Boyle et al., 2011). The estimated number of people born with DS was one in 691 in the United States from 2004 to 2006 (Parker et al., 2010). The growing population with DS has heightened the need for various supportive interventions (Herron-Foster & Bustos, 2014) which consider non-verbal strategies that bypass the challenges that people with DS might have with communication.

According to Got and Cheng (2008), engaging in the art making process encouraged people with developmental disabilities to improve in several social and cognitive areas which might allow for a release of negative emotions in a more socially acceptable way. The opportunity to express themselves non-verbally and the sense of control afforded throughout the creative process was beneficial for this population. Art making might help people with DS to express their identity, emotions, and thinking through appropriate process and media, especially if promoted in the context of the therapeutic relationship such as in art therapy.

Art therapy, a medical and mental healthcare profession, integrates art and psychotherapy to help clients engage in the creative process to improve and enhance the physical,

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psychological, and the emotional well-being of individuals of all ages (American Art Therapy Association, 2013). Compared with other mental health professions, art therapy has several unique advantages for clients such as helping them to express feelings, decrease defenses, release physical energy, and enhance self-esteem (Wadeson, 2010). Though art therapy may meet the mental and emotional needs of people with DS, research is limited with this population, as are resources on the use of art materials to inform intervention strategies when working with people that have DS.

Because DS is considered a developmental disability, an exploration of people with developmental disabilities was also included to provide further support for art therapy approaches and goals (Fidler, Most, Philofsky, 2009; American Psychiatric Association, 2013). Common characteristics of DS include intellectual disability, linguistic deficiency, and other impairments in personal, social, and occupational functioning, which are associated with developmental deficits (American Psychiatric Association, 2013). Addressing all of the symptomatology of developmental disabilities was beyond the scope of this research; therefore, this research focused on looking at the symptoms of DS. Physical characteristics and intellectual disability are two distinctive characteristics of DS (Cunningham and Glenn, 2004), and a range of physical difficulties and developmental delays are also common for people diagnosed with DS (Sherman, Allen, Bean, & Freeman, 2007). Because this population has linguistic and cognitive impairments, and inadequate social interactions; improving social skills are often a therapeutic goal for people with DS (Soresi & Nota, 2000). These linguistic impairments may also affect the self-esteem of people with DS (Jackson et al., 2014). Therefore, four major challenges would be considered to be associated with DS: language deficit, social impairments, self-esteem, and

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cognitive impairments. These impairments are the primary focus when looking at research conducted in art therapy with developmental disabilities.

This integrative literature review seeks to explore the research published on art therapy interventions with individuals who have DS in order to aid in the development of a broader range of interventions that could be utilized with this under-studied population. The goal of this research is to develop an art therapy treatment plan for working with people who have DS based on the investigation of different applicable interventions in art therapy and limitations of individuals with DS. Research involving people with developmental disabilities, and specifically focusing on those who have certain symptoms of DS, such as language and intellectual disabilities, are also discussed for further support in this study.

Definitions

Art materials. This refers to the mediums used for creating artwork. These mediums include media in drawing, painting, prints, collages, mosaics, modern technology, calligraphy, graphics, books, sculpture, and crafts (Moon, 2010; Herberholz, 2011) The choice of art materials in art therapy varied at different times because of different concerns on expedience, portable, cost, safety, manipulation, profession, and therapeutic purposes (Moon, 2010). Furthermore, art materials are classified into resistive and fluid materials on a continuum (Kagin & Lusebrink, 1978).

Art therapy. This term is the use of art-making to help individuals improve physical and emotional well-being, resolve problems, develop interpersonal skills, increase self-esteem, and relieve stress (American Art Therapy Association, 2013). Art therapists blend the knowledge of visual art and psychotherapy to facilitate a safe environment and creative approaches for people

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to explore feelings, resolve emotional conflicts, foster self-awareness, manage behavior, develop social skills, reduce anxiety, and increase self-esteem (Art Therapy Credentials Board, 2013).

Cognitive function. Silver (1989) indicated that cognition is “a way of organizing the barrage of stimuli from the outside world,” and “thought is carried out by representing reality vicariously and economically” (p. 10). Based on this concept, *cognitive function* is referred to as an individual’s capability to process his/her thoughts. For this study, the level of low, mid, or high cognitive function is based on how effective an individual can perceive and comprehend information from their environment and other people, along with internal stimulation and information processing, and the ability to process reasoning, remembering, learning, and speech. Seven criteria are organized for determining a low, mid, or high range.

Developmental disabilities. This term, which is described under the category of neurodevelopmental disorders in DSM-V (American Psychiatric Association, 2013), includes disorders that manifest early in development and cause impairment on individual’s personal, social, academic, or occupational functioning. For this study, the research involving developmental disabilities retrieved is based on similar symptoms identified within the population of those with DS, such as language deficits and intellectual disabilities.

Down syndrome. This term refers to a genetic disorder caused by an extra chromosome 21 (Herron-Foster & Bustos, 2014). Abnormal cell division influences both physical and intellectual development, and creates issues in motor planning skills, language, cognitive skills, and general learning disabilities.

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CHAPTER II:

METHODS

This study was an integrative literature review conducted to gather relevant data on art therapy interventions with people diagnosed with DS in an effort to understand best practices and to further develop a recommended treatment plan in working with this population. The method used to collect data was based on available databases at Indiana University Perdue University Indianapolis (IUPUI). Electronic search engines, including EBSCO, ERIC, ProQuest, and PsychINFO, were used to search articles for this study. A search of IUCAT, which is an online library catalog, was used to find relevant books, journals, and other resources. A list of electronic databases used was included in Table 1.

Art therapy, the interventions, and the population were three areas of inquiry used for searching relevant data. Each guideline contained related terms for expanding data research (Table 2). The asterisk (*), which allowed the search engine to expand the query, was used with some search terms in order to produce results that contained words that preceded the asterisk.

Intellectual disability is one of the characteristics for people diagnosed with DS (Cunningham & Glenn, 2004; Fidler, Most, & Philofshy, 2009; American Psychiatric Association, 2013). It was useful to look for resources related to this specific impairment to gather the data supporting this study. Also, according to Schalock et al. (2007), the term intellectual disability applied to the people diagnosed with mental retardation in the past, but also shared the same concepts and definitions with the term mental retardation. However, the term mental retardation was still often used in older literature. Therefore, mental retardation and intellectual disability were included in the search terms. These two key search terms helped thoroughly expanded the study to provide a comprehensive literature review.

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This study aimed to generate an art therapy treatment plan for people who have DS. The data collected for this study was related to art therapy interventions and people diagnosed with DS or developmental disabilities. The secondary sources, such as the references and key terms in data from initial searches, were used to broaden the potential data in this research (Mertens, 2010). These secondary sources were utilized to review extensive and diverse interventions working with the DS population, but also to facilitate the development of the art therapy treatment plan in this study.

All resources were placed into a literature matrix according to the Garrard method (1999), including author, title, year, methods and design, subjects, results, and summary. Because this study explored different art therapy interventions with people who have DS, the collected resources were categorized by the therapeutic goals and then alphabetically arranged by the last name of the researcher. Based on this matrix, the information, such as the population and therapeutic goals, could be inquired easily from the collected resources. Conclusions were drawn based on a summary of the analyses of the collected data. A synthesis of all of the collected research resulted in developing a suggested treatment plan that might be used with the identified population.

Although DS is a prevalent topic for research in varied fields, there were not many resources that focused on people with DS and art therapy. Therefore, this literature review was expanded to explore working with developmentally impaired people who have certain symptoms that are the same in DS in order to gather more data to support this research.

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Table 1

Databases from Which References were Retrieved

Alphabetical Listing of Databases Utilized

EBSCO	ProQuest
Education Resources Information Center (ERIC)	PsychINFO
IUCAT	WorldCat

Table 2

Search Terms for Initial Searches

Art Therapy	Interventions	The Population
Art Therapy*	Art materials*	Developmental
Art Therapy	fluid	Disability*
with special needs	media	Delay*
Art as therapy	property	Down syndrome*
Art psychotherapy	properties	Children
Expressive Therapies	resistive	Adolescent
Continuum/ ETC	Directives*	Adult
	complex	Intellectual disability*
	group	Mental
	individual	Retardation
	simple	Retarded

Needs

cognitive development

communication

confidence

emotion

feeling

independence

interpersonal skills

self-esteem

social skills

CHAPTER III:
LITERATURE REVIEW

Down Syndrome

People with DS often have limitations in language ability, interpersonal skills, cognitive development, and self-esteem (Dykens, 2007; Lister, Tanguay, Snow, & D'Amico, 2009; Jackson et al., 2014). Although this population experiences difficulties, there is great potential to develop abilities and enhance well-being if effective treatments and appropriate support are provided (Fidler, Most, & Philofshy, 2009). Several key findings in the study of behavioral and emotional problems of children and adults with DS were reviewed through recent studies (Dykens, 2007; Fidler, Most, & Philofshy, 2009). These findings are presented in categories of age, children through adults. The ages for children range from 0 to 18, and the ages for adults are 18 and over (Berger, 2011); the findings on children and adults are further explored below.

Children with DS

Children with DS tended to fit well in their living environment and experienced less psychiatric or behavioral disorders than people diagnosed with other developmental disabilities (Dykens, 2007). According to Dykens (2007), "Compared with other groups with specific syndromes or with mixed causes for their disabilities, then, children with DS generally show lower rates of significant behavioral or emotional problems" (p. 273). Although children with DS typically had a mild disposition and low rates of psychopathology, they still had more behavioral issues than typically developing children from the general population, such as stubbornness, attention-seeking behaviors, and impulsivity (Pueschel et al., 1991; Coe et al., 1999). Attention deficit, noncompliance, and social withdrawal were main behavioral concerns for children with DS in school settings (Coe et al., 1999).

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Also, children with Down syndrome typically had impairments in language skills, especially in verbal communication and comprehension (Pueschel et al., 1991; Chapman et al., 1998). Pueschel, Bernier, and Pezzullo (1991) studied the behavioral characteristics of DS by conducting research involving 40 children with DS using the Achenbach Child Behavior Checklist which was completed by the children's parents and teachers. Statistically significant differences between the children with DS and the control group were observed on items listed on the checklist, including childish behaviors, speech difficulties, sleeping problems, concentration issues, and attention needs. Compared with typically developing children, children and adolescents with DS had apparent delays in language development and difficulties with articulation (Pueschel et al., 1991; Chapman, et al., 1998).

Children with DS tended to act much younger than their chronological age because of their intellectual disability; there was a varied range of severity and delayed cognitive development, which led to a younger social and emotional age level as well as behavioral and emotional issues (Pueschel et al., 1991; Fidler, Most, & Philofshy, 2009). Fidler, Most, and Philofshy (2009) reviewed the research of the DS behavioral phenotype through a developmental approach. Phenotype is the pattern of behavioral strengths and weaknesses related to genetic disorders; the behavioral phenotype for DS includes these characteristics: cognition, communication, social development, motor functioning, and psychopathology (Fidler, Most, & Philofshy, 2009). Because people with DS experienced a range of intellectual disabilities, language impairment, and cognitive delays in their lifetime, investigating this population's behavioral phenotype, strengths, and challenges at different ages facilitated the development of better support and service for this population. By understanding different phenotypes of people with DS, their needs were better understood and therefore, they may be assisted properly.

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Adults with DS

Compared to children with DS, adults with DS had several similarities in their presented symptoms. Adults with DS were apt to have low maladaptive behaviors and less aggression than adults with intellectual disabilities in general, and they tended to have charming personalities and positive interactions with other people despite the consistent difficulties in intellect and communication (Dykens, 2007; Fidler, Most, & Philofshy, 2009). Nevertheless, unlike their childhood counterparts, adults with DS possessed a higher risk of having depression, dementia, low mood, disturbed sleep, and auditory hallucinations (Myers & Pueschel, 1991; Dykens, 2007).

As people with DS continued to mature physically and intellectually, their cognitive development and learning abilities showed the potential to improve (Cunningham & Glenn, 2004; Fidler, Most, & Philofshy, 2009). However, as adults with DS aged, they were prone to many health issues, such as visual and hearing impairments, depression, and other physical health problems (McQuillan et al., 2006). After age 40, most adults with DS experienced cognitive declines and gradually showed neuropathological signs of dementia or Alzheimer's disease (Dykens, 2007). Dykens indicated that decline in cognitive functioning caused behavioral issues, such as lack of cooperation, withdrawal, and apathy, and these changes in behavior were related to the diagnosis of dementia.

Emotional issues were the other important aspect for people with DS. Dykens (2007) reported that adults with DS more easily suffered from depression than others with intellectual disabilities. Low mood was one of the common symptoms of depression, and depression was regarded as a prodromal feature of dementia in DS (Dykens, 2007). Low mood also related to loneliness, stuttering, and decreasing confidence in adults with DS (Jackson et al., 2014). "Mood

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was found to link with communication; difficulties in communication led to frustration and anger, whilst frustration and low mood also impaired communication” (Jackson et al., 2014, p. 284).

In brief, the similar issues for both children and adults with DS included intellectual and communicative difficulties (Dykens, 2007; Fidler, Most, & Philofshy, 2009). Even though people with DS in different age groups had similar issues, children with DS were prone to have behavioral concerns, but adults with DS were apt to have health problems and emotional issues (Myers & Pueschel, 1991; Dykens, 2007). Fidler, Most, and Philofshy (2009) considered that these limitations and difficulties may provide challenges for people with DS; however, they were still capable of developing necessary skills and living happily by receiving effective treatments and appropriate support.

Art Therapy Approaches with People who have DS

The art therapy profession has different philosophies about therapeutic approaches, which can be understood on a continuum of art psychotherapy to art as therapy (Rubin, 2001; Wadeson, 2002). Art psychotherapy, which was primarily developed by Margaret Naumburg (Rubin, 2001), focused on the image generated from the patients’ inner experiences and the patients’ interpretation of their art products. By consciously talking about individual artwork, the participants could verbally claim their creativity and independence. Edith Kramer, who developed what we understand to be the theoretical application of art as therapy (Rubin, 2001), emphasized a different direction in her art therapy approach. In Kramer’s perspective (as cited Rubin, 2001), art enabled people to re-experience, resolve, and integrate their internal conflicts.

Harriet Wadeson (2002) collected and reviewed the artwork of over 200 art therapy interns and professionals in order to discuss these two approaches. Based on the data, Wadeson

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claimed art therapy can be a flexible approach to providing support based on clients' needs and abilities in different situations. In Wadeson's collected data, the approaches used in art therapy were varied depending on the situations and clients' needs. Some clients benefitted more from art as therapy, some clients were encouraged to focus on insight oriented techniques, and some clients embodied both approaches. Art psychotherapy, which is insight-oriented, and art as therapy, which is based on spontaneous expression, served different purposes and supported different client needs; both therapeutic approaches could be utilized mutually depending on the situation, according to Wadeson (2002).

As Rubin stated (2010), art therapy supported people at all stages of development and gave people with disabilities a level of stimulation to reach pleasure in the creative process through their capabilities. Art therapy offered a nonthreatening and socially acceptable way for people with developmental disabilities to process self-expression, improve social skills, solve problems, discharge aggression, and soothe themselves (Henley, 2000; Epp, 2008; Got & Cheng, 2008). Through using art, this population depicted the confusion of their world and retrieved a level of autonomy to reach a meaningful life, including the enhancement of personal expression and social relationship (Got & Cheng, 2008; Rubin, 2010). The research clearly showed the advantages of art therapy to the population with developmental disabilities. (Henley, 2000; Kanareff, 2002; Epp, 2008; Got & Cheng, 2008; Lister et al., 2009)

Because art therapy incorporated nonverbal approaches, the obstacles in language, anxiety, and sense of failure for people with developmental disabilities might be lessened during the treatment process (Wilson, 1977). The immediate goals of art therapy with individuals who have developmental disabilities were to expand the individual's sensory, perceptual, and motor capabilities (Rubin, 1975; Wilson, 1977). Developmental art therapy and behavioral art therapy

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were two approaches particularly useful in the treatment of individuals with developmental disabilities (Lett, 2005) because both approaches helped people with developmental disabilities to express feelings and release impulsivity.

Developmental art therapy. The first approach was developmental art therapy. This approach focused on investigating a client's developmental progression through looking at the art of the individual and understanding his/her cognitive, emotional, and artistic maturation (Aach-Feldman & Kunkle-Miller, 2001). The stages of artistic development designed by Lowenfeld and Brittain (1987) was one of the major concepts in developmental art therapy. According to Lowenfeld and Brittain (1987), the Scribble Stage, Preschematic Stage, Schematic Stage, Stage of Dawning Realism, Pseudo-Naturalistic Stage, and Adolescent Art were six stages of an individual's developmental stages in art. When the stage of an individual was confirmed, the art therapist could help the individual to build and develop necessary skills and make progress to the next level of development if it was determined to be therapeutically appropriate (Aach-Feldman & Kunkle-Miller, 2001).

Malchiodi (2012) indicated that many therapists integrated art therapy with various developmental frameworks, such as Freud's psychosexual and Erikson's psychosocial models. Although developmental art therapy was most often applied to work with children, it was used to work with individuals of any age with cognitive impairments or developmental delays. In developmental art therapy, an initial assessment was commonly conducted to determine goals and objectives for treatment, and the assessment was based more on the stages of normal artistic development to evaluate a client's motor, cognitive, or social skills. According to Malchiodi (2012), therapy applied with a developmental approach addressed sensory stimulation and skill acquisition. Sensory stimulation referred to the enhancement of sensory, visual motor, and

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interactive skills through using and playing with art materials; skill acquisition was referred as taking a series of sequential small steps to learn a particular activity for developing complex motor skills (Malchiodi, 2012). The experience of exploring art materials and the procedures of learning skills led the individual to foster emotional development and motor functioning (Aach-Feldman & Kunkle-Miller, 2001). In addition to sensory stimulation and skill acquisition, adaptation is a consideration in developmental art therapy. Using proper art materials, being able to use tools, and creating a consistent environment are adaptations in art therapy sessions (Henley, 1992; Malchiodi, 2012). These aspects supported people with developmental disabilities in expressing feelings and releasing impulsivity.

Behavioral art therapy. The literature supported behavioral art therapy as another useful approach to working with children and adults that have DS and developmental disabilities (Roth & Barrett, 1980; Roth, 2001; Lett, 2005). Behavioral art therapy was designed to treat undesirable behavior by applying behavior modification techniques to the art therapy process (Roth, 2001). “Art therapy that employs behavior modification principles may be utilized as a structure to motivate and change maladaptive behaviors so that clients may attend to learning behaviors” (Dunn, 1982, p. 59). Roth (2001) stated that the behavioral approach of reality shaping was the special technique used to support children who were emotionally disturbed and limited in verbal and cognitive abilities. The process of reality shaping started with identifying a concept that was poorly conveyed in the individual’s artwork, and the concept was then developed into representational form, progressively increasing the complexity in two and three dimensional forms, through the construction, first by the therapist and then by the client.

This technique helped the art therapist gain insight into an individual’s pathology through a concrete form (Roth, 2001). For example, Larry was a mildly mentally disabled six-year-old

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boy represented in Roth's case. He was diagnosed with a severe speech delay, hyperactivity, and he also had a history of destructive behavior, such as setting fire to his room and watching from outside with laughter while it burned. By applying behavior modification techniques which included reality shaping, Larry was able to make a recognizable house which he originally tried to represent. Along with verbal prompts, physical guidance, and continuous positive reinforcement, Larry gradually constructed a house on a flat surface as well as a three-dimensional house in the later sessions. The process of building an identifiable house, developing the concept of a house, constructing his house, and destroying his house led Larry to focus on the reality of his fire-setting behavior and work through his conflict.

In summary, art psychotherapy and art as therapy served different purposes and needs, and both approaches could be used mutually based on different situations (Wadeson, 2002). Art therapy had many advantages when considering the needs of developmentally impaired people. It assisted them in overcoming their obstacles and eventually reaching goals, such as enhancing personal expressions, social skills, self-confidence, and cognitive development (Henley, 2000; Epp, 2008; Got & Cheng, 2008; Rubin, 2010). In order to work with this population, developmental and behavioral art therapy were two suitable approaches for supporting people with developmental disabilities (Aach-Feldman & Kunkle-Miller, 2001; Roth, 2001).

Expressive Therapies Continuum

In addition to the therapeutic approach, art materials are another important component in art therapy sessions. Art materials have different properties and qualities. Through using various art materials properly, the clients are able to utilize sensory perception and internal reflection during their creative process. Different art materials offer various stimulation and purposes in treatment for clients; using specific media when considering interventions can help clients

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express, engage, and heal in art therapy sessions (Kagin & Lusebrink, 1978; Hinz, 2009). In order to decide what materials can elicit the most effective results and develop appropriate intervention strategies, art therapists often call upon the Expressive Therapies Continuum (ETC). In this section, the framework of the ETC is presented and discussed for supporting the art material choices determined in the art therapy treatment plan for the population with DS.

The ETC is a conceptual model designed to systematize the use of media in art therapy (Kagin & Lusebrink, 1978; Lusebrink, 1991). The ETC not only provides a system-based framework for exploring the client's internal process between media and expression, but also classifies interactions of art materials into a developmental structure of information processing and image formation (Kagin & Lusebrink, 1978; Lusebrink, 1991).

Piaget's stages of development, which represent the development of cognition and mental concepts (Berger, 2011), is one of the theories upon which the ETC is based (Kagin & Lusebrink, 1978). Each stage represents the development of certain thinking processes that contribute to an individual's conception of the world (Piaget, 1952; Piaget, 1969). The sensorimotor stage is the first stage of development in which an individual uses senses and motor abilities to gain an understanding of the world (Piaget, 1952). Through the senses and repetitive movement, an individual receives and reacts to feedback from his/her experience (Hinz, 2009). Next, the preoperational stage is the period when an individual thinks egocentrically and perceives the world from only his or her personal perspective (Piaget, 1952). In this stage, an individual starts to use concrete objects and schematic representation to process information from the world (Hinz, 2009). The concrete operational stage is the third stage of development. An individual in this stage can understand and apply logical operations and interpret experiences objectively and rationally (Piaget, 1952). Decision making and problem solving are related to

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emotional investment (Hinz, 2009). In the formal operational stage, an individual can process abstract thinking and analysis (Piaget, 1952). By thinking outside of personal experience, an individual is able to develop abstract thoughts, problem-solving skills, and meaningful symbols to present feelings and thoughts (Hinz, 2009). This developmental hierarchy corresponds to the framework of the ETC.

The framework of the ETC uses hierarchical levels of interaction between the artist and the media, including the Kinesthetic/Sensory (K/S), the Perceptual/Affective (P/A), the Cognitive/Symbolic (C/S), and the Creative levels (CR) (Kagin & Lusebrink, 1978). Each level of the ETC is based on reflective distance, which is the cognitive distance between art stimulation and individual reflection (Kagin & Lusebrink, 1978). Lusebrink (1991) stated that the reflective distance increases with the consecutively higher levels of the ETC; the increase of time span of the individual's ability to reflect toward the stimulus leads to the longer reflective distance. The use of mediators, such as brushes, can also increase the reflective distance between the individual and the materials (Kagin & Lusebrink, 1978).

Kinesthetic/Sensory level. At the K/S level, the kinesthetic component focuses on the release of energy and physical movement, while the sensory component emphasizes the internal activity generated from sensation and response (Kagin & Lusebrink, 1978). The reflective distance is minimal at this level because of direct physical involvement with the art materials (Kagin & Lusebrink, 1978; Lusebrink, 1990; Lusebrink, 1991). The kinesthetic component emerges in action, such as slapping and pounding clay, and the sensory component manifests through the physical contact with art materials, like fingerpaint (Kagin & Lusebrink, 1978). At this level, art materials play the role of facilitator for generating kinesthetic actions or sensory awareness (Lusebrink, 1991).

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Perceptual/Affective level. At the P/A level which is rooted in the concrete operational stage, the perceptual component focuses on the schematic forms and representational images, whereas the affective component focuses on emotional expression and affective images (Lusebrink, 1990; Lusebrink, 1991). Also, the reflective distance in this level is varied (Kagin & Lusebrink, 1978). According to Lusebrink (1991), resistive media, such as felt tip markers, can facilitate the perceptual component and invoke creation of form, while fluid media, such as watercolors, can facilitate the affective component and enhance expression of affect. At this level, art materials with different properties help individuals form schematic representation, which belongs to the perceptual components, and enhances the expression of affect, which is related to the affective component (Kagin & Lusebrink, 1978).

Cognitive/Symbolic level. At the C/S level, rooted in formal operational thought, the cognitive component emphasizes rational analysis and logical process; the symbolic component stresses metaphorical self-expression (Lusebrink, 1990; Lusebrink, 1991). The reflective distance at this level can be a further distance than previous levels on the ETC due to the needs for more time to plan and solve problems associated with emotionally threatening symbols, progressive symbols, or future-oriented symbols (Lusebrink, 1990). On the other hand, the reflective distance can be a shorter distance if the symbols are identified regressively, such as applying with no mediator or using repetitive circles to complete artwork (Lusebrink, 1990). According to Lusebrink (1991), “the main characteristic of the cognitive component is problem solving and structuring the use of media, and the expression of the multidimensional character of the symbolic component is enhanced through the use of fluid media.” At this level, individuals can create concrete images to process the cognitive component, and input personal meaning on their creations to present the symbolic component.

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Creative level. The CR level synthesizes inner experience and outer reality between the individual and media (Kagin & Lusebrink, 1978). This level incorporates all the different components, and creative expression can be shown on any level of the ETC (Lusebrink, 1991). The reflective distance at this level can be alternated based on an individual's awareness and internal reflection (Hinz, 2009). At this level, any art materials can be used to promote individuals in producing personal artwork with creativity through the use of their own imagination and ideas.

Through the correspondence between the levels of ETC and the developmental stages (Hinz, 2009), the needs of people with DS can be identified based on their cognitive development and then supported with appropriate materials. According to Harlan (as cited in Keller, 2013), to work with the population with developmental disabilities, the most effective art materials are easy to use and simple enough that artwork expressing personal message can be completed quickly. In a clinical case, a 14-year-old girl with minor developmental disabilities had difficulties expressing her emotions at either the cognitive level or perceptual level of the ETC, but she reflected her feelings through the K/S level of the ETC (Lusebrink, Mārtinsone, & Džilna-Šilova, 2013). The short reflective distance of the K/S level facilitated the release of emotion through kinesthetic actions and sensory awareness. Based on these points, the use of materials at the K/S level of the ETC corresponded to an effective way to start working with this population.

Down Syndrome and Developmental Disabilities

Research about art therapy and people with DS is limited, so the collected research was expanded to developmental disabilities for review and discussion. In general, people with developmental disabilities typically experience developmental impairments of various

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functioning, including intellectual, social, language, learning, physical, and behavioral areas (Center for Disease Control and Prevention, 2013; American Psychiatric Association, 2013).

“The range of developmental deficits varies from very specific limitations of learning or control of executive functions to global impairments of social skills or intelligence” (American Psychiatric Association, 2013, p.31).

Common goals for children with developmental disabilities are to address the obstacles that occur in linguistic disorders, learning disabilities, behavioral issues, emotional needs, and then help clients increase cognitive functions (Silver, 1989; Roth, 2001; Robinson, 2009). For adults with developmental disabilities, common goals are to improve communication, social relationships, self-esteem, cognitive development, and independent living skills (Harlan, 1991; Huang & Dodder, 2002; Got & Cheng, 2008; Lister et al., 2009).

These common goals of working with people who have developmental disabilities may be applied to the population with DS because people with DS and people with developmental disabilities often share several similar challenges (Musick, 1976; Kanaref, 2002; Lett, 2005; Jackson et al., 2014). The following section will focus on reviewing and discussing art therapy goals shared between the population with DS and developmental disabilities.

Art Therapy Goals for People with Down Syndrome and Developmental Disabilities

People with DS and developmental disabilities have similar issues and difficulties (Dykens, 2007; American Psychiatric Association, 2013), and they also share similar therapeutic goals (Henley, 2000; Kanaref, 2002; Lett, 2005; Got & Cheng, 2008; Jackson et al., 2014). By regarding these shared impairments, the literature is categorized and discussed as four separate goals. The intention of presenting the information this way is to organize the collected resources based on the therapeutic goals in each study of DS and developmental disabilities.

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Facilitate personal expression. According to Rubin (1975), art can and does give any human being, in particular a mentally or physically disabled individual, an exciting, stimulating, and pleasurable way to reach well-being. Through artistic experience, people with developmental disabilities can connect with their reality, enhance self-awareness, and feel more emotionally secure (Spero & Weiner, 1973). As stated in the case studies of Klein and Aach (National Committee, 1978), all people with diverse degrees of disabilities can develop self-fulfillment and relieve stress through creating artwork without the need to speak. “Art therapy provides a psychotherapy treatment option that does not rely solely on verbal interaction,” Robinson stated (2009, p. 37). Therefore, the clients with DS can use the process of creating artwork to express their emotions and thoughts without saying a word, and this process can be a significant benefit for them, especially for those with communicative impairment (Mayhew, 1978; Lett, 2005; Bull, 2012). The creative process promotes the expression of non-verbal communication and further facilitates the discharge of feelings

An example in Lett’s study (2005) showed how art work facilitated non-verbal communication. An investigation was undertaken to determine whether supporting an individual with DS while he expanded his use of art could help to develop his self-expression and decrease his uncontrollable behaviors when experiencing anxiety. An examination involving 15 art therapy sessions was conducted to work with an adult male with DS and moderate intellectual disability. The participant, Brian, was evaluated to be at the Preschematic Stage throughout the treatments. However, the participant’s improvements in the developments of images, shapes, and forms were noted in the report. Most of Brian’s verbalizations were one or two word utterances, and his spontaneous verbalizations were limited. Although no results were found showing any

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quantitative changes in Brian's verbal expression or maladaptive behavior, Lett (2005) indicated Brian's improvement with artistic development and non-verbal expression.

Art therapy supports people with language impairment in expressing personal thoughts and feelings in a safe and non-verbal way (Wilson, 1977; Hume and Hiti, 1988). Wilson (1977) believed that art therapy can provide people with mental disabilities an outlet for their unacceptable emotions and thus reach sublimation through the creative process. This non-verbal approach adopted in art therapy would be particularly beneficial for mentally impaired people due to their impairment in language development (Wilson, 1977).

An example of working with people who had mental and language impairment was Elena's case. Elena was a twenty-two year old non-verbal woman with severe mental disabilities when she began art therapy sessions. She had taken art therapy for two years with notable improvements in artistic expression and behaviors. By using and experimenting with art materials, Elena increasingly developed flexibility and autonomy. With the progress of the treatment, Elena was able to gradually include other images beyond the preservative creation of radial configurations, and "her graphic vocabulary expanded to include concentric circles, images of bodies, squares, and ultimately a relatively rich combination of circles, triangles, squares, and hybrid shapes which she used to depict full figures, clothing, and ornaments" (Wilson, 1977, p. 95). These changes and improvements in Elena's artwork demonstrated the progression in her use of non-verbal expression.

Art therapy can also support people in developing verbal expression and interaction with other people. Musick (1976) argued that art can be a powerful means of expression and communication for everyone, in particular people with developmental impairment. By conducting a program examining the creative growth and development of children with

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developmental disabilities, eight pre-school children with multiple handicaps and disabilities were involved and provided with structured activities to promote development in expression and communication through creating artwork. This program was designed to assist each child and help them progress through their drawing developmental stages based on Lowenfeld and Brittain's (1987) criteria. Then, the program sought to determine whether children with mental impairments were able to expand their artistic skills to those of children of similar chronological age. Each child was assigned to meet with one college student twice per week for 15 minutes of art making. Seven out of eight children were observed to advance in their creative abilities through their drawings and paintings. The results indicated that structured creative activities might support children with delayed mental development, including DS and varied impairments, to improve levels of development and advance skills.

Some studies showed that art therapy can promote both non-verbal and verbal personal expression. Hume and Hiti (1988) indicated that art is a valuable non-verbal tool for people with limited verbal ability to communicate and express their thoughts as well as redirect their impulsivity and emotions in a socially acceptable way. In the presented case, 13 high school students with developmental disabilities, aged from 14 to 17, were referred to art therapy because of their difficulties with communication, emotional expression, and behavior. These students were assigned two groups based on their social and cognitive development, so they could understand and interact with each other at a similar level through verbal and non-verbal activities. The activities provided in these groups were structured, simple, and supportive and students were encouraged to talk about personal feelings and explore these feelings through their artwork. The outcome of this study showed that the process of creating art helped this population to sublimate personal impulses and emotions into the artwork.

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Bull (2012) noticed that an individual who is labeled with learning disabilities or intellectual disabilities may have a hard time recognizing self and identity because these diagnoses affect relationships and sense of self. In her presented case, David B, who was diagnosed with DS, experienced the burden of his diagnosis by keeping his pain and confusion within himself due to the social stereotype and his self-identity. When David B started to engage in art therapy, he was having a particularly difficult time adapting to the changes in his family unit and his living environment. Thus, in the first few art therapy sessions, David B was guided to experience the process of catharsis, and then gradually gain control and contain his emotions through varied art materials, such as felt-tipped pens, crayons, and clay. His reaction and performance in his artwork revealed how he processed his internal reflection and unpleasant expressions which brought him pain, but he increasingly found his own way of containing and transforming his chaotic feelings into concrete forms as treatment progressed. The creative process provided David B the container to express his thoughts and emotions, and further explore his sense of self. This case showed how art therapy helps people with DS enhance both verbal and non-verbal personal expression.

Improve social skills. Although people with DS and developmental disabilities experienced difficulties in interpersonal relationships and social integration (Soresi & Nota, 2000), they can benefit from improving their social skills through art therapy, which involves both creating artwork and verbally sharing artwork with the group (Kanareff, 2002; Liebmann, 2004).

Kanareff (2002) conducted the single group case study in a public school for two semesters to explore the use of group art therapy to enhance the social skills of children with autism and DS. Three children with different levels of autism spectrum disorders and one child

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with DS were involved in the study. The “art as therapy” approach and structured format were adopted in the group art therapy sessions to help the participating children reach goals, including increasing social skills, positive peer interaction, self-esteem and self-awareness, attention span, and emotional control. The results demonstrated that group art therapy was a beneficial intervention for children with autism and DS to improve social skills. Kanareff (2002) emphasized that art activities in group art therapy served as the catalyst for the participating children to improve social interaction through working together on art projects and recognizing each group member’s efforts.

An example of this was the case of Sandy (Kanareff, 2002), diagnosed with DS, and who presented with low social interaction during the group art therapy sessions due to her difficulties with speech. She engaged in projects with low verbal interaction, but her artwork frequently reflected the interaction that happened during the group process. This was shown by visually depicting personal feelings and thoughts during art therapy sessions. Through the process of creating and sharing her artwork, Sandy was able to actively participate in the group interaction.

Got and Cheng (2008) state, “The use of art to heal is especially suitable for people with developmental disabilities or who are otherwise unable to express themselves well verbally” (P. 32). Through the process of creating artwork, individuals’ negative emotions and impulses are expressed in a socially acceptable way, and their artwork also reflects personal thoughts, feelings, and experiences (Luftig, 1987; Got & Cheng, 2008).

Got and Cheng (2008) discussed the effect of art activities on the social relations and language communication of people with developmental disabilities. The research involved 37 Chinese adults with developmental disabilities who were randomly assigned to an experimental group and a no-treatment control group. The participants in the experimental group completed 12

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art facilitation sessions and filled out Quality of Life Enjoyment and Satisfaction Questionnaire. Also, the participants' social interaction, language comprehension, and language expression were rated by their parents and center staff in Scales of Independent Behavior-Revised. Although the participants with developmental disabilities had no shown significant change in verbal expression, based on the ratings from parent and staff, the participants showed improvements in social relationships and language comprehension. "The convergent ratings by both parents and staff on language comprehension provided a relatively strong indication that the participants had become more communicative in their immediate environments" (Got & Cheng, 2008, p.35).

Lister et al. (2009) described the development, purpose, and challenges of the Centre for the Arts in Human Development in Montreal, which has provided creative arts therapies for adults with developmental disabilities for over ten years. Therapeutic activities provided in this center aimed to support the clients in improving self-esteem, social skills, and communication. Besides the therapeutic activities, the Center for the Art in Human Development also provided student training, research projects, and public outreach in the community. These missions not only offered opportunities for the clients to build relationships with different people, but also support the clients to expand their experiences and connect to the community. Participants with developmental disabilities benefited from creative arts therapy, especially in the areas of building friendships, increasing social networks, and advocating for themselves in the community. Lister et al. (2009) reported that the outcome, including positive changes in the clients' self-esteem, social skills, and communication, was consistent with the findings of Got and Cheng (2008).

A lack of literature on social skills therapy for autism spectrum led Epp (2008) to examine the effectiveness of a social skills therapy program designed to help school-age children improve their social skills. The uses of group therapy and art therapy were adopted in this

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program. Group therapy can support children on the autism spectrum to generalize social skills to other environments and practice forming friendships in groups. Through art therapy, the children with autism spectrum were encouraged to participate actively, solve problems visually, discharge aggression safely, and experience insight symbolically. The results from pre- and post-test instruments evaluated by parents and teachers indicated the improvement in assertion, social skills, and problem behaviors.

Henley (1991) indicated that developing social skills and building relationships with other people is an important aspect for working with the population with developmental disabilities because they might have an impoverished or fragmented sense of self and experience difficulty relating to others. The impaired object relations experienced by this population were addressed as a key issue, and the development of object relations were explored through three different cases. Henley (1991) discussed that the art resembles the transitional object which facilitates tension reduction; the process of creating art not only provides a transitional environment for developing object relations, but also diffuses confrontation and enhances self-esteem.

To further develop object relations as well as to promote the connection with other people, clay was chosen and used because of the material qualities, including its ability to promote sensory stimulation and redirect the discharge of aggression (Henley, 1991). Also, Lowenfeld (1957, as cited in Henley, 1991) noted that the use of clay modeling could assist people who have experienced impaired object relations to develop self-awareness, self-image, and self-concept, and then to strengthen the relationship between self and other. In the presented cases, the process and results of three young adults with varied mental and physical disabilities were discussed. Bill was a 25 year old man with moderate developmental impairment and

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psychotic features. He had limited progress in reaching object constancy, but he showed some degree of relatedness and reality orientation about his mother's hospitalization through his artwork. Unlike Bill, Rashid and Juan, who do not have developmental disabilities, both presented a clear process in their sessions. Rashid, a blind man with irrational communication and aggressive behavior, was able to use his clay work as a buffer to express his emotional opinions. Juan, a man with emotional disturbance and disastrous past experience, was able to use the potter's wheel as his transitional object and develop important attachments. Based on these three cases, the process of clay work assisted these clients to express improper reactions, connect individual feelings, displace hostile emotions, and lessen tactile defensiveness. All these progressions might be related to the components of developing social skills.

Enhance self-esteem. Self-esteem could be cultivated through communication and interaction. Through involving art activities and sharing the artwork with others, people with developmental disabilities could increase self-esteem (Got & Cheng, 2008; Lister et al., 2009). By exploring communication and self-esteem in adults with DS through qualitative methodologies, a relationship between communication style and self-esteem of the adult population with DS was identified; people with DS may experience low self-esteem due to their difficulties in communicating, and low self-esteem may influence their communication skills overall (Jackson et al., 2014).

Self-esteem could be cultivated with minimum or no verbal interaction. Bowen and Rosal (1989) indicated that imagery was a method of facilitating the individual's sense of internal control and self-awareness. When the internal control was faded and external control dominated, the person developed a learned helplessness, which resulted from feelings of failure and low self-esteem. Helplessness was a noticeable characteristic of people with mental impairment. This

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issue interfered with mentally disabled people's learning process, adaptive skills, and vocational abilities. In the presented case, a mildly mentally impaired 28-year-old woman, Karen, was referred to art therapy due to her poor communication skills, behavioral difficulties, and learned helplessness. After the observation and evaluation, guided imagery, and storytelling were used in Karen's individual art therapy sessions, and the treatment goals for her were to increase self-awareness, self-esteem, and communication skills. A behavior observation form, work production averages, and a House-Tree-Person Drawing Test were three instruments used to measure the effectiveness of the treatment. In the process of completing artwork with the use of imagery and relaxation, Karen was able to achieve a sense of accomplishment and reduce problematic behaviors. The outcome showed that art therapy supported Karen in developing confidence and autonomy as well as reducing her behavioral difficulties.

Harlan's (1991) study also implied that art therapy supports people with developmental disabilities to increase self-esteem. A model program was designed for elders with developmental disabilities to create a meaningful later life and cope with aging issues, including physical and psychological difficulties. This program used the concept of art as therapy to facilitate the program goals, including providing age-appropriate creative activity, exploring the issues of aging, and enhancing self-esteem and autonomy. This program took place over the course of seven months and was initially conducted with seven elders with developmental disabilities at a group home. The outcomes showed that the program brought positive influences to the elder participants. Beyond the noticeable increase in social interaction and attention span, these elder participants became more confident to join new activities. They also increased positive comments about their own art work, which reflected their growing self-esteem.

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Trzaska (2012) indicated that group art therapy enhances self-esteem in clients with intellectual disabilities. To conduct the examination, 26 adult participants diagnosed with developmental disabilities and cognitive impairments were assigned randomly in the experimental group and comparison group. Unlike the comparison group receiving no treatment, participants in the experimental group took group art therapy twice per week for four weeks. In art therapy sessions, the clients were taught and encouraged to depict their mural creations, and they were eventually asked to work on a group mural project while the session progressed. The Tennessee Self-Concept Scale: 2 was used for pre- and post-test to evaluate the clients' self-esteem, which was defined as a measurement of an individual's feeling of self-worth and self-concept. Compared with the pre-test, the post-test presented significantly high scores in social, identity, and family self. The results showed that participating in the group art therapy mural project assisted the clients with intellectual disability to increase their self-esteem. Trzaska (2012) stated:

Group art therapy allowed all of the participants the opportunity to participate on one project and work together. The dynamic setting of the mural project required that participants work on different parts of the mural, interact with new people, and have a direct impact on a piece of artwork that others would be able to see and talk about. By providing a short-term group environment with a strong emphasis on social interaction, individuals were able to make a significant increase in their levels of social self-concept (p. 440)

Based on this perspective, the self-esteem of people with developmental disabilities was improved through developing new competencies in creative process and expressing creativity in the structural environment.

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Foster cognitive development. The creative process of art making could benefit individuals with developmental disabilities in their mental, social-emotional, and motor development (Alkema, 1971). Through individual experimenting and searching for solutions during the creative process, individuals with developmental disabilities learned to correct mistakes as their mental awareness increased which helped to foster their mental development. Also, the drawings of individuals with developmental disabilities provided in the book reveal the lack of recognizable symbols, balance, or color variety. In order to support individuals with developmental disabilities in their creative process, Alkema (1971) emphasized that the interventions need to provide further stimulation and guidance to augment motivation and amplify self-development. Wilson (1977) also pointed out that the therapeutic goal for people with developmental disabilities is to expand their sensory, perceptual, and motor experience through the use of art materials, and “this will lead to some appropriate independent use of art materials proper which would suggest that some real advances had been made in the development of ego functions” (p.87).

Silver (1975; 1977; 1989) conducted several studies focusing on developing and evaluating cognitive skills in children with developmental disabilities. Silver (1975) investigated the effectiveness of art procedures in understanding and treating issues in cognition. Two assumptions, “thought can be separated from language” and “concepts and intuition can support mutually,” were brought up in this study. The art procedures were apt to promote the development of the concept of a group of objects, concepts of space, and concepts of sequential order because these concepts were usually developed through language and related to analytical thinking.

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Two cases were described in the study (Silver, 1975). The first case involved a 13-year-old boy with language and intellectual disabilities. After participating in nine sessions, he showed significant improvement compared with his results between pre- and post-test in the project. The second case focused on examining the effectiveness of the art procedure working with children who had learning disabilities. This case involved 11 children who were assigned graduate students to work with and evaluated through pre- and post-test. The findings again indicated a significant improvement in the cognitive development of these children. The results suggested that the art procedures could be utilized for evaluation and development of cognitive abilities of children with communication disorders and children with learning disabilities. “Through the use of cognitively oriented experiences with drawing, modeling, and painting, learning disabled children were able to develop the skills needed to bring order to their perceptually disoriented world” (Silver, 1977, p.34)

Silver (1989) indicated that “drawing procedures can serve as instruments for assessing and developing cognitive abilities of children or adults who cannot communicate well verbally” (p. 231). These cognitive abilities were relatively independent of language impairment and verbal-analytical thinking. Regardless of whether or not the individual was impaired, a wide range of ability was represented in the artwork; for example, some people with intellectual disabilities scored high in all the drawing tests, but some people with no disability had very low scores in the horizontal and vertical concepts. Also, there were nine low scorers in the drawing from observation test, and only four of nine were children with impairments. These results might be related to people’s abilities to process spatial information and to develop cognitive skills. According to Silver (1989), individuals with language impairment might benefit by learning the concepts that were normally associated with language through visuospatial ways. Art procedures

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helped individuals with communication disorders or learning disabilities not only develop concepts of space, order, and class, but also stimulate cognitive growth.

Roth (1980) reported that art therapy enhanced ego development in children with developmental disabilities and delayed emotional development. These children with mental disabilities were likely to act younger than their chronological age, and this might lead to disturbed behaviors. Art intervention improved ego development and in doing so helped to lessen disturbed behaviors. Due to the decrease of disturbed behaviors, the mentally disabled children were able to improve intellectual capabilities and adaptive behaviors. Control and regulation of instinctual drives, autonomous functions, reality testing, object relationships, defense, and synthesis were six major ego functions discussed in Roth's study. Although children with developmental disabilities experienced impairments or interruption in these ego functions, they were able to improve ego development through taking art therapy treatment.

Six cases were presented and discussed to show that art therapy can help children with mental impairment improve ego functions appropriately (Roth, 1980). The first case showed that a nine-year-old mentally disabled boy struggled to regulate his basic drives. Through manipulating art materials and talking about his artwork, this child was able to properly release his inappropriate impulses, deal with internal conflicts, and then eventually control his drives. The second case involved a seven-year-old non-verbal mentally disabled boy (Roth, 1980). This child had limited interactions with media and limited attempts at drawing, and he frequently stood up and walked around the room. Thus, the approach used to work with this child was to increase his motivation in art-making and to learn to use different art materials properly. By engaging in art therapy sessions, the functioning of this child's autonomous ego was improved through developing his sensory, perceptual-motor, and intellectual capabilities. In the third case

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(Roth, 1980), a five-year-old non-verbal girl with moderate intellectual disability and little self-awareness had very poor reality testing. This child was led to work on developing a sense of herself as a person with a clear body image, so she could develop her self-concept and recognize herself as a separate person. The outcome showed that art therapy enhanced this girl's reality testing mechanisms through enabling her to develop her self-image and to become aware of her body parts and of inter-relatedness. The fourth case described object relationships (Roth, 1980). A seven-year-old developmentally impaired girl had problems in relationships and proper interactions with other people. Through taking art therapy, this girl was allowed to use a range of materials, repeatedly shown the proper way of using materials, taught drawing skills, and given strict boundaries. When this girl increasingly improved her skills and mastered the art therapy environment, she was able to appropriately maintain the relationship with the therapist. The fifth case was an eight-year-old mentally disabled girl who had a hard time dealing with her anxiety and poor interactions (Roth, 1980). Her major defense mechanism was to perseverate on commended activities. Clay was provided during art therapy sessions to expand this girl's pictorial imagery and decrease her need to perseverate on linear forms and letters, which guaranteed that she would be successful. This girl eventually became more confident and independent, and she was able to take risks in challenging pictorial imagery. The sixth case focused on promoting synthetic ego function (Roth, 1980). A ten-year-old boy with mental impairment had a difficult time integrating his ego functions. In order to help this boy, he was asked to slow down, use one material at a time, and focus on only one theme at a time. This process supported this child to integrate his inner resources, and all of his ego functions were improved. In sum, art therapy supports individuals to foster ego development through providing opportunities of manipulating a range of art materials, teaching the proper use of art materials

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and artistic skills, leading the development of self-concept and body image, giving strict boundaries and structural process, and assuring the success in the creative process and product. These processes enhance the experience of the individual and may foster cognitive development.

Overall, art therapy provides opportunities for people with developmental disabilities, including Down syndrome, to expand emotional expression, social interaction, self-esteem, and cognitive development. These art therapy goals are related and connected with each other. Through the process of creating art, people were able to express personal emotions and thoughts without verbal involvement, and these non-verbal expressions not only reflected the words in mind, but also facilitated sharing and communication with other people (Hume & Hiti, 1988; Bull, 2012). The interactions of non-verbal reflecting and verbal sharing could promote social interaction and improve social skills (Kanareff, 2002). When people made progress on social skills as well as in their relationships, they also made progress in confidence, self-esteem, and even autonomy (Got & Cheng, 2008; Lister et al., 2009). Cognitive development was fostered by solving problems, increasing exploration through art materials, and learning the concepts in visuospatial ways (Roth, 1980; Silver, 1989).

Summary

The literature reviewed in this chapter was prepared and discussed for supporting the design of an art therapy treatment plan for people with DS. Two art therapy approaches, developmental art therapy and behavioral art therapy, provided sound explanations for the directives and rationales. These art therapy approaches were connected with the framework of the ETC, which helped to determine the materials that should be chosen in this treatment plan. The different levels and components of the ETC also indicated the diverse reflective distance as well as the functions and objectives of the chosen materials. The following discussion on people

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with DS reported the population's difficulties and needs. Then, the section on the expansion of the developmental disabilities broadened the collected data supporting the development of four primary therapeutic goals for the developmentally impaired population, in particular those with DS. These four art therapy goals discussed in this chapter were applied for the objectives of the art therapy treatment plan in this study.

CHAPTER IV:RESULTS

This study focused on discussing the needs of people with DS and reviewing previous art therapy studies related to this population in the efforts to develop a useful art therapy treatment plan. This section presented the major findings based on the collected resources discussed in the literature review.

The first phase of the major findings involved the needs of the population with DS. Cognitive and linguistic difficulties were the main issues affecting DS population during their life time (Dykens, 2007; Fidler, Most, & Philofshy, 2009). People with DS experienced obstacles in organizing language and communicating personal opinions, they often have a hard time expressing feelings, thoughts, and ideas, which could lead to emotional and behavioral issues (Pueschel et al., 1991; Chapman et al., 1998). The cognitive and linguistic difficulties may also influence their social skills, self-esteem, and cognitive development (Soresi & Nota, 2000; Dykens, 2007; Jackson et al., 2014).

The next phase of major findings included the effective approaches and the use of art materials. Developmental and behavioral art therapy were two effective approaches for working with people diagnosed with DS because both approaches supported their limitations in communication, personal expression, social skills, and cognitive development (Wilson, 1977; Aach-Feldman & Kunkle-Miller, 2001; Roth, 2001; Lett, 2005). Although no specific art materials were regarded as the best choice for working with this population, art materials that were accessible for individuals to quickly express personal messages were recommended (Keller, 2013). Also, the use of materials at the kinesthetic and sensory level was suggested in the beginning of treatment because the short reflective distance of the K/S level of the ETC helped

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people with DS express emotions through kinesthetic actions and sensory awareness (Lusebrink, Mārtinsone, & Dzilna-Šilova, 2013).

The last phase of the major findings were therapeutic goals. Art therapy could provide the opportunity for people with DS to fulfill their physical and mental needs as well as improve their difficulties with language skills, social skills, self-confidence, and cognitive development. People with DS could freely express their thoughts and feelings through creating artwork without involving verbal processes, which were related to their linguistic impairments (Lett, 2005; Bull, 2012). It was found that art interventions could be the catalyst for promoting social interaction and communication in group therapy (Kanareff, 2002). Simultaneously, self-esteem could be cultivated through working on art activities, sharing the artwork with other people, and completing artwork with the use of imagery and relaxation (Bowen & Rosal, 1989; Got & Cheng, 2008; Lister et al., 2009). By continuously experimenting with art materials and making corrections during the creative process, cognitive development could be stimulated and improved (Alkema, 1971; Silver, 1989).

Proposed Art Therapy Treatment Plan for the Population with Down Syndrome

Art therapy approaches for this population based on developmental and behavioral perspectives were used to formulate this treatment plan. These approaches could specifically help developmentally impaired individuals with verbal and cognitive limitations (Aach-Feldman & Kunkle-Miller, 2001; Roth, 2001; Malchiodi, 2012). According to the characteristics and perspectives of these two approaches, the directives in this treatment plan focused on exploring sensory stimulation, learning artistic skills, identifying a concept(s), and leading with small steps (Malchiodi, 2012; Roth, 2001). Therefore, multiple art materials and demonstrations were necessary in designing this art therapy treatment plan.

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Piaget's stages of development is a primary theory called upon in developmental art therapy (Aach-Feldman & Kunkle-Miller, 2001). This theory was also incorporated in the ETC (Kagin & Lusebrink, 1978). The framework of the ETC was used for choosing appropriate art materials to fit the individuals' needs and capabilities (Kagin & Lusebrink, 1978; Lusebrink, 1991). All types of resistive and fluid materials would be recommended for the treatment plan because the properties of art materials were varied on the spectrum of resistive and fluid and provided different stimulations and reflections for the individuals. However, the most effective art materials for working with developmentally impaired people are easy, simple to use, and non-toxic (Keller, 2013). Hence, art therapists should consider the clients' capabilities in using different art materials and provide the proper materials that are suitable for their needs and capabilities.

Furthermore, group sessions were chosen for this treatment plan. Compared with individual sessions, group sessions brought up several exclusive characteristics, including social skills, mutual support, feedback, role-modeling, and communication (Liebmann, 2004). The characteristics of group sessions met the needs of people with DS. Art therapy groups enhanced the socialization skills of people with DS (Kanareff, 2002). People with DS were motivated through working on their own independent projects (Clader, 2010), but also by receiving support from others (Mahy, Shields, Taylor, & Dodd, 2010). Therefore, a group setting offered positive effects for improving social skills and independence in the population with DS.

The issues that are focused on for improvement vary among people with DS at different ages (Dykens, 2007); the goals of improving behavioral issues are focused on for children with DS, and improving emotional problems would be the focus for adults with DS (Myers & Pueschel, 1991; Dykens, 2007). Thus, the treatment objectives given among people in different

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age groups would be adjusted to fit their needs. Aside from the concern of this population's ages, the level of cognitive functioning is another consideration in the development of treatment interventions. Different levels of cognitive functioning effect the way people perceive and express their feelings and ideas; that would cause changes in the given directives. In order to accommodate the diverse diagnoses and capabilities, the individual goals and outcomes of the tasks vary. Some people have difficulties expressing personal feelings and issues; require practicing appropriate social skills; lack self-confidence; and have various cognitive functioning. When considering the ages of clients, the level of cognitive functioning, and the ability to achieve each therapeutic goal reviewed in this study, a proposed treatment plan was organized in three stages based on the dynamics of the group, the needs of this population, and the complexity of the interventions. Each stage contained two or more interventions in order to support the needs of different age groups and the different levels of cognitive functioning. The treatment plan outlines the title, objectives, materials, directives, rationale, age group, cognitive functioning, and the number of sessions. The content of this treatment plan is described below, followed by Table 3 which simplifies this treatment plan.

Assessment. It is recommended to conduct the Face Stimulus Assessment (FSA) prior to implementing the treatment plan because individuals with DS have different levels of cognitive functioning and communicative impairments. Through conducting the FSA, which was designed to assess people who have developmental delays and multiple disabilities (Betts, 2003), the individuals' cognitive abilities and developmental levels can be better understood. According to Betts' suggestions, clients' motor skills, use of line, color usage, recognition of face, self-perception, use of picture space, and additional elements, such as hair and necklace, are seven elements in the rating procedure. Lower than three is low; four to five is mid; six and above is considered high. Thus, based on the

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results from their FSA, the individuals with DS can be arranged into low, mid, or high cognitive functioning groups and provided with suitable interventions.

Stage one. Stage one serves as an introduction and ice breaker for the individuals with DS to be familiar with the environment and other group members. By participating in and interacting with others verbally and nonverbally, clients may establish relationships with other people, learn from the feedback of other group members, and increase interests to engage in art therapy sessions. The ultimate goal of this stage is aiming at improving social skills.

Favorite Things

Objective:

To facilitate communication and verbal interaction

Age group:

Children and Adults with DS (All ages with DS)

Cognitive functioning:

A range of functioning from low to high.

This intervention contains both simple and complex directives; the complex directives can be removed without effecting the integrity of the intervention.

Thus, this intervention is applicable to low, mid, and high cognitive functioning individuals.

Suggested sessions:

Minimum of two sessions to reach this objective.

Materials:

Collage materials, pre-cut collage materials, scissors, glue, markers,

16" x 20" papers

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Directive:

1. Find and cut your favorite food pictures, and paste them in the center of the paper.
2. Find and cut your favorite drink pictures, and paste them next to the food.
3. Share the food and drink with the group and explain why you like them.
4. (Increased complexity, if appropriate) Find five words/phrases to describe what you feel when you have your favorite food and drink. Then, share it with the group with the following structure:
“I like the food/drink because I feel (the selected feeling) when I eat/drink it.”
i.e. I like Pudding because I feel happy when I eat it.
5. Find and cut the pictures of your favorite animal/car/building, and paste them on the paper.
6. Share them with the group and explain why you like them.
7. Find and cut the pictures of your favorite sports or leisure activities (explain: something you like to do during your free time).
8. Share them with the group with the following structure:
“I like to (sports/leisure activities) in my free time. Does anyone like to (sports/leisure activities), too?”
i.e. I like to listen to classic music in my free time. Does anyone like to listen to classic music, too?

Rationale: Choosing and arranging images may be less intimidating than actually making images because the users do not have to worry about their artistic performance (Liebmann, 2004). Therefore, communication can be promoted easily. Food, drink,

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favorite object(s), and interesting subject(s) are common topics which are related to everyone's daily life, which can facilitate social interactions and allow participants to be a part of the mutually supportive community (Yalom, 1995; Liebmann, 2004). The provided sentence structures were formatted for the individuals to follow and practice communication skills. Also, through repeatedly practicing their communication skills while taking turns, individuals may develop proper word usage and become aware of appropriate personal behaviors.

Color my Emotions

Objective:

To connect different emotions with specific colors and share with group members.

Age group:

Adults with DS (18 and over)

Cognitive functioning:

A range of functioning from low to high.

This intervention contains only two steps, which are choosing the colors [the colors fit the emotions] and coloring, so the intervention could be accessible to all levels of functioning.

Suggested sessions:

One to two sessions for reaching this objective, depending on the clients' needs or capabilities.

Materials:

Oil pastels, 8.5"x11" papers

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Directive:

1. Divide the paper into four grids.
(Adapt to eight grids for higher functioning clients)
2. Provide a range of emotions with the pictures of the facial expressions. Ask them to choose four different emotions, and use different colors to fill in the emotional grids.
(See adaption above)
3. Share with the group about your choice of colors for each emotion.

Rationale: Oil pastels are chosen because of their fluid property which can facilitate emotional expression (Hinz, 2009). Looking at and identifying a range of emotions from the pictures of facial expressions may help the clients recognize different emotions to fit in the grids. By using specific colors on different emotional grids, the individuals are able to connect their emotions to colors. By discussing with the group about personal artwork, the individuals are practicing personal expression and refining their communicative skills (Harlan, 1991; Kanareff, 2002). The completion of this simple and easy intervention also helps the individuals to develop self-esteem (Bowen & Rosal, 1989). This intervention is also a pre-task for the later intervention, Emotional Masks.

Stage two. After building relationships and improving social skills, the clients may be ready to move on to the second stage, which not only continues working on refining social skills, but also involves the enhancement of self-esteem and personal expression. These three therapeutic goals are related with each other, and improving one goal will positively affect the other two goals.

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Mandala Painting

Objective:

Enhance self-esteem in non-verbal art creating process

Age group:

Children and Adults with DS (All ages with DS)

Cognitive functioning:

A range of functioning from low to high.

This intervention contains both simple and complex directives; the complex directives can be removed without effecting the integrity of the intervention. This intervention is applicable to both low and high cognitive functioning individuals.

Suggested sessions:

Minimum of two sessions for reaching this objective.

Materials:

16"x20" Pre-drawn blank mandalas, acrylic paint markers

Directive:

1. Choose your favorite color(s), and color small/large triangle areas.
2. Choose another color(s), and color small/large rectangle areas.
3. Choose other color(s), and color small/large areas with curve lines.
4. (Complex directive, if applicable) Use the colors you haven't used to design patterns or decorations on the colored areas.
5. (Complex directive, if applicable) Talk about the colors you chose to use, and describe your feelings when you finish coloring the mandala.

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Rationale: Acrylic paint markers contain both fluid and resistive properties, which may help the individuals express personal feelings in controlled manner. Coloration is a simple process which could easily lead to a successful result. The mandala is chosen as the container because of its unique characteristics. According to Burns (as cited Brooke, 2004), the mandala refers to structured meditation symbol used in Buddhist practice, and can be a symbol leading to centering and healing. In the process of completing artwork with the use of imagery and relaxation (Bowen & Rosal, 1989), the individuals are able to achieve a sense of accomplishment and then enhance self-esteem. If the individuals have already mastered coloring, they would be encouraged to design personal patterns and designs. Although this intervention focuses on non-verbal process, verbal expression is still encouraged in this intervention for verbal participants.

Emotional Masks

Objective:

To explore, recognize, and connect different emotions.

Age group:

Adults with DS (18 and over)

Cognitive functioning:

Mid to high cognitive functioning.

This intervention contains both simple and complex directives. However, the complex directives cannot be removed without effecting the integrity of the intervention.

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Suggested sessions:

Minimum of three sessions for reaching this objective, depending on the clients' needs or capabilities.

Materials:

Paper masks, foam masks, paint, strings

Directive:

1. Review the list of emotions with the group.

2. Brief explanation of this intervention

“We are going to create masks with four basic emotions. You will look at the emotions list and decide which emotion you want to make first. You may wear this mask when you finish designing it.”

Then ask the clients to choose from the emotions list with pictures, including emotions such as: happiness, sadness, anger, and fear.

3. Choose one color for each of the emotions that was chosen. Use the four corresponding emotion colors to design your mask.

4. Take a string to tie knots at two sides of your mask.

5. (Therapist) Ask the following questions:

Can you tell me what emotion is on your mask?

Can you present this emotion on your face?

What do you think about this emotion?

How would you react when you see other people show this emotion?

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6. Small activity:

Start with one person, telling the person next to him/her, “My name is . . . , and I feel (the emotion on the mask),” and then the next person repeats the same process to the other person next to him/her.

i.e. (1st person) My name is Kevin, and I feel nervous.

(2nd person) My name is Abby, and I feel happy.

Rationale: Four basic emotions are selected in this intervention, so the clients may be able to make further association with colors and patterns. Paint is used in this intervention due to its fluid property which may help the individuals to connect with their emotions (Hinz, 2009). “Masks are typically viewed as a means to promote the expression by clients of otherwise hidden aspects of the self” (Wadeson, 2000, as cited in Moon, 2010, p.25). By designing personal masks, the individuals can increase self-awareness as well as retrieve images of self and feelings (Liebmann, 2004). The small activity is designed to facilitate verbal expression and improve social skills.

Doll MakingObjective:

Enhance self-esteem in communication

Age group:

Children and Adults with DS (All age with DS)

Cognitive functioning:

Mid to high cognitive functioning.

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This intervention contains both simple and complex directives. However, the complex directives cannot be removed without effecting the integrity of the intervention.

Suggested sessions:

Minimum of two sessions for reaching this objective.

Materials:

Plain dolls, fabric markers, fabrics, fabric glue, bottoms, beads, strings, yarns, other mixed media materials

Directive:

1. Use fabric markers to create your self-image on the plain doll.
2. Use fabrics and fabric glue to design the clothes on your doll.
3. Use accessories to decorate your doll.
4. Share your doll with the group, and describe at least five characteristics of the doll that applies to you.

Rationale: Creating the self-image on a doll is not only making an artwork to share with group members, but also building a spokesman to interact with other people in a safe distance. Then, individuals eventually develop trust and interest in direct communication. Through engaging in the creative process and sharing the artwork with others, people with developmental disabilities develop self-esteem (Got & Cheng, 2008; Lister et al., 2009).

Our House

Objective:

To develop interaction and social skills through working together.

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Age group:

Adults with DS (18 and over)

Cognitive functioning:

Mid to high cognitive functioning.

This intervention contains both simple and complex directives. However, the complex directives cannot be removed without effecting the integrity of the intervention.

Suggested sessions:

Minimum of three sessions.

Materials:

Wood pieces (i.e. cubes, bricks, and sticks), pictures of houses, hot glue guns and sticks, acrylic paint

Directive:

1. Provide a guided imagery, and then describe the directive:

“Imagine, you and your friends traveled to an island. In order to live on the island, the group decided to build one large house. You have the following construction materials (wood pieces and hot glue) to use for this project.”

2. Look at the image of the house and identify different parts of the house.
3. For each of the following steps of making the house, the clients will watch the demonstration provided from the therapist, and then create the parts of the house together.
 - Making the base
 - Making the wall, door, and window

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- Making the roof and chimney
- Adding details of the house

4. Talk about the project as a group.

Rationale: Wood, which is a resistive material (Hinz, 2009), is chosen for this intervention because it may help the individuals to present concrete images. A guided imagery is provided (Bowen & Rosal, 1989) to assist individuals in developing the scene. A house image is also provided at the beginning of the session. Then, individuals are provided with demonstrations as well as materials to build a house step-by-step. All individuals will be asked to work together to build one house. This creative process is the catalyst for individuals to improve social interaction through working together on art projects and recognizing each group member's efforts (Kanareff, 2002). Also, the creative process may involve personal expression. The house not only triggers individuals' emotions and memories about home (Brooke, 2004), but also measures how individuals related to the environment (Levick, 2001). With the structural process and safe environment, adults with DS may be able to experience positive emotions by creating their house together and sharing achievements of cooperation. When the project of building a house is completed, all individuals will be asked to share their thoughts, feelings, and fantasies/stories about their house.

Stage three. The intent at this stage is to support ego development through improving personal awareness and self-regulation (Roth, 1980); for clients with high cognitive function, they are led to foster their ego development by improving their planning, organizing, and problem-solving skills.

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Exploration of Art Materials

Objective:

To expand sensory and perceptual exploration and develop personal awareness through manipulating a range of art materials and talking about personal artwork

Age group:

Children and Adults with DS (All age with DS)

Cognitive functioning:

Low to mid cognitive functioning

This intervention focuses on experiencing the use of different materials through scribbling and coloring. The directives are simple and repeated. It would be appropriate to apply this intervention for the individuals with low cognitive functioning.

Suggested sessions:

One to three sessions for reaching this objective, but the sessions may be extended based on the clients' needs or capabilities.

Materials:

Five choices from resistive to fluid art materials (i.e. colored pencils, markers, oil pastels, chalk pastels, paint), 8.5"x11" papers

Directives:

1. Scribble on the paper using one art material.
2. Use the same art material to fill in the area of the scribble with different colors.
3. After using the provided art materials, ask the following questions:

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What is your favorite color?

What (How) do you feel when you draw?

(If it is applicable) What can you associate with based on what you drew?

4. Repeat steps 1 to 3 with different art materials.

Rationale: The use of varied art materials can help the individuals experience different external stimulations and internal reflections (Wilson, 1977; Lett, 2005). The simple directives, repeated processes, and using one material at a time can create a structural environment which supports individuals to manipulate different art materials, talk about artwork, explore personal feelings, and then eventually reach self-regulation (Roth, 1980; Hume & Hiti, 1988). This intervention is designed for people with DS and low cognitive functioning to foster ego development.

Magic Kingdom Drawing

Objective:

Foster cognitive development through problem-solving and association.

Age group:

Children and Adults with DS (All age with DS)

Cognitive functioning:

Mid to high cognitive functioning.

This intervention emphasizes planning, organizing, and problem-solving skills, and it would require clients to use their imagination for the development of a solution.

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Suggested sessions:

Minimum of five sessions for reaching this objective, depending on the clients' needs or capabilities.

Materials:

Pencils, erasers, fine-tip markers, broad-tip markers, 8.5"x11" papers

Directive:

1. Preface

“Welcome to the Magic Kingdom, Heroes/Heroines. Residents in this Kingdom are facing several problems. We need your help to solve the problems. You can use some magic markers (fine-tip markers and broad-tip markers) to provide your help. Anything you draw with these magic markers will come true. So now, shall we start?”

2. Problem One

“One of our magic guardians took a vacation without arranging someone to fill his schedule, and we are short of people to take his position. Can you help us to deal with this problem?”

Draw anything that may help you solve this problem.

3. Discussion of Problem One

Share with the group about your method, and explain why you would do this.

4. Problem Two

“The door to the treasure room is locked accidentally, and the key was broken!

Could you help us to open this door?”

Draw anything that may help you open the door.

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5. Discussion of Problem Two

Share with the group about your methods, and explain why you would do this.

6. Problem Three

“Many of our magic vegetables have jumped out of their holes and are scrambling around the farm. They ran so fast and we have a hard time catching them. Could you help us catch them?”

Draw anything that may help you catch these magic vegetables.

7. Discussion of Problem Three

Share with the group about your method, and explain why you would do this.

8. Problem Four

“Our grand master of magic is looking for her lazy students who are slacking off around the city. The master is too old to search for her students by herself. Can you help her?”

Draw anything that may help you solve this problem.

9. Discussion of Problem Four

Share with the group about your method, and explain why you would do this.

10. Problem Five

“Three fairy princesses are fighting for candies in the candy store. Each of them wants all the candy to themselves. We have a hard time looking for a way to satisfy all the fairy princesses. Could you help us?”

Draw anything that may help you solve this problem.

11. Discussion of Problem Five

Share with the group about your method, and explain why you would do this.

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12. “Thank you so much for solving all the problems for us. In order to show our gratitude, we give you this box. When you open the box, what you wish will come true.”

Draw what is inside the box.

13. Share with the group about what is in your box, and explain why you wish that to be in your box and how do you feel about receiving it from the box.

Rationale: This intervention is designed to help the individuals who have DS with mid to high cognitive functioning to foster ego development. Thus, overcoming challenges and solving problems are the main theme of this intervention. During the sessions, the individuals have to continuously deal with the problems by drawing the solutions independently, and these processes may repeatedly stimulate the individuals’ ego functions (Alkema, 1971; Wilson, 1977; Roth, 1980). Free association and story-telling are used in this intervention not only to continue enhancing personal expression and communicative skills, but also support the cognitive development (Silver, 1989). Pencils and markers are provided in this intervention because the resistive materials can help the individuals to present concrete images and mentally process at the C/S level for solving problems (Lusebrink, 1991).

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Table 3		
<i>Art Treatment Plan for the Population with Down Syndrome</i>		
Stage One		
Intervention	Components	
Favorite Things	Objective	To facilitate communication and verbal interaction
	Age group	All ages with DS
	Cognitive functioning	A range of functioning from low to high
	Sessions	Minimum of two sessions
	Materials	Collage materials, pre-cut collage materials, scissors, glue, markers, 16" x 20" papers
	Directive	<ol style="list-style-type: none"> 1. Find and cut your favorite food pictures, and paste them in the center of the paper. 2. Find and cut your favorite drink pictures, and paste them next to the food. 3. Share the food and drink with the group and explain why you like them. 4. (If it is applicable) Find five words/phrases to describe what you feel when you have your favorite food and drink. Then, share it with the group with the following structure: 5. Find and cut the pictures of your favorite animal/car/building, and paste them on the paper. 6. Share them with the group and explain why you like them.

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		<p>7. Find and cut the pictures of your favorite sports or leisure activities (explain: something you like to do during your free time).</p> <p>8. Share them with the group with the given structure.</p>
Color my Emotions	Objective	To connect different emotions with specific colors and share with group members.
	Age group	18 and over
	Cognitive functioning	A range of functioning from low to high.
	Sessions	One to two sessions
	Materials	Oil pastels, 8.5"x11" paper
	Directive	<ol style="list-style-type: none"> 1. Divide the paper into four/eight grids 2. Provide a range of emotions with the pictures of the facial expressions. Ask them to choose four/eight different emotions, and use different colors to fill in the emotional grids. 3. Share with the group about your choice of colors for each emotion.

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Stage Two		
Intervention	Components	
Mandala Painting	Objective	Enhance self-esteem in non-verbal art creating process
	Age group	All ages with DS
	Cognitive functioning	A range of functioning from low to high
	Sessions	Minimum of two sessions
	Materials	16"x20" Pre-drawn blank mandalas, acrylic paint markers
	Directive	<ol style="list-style-type: none"> 1. Choose your favorite color(s), and color small/large triangle areas. 2. Choose another color(s), and color small/large rectangle areas. 3. Choose other color(s), and color small/large areas with curve lines. 4. (If it is applicable) Use the colors you haven't used to design patterns or decorations on the colored areas. 5. (If it is applicable) Talk about the colors you chose to use, and describe your feelings when you finish coloring the mandala.
Emotional Masks	Objective	To explore, recognize, and connect different emotions
	Age group	18 and over
	Cognitive functioning	Mid to high cognitive functioning
	Sessions	Minimum of 3 sessions
	Materials	Paper masks, foam masks, paint, strings

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	Directive	<ol style="list-style-type: none"> 1. Review the list of emotions with the group 2. Brief explanation of this intervention 3. Choose one color for each of the emotions that was chosen. Use the four corresponding emotion colors to design your mask. 4. Take a string to tie knots at two sides of your mask. 5. (Therapist) Ask the questions. 6. (If it is applicable) Small activity.
Doll Making	Objective	Enhance self-esteem in communication
	Age group	All age with DS
	Cognitive functioning	Mid to high cognitive functioning
	Sessions	Minimum of two sessions
	Materials	Plain dolls, fabric markers, fabrics, fabric glue, bottoms, beads, strings, yarns, other mixed media materials
	Directive	<ol style="list-style-type: none"> 1. Create your self-image on the plain doll. 2. Design the clothes on your doll. 3. Decorate your doll. 4. Share your doll with the group, and describe at least five advantages of the doll that applies to you.

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Our House	Objective	To develop interaction and social skills through working together
	Age group	18 and over
	Cognitive functioning	Mid to high cognitive functioning
	Sessions	Minimum of three sessions
	Materials	Wood pieces (i.e. cubes, bricks, and sticks), pictures of houses, hot glue guns and sticks, acrylic paint
	Directive	<ol style="list-style-type: none"> 1. Provide a guided imagery, and then describe the directive: 2. Look at the image of the house and identify different parts of the house. 3. For each of the steps of making the house, the clients will watch the demonstration provided from the therapist, and then create the parts of the house together. 4. Talk about the project as a group.

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Stage Three		
Intervention	Components	
Exploration of Art Materials	Objective	To expand sensory and perceptual exploration and develop personal awareness through manipulating a range of art materials and talking about personal artwork
	Age group	All age with DS
	Cognitive functioning	Low to mid cognitive functioning
	Sessions	One to three sessions
	Materials	Five choices from resistive to fluid art materials (i.e. colored pencils, markers, oil pastels, chalk pastels, paint), 8.5"x11" papers
	Directive	<ol style="list-style-type: none"> 1. Scribble on the paper using one art material. 2. Use the same art material to fill in the area of the scribble with different colors. 3. After using the provided art materials, ask the questions. 4. Repeat steps 1 to 3 with different art materials.
Magic Kingdom Drawing	Objective	Foster cognitive development through problems-solving and association
	Age group	All age with DS
	Cognitive functioning	Mid to high cognitive functioning
	Sessions	Minimum of five sessions

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	Materials	Pencils, erasers, fine-tip markers, broad-tip markers, human figure stencils, 8.5"x11" papers, 8.5"x11" papers with pre-drawn human figures (If it is necessary)
	Directive	<ol style="list-style-type: none"> 1. Preface 2. Problem One 3. Discussion of Problem One 4. Problem Two 5. Discussion of Problem Two 6. Problem Three. 7. Discussion of Problem Three 8. Problem Four 9. Discussion of Problem Four 10. Problem Five 11. Discussion of Problem Five 12. Gift in the box. 13. Discussion of what is in the box

CHAPTER V:DISCUSSION

Exploring art therapy interventions that could be used to work with individuals with DS is the primary research focus of this study. This was done so that an art therapy treatment plan when working with this population could be developed. The directives and interventions included in this treatment plan are supported by the research reviewed in this study. Thus, several points presented in the result section should be discussed and clarified.

Cognitive and linguistic difficulties are the main challenges in the DS population (Dykens, 2007; Jackson et al., 2014), and developmental and behavioral art therapy approaches are indicated as the effective approaches (Wilson, 1977; Lett, 2005). The cognitive and linguistic needs as well as the two primary approaches lead to the development of the interventions with a focus on simplifying the directives, utilizing repetitive small steps, and making verbal expression optional. Age is an additional factor that needed attention during the development of the treatment plan (Myers & Pueschel, 1991), since no art therapy research specifically discusses the needs and the interventions for different age groups of people with DS.

Easy and simple art materials are suggested for working with this population (Keller, 2013). Therefore, art materials provided in the art therapy treatment plan are varied and easy to use. These materials include those that are common in daily life and easy to control, such as pencils, markers, colored pencils, oil pastels, collage, and paint. However, most of the studies only briefly mention the art material choices, so the ETC is integrated with information from the research for further explanation, including the development of cognition and the reflective distance. For example, the K/S level is considered as an effective way to work with individuals with DS because of the short reflective distance (Lusebrink, Mārtinsone, & Dzilna-Šilova, 2013).

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The ETC is integrated with the reflective distance from the research and that leads to the choices on art materials.

The large majority of the supporting resources does not specifically focus on individuals with DS but rather the population of developmental disabilities as a whole who share similar diagnostic challenges as those with DS. Four therapeutic goals are used to establish three stages in the art therapy treatment plan, so individuals with DS can gradually increase confidence and further develop interpersonal skills.

Limitations of the Study

Limitations are present in this study and in the feasibility of the art therapy treatment plan. Although the resources collected and analyzed by the writer present many positive outcomes as well as applicable results, the amount of the art therapy resources directly related to DS is still limited. Also, the writer integrate personal experience based on what he has learned in the program/coursework as well as what was observed at the internship site working with the population with developmental disabilities, including people with DS. For example, unlike the simple tasks provided in many previous studies, most of the writer's clients with DS love challenging tasks, using fluid materials, and complete the artwork by following the step-by-step directives. These experience influences some interventions and material choices in the treatment plan development. Therefore, the presented study and designed treatment plan might contain some bias and an optimistic point of view.

There are other concerns that cause the collected resources to be irrelevant. These include resources that are experience-based or without peer review; personal reflections and case-reports from art therapists or art educators; those published in non-English format, such as French, German, and Japanese; those that contain art therapy and related population but irrelevant

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research directions. Nevertheless, if the art therapists master different languages or are interested in studying different art therapy interventions in diverse countries, it might be helpful to collect and categorize the resources in the art therapy interventions working with DS in other countries.

Implications for Future Research

The treatment plan proposed in this study provides a series of interventions for working with the DS population in a range of age and cognitive functioning. The goals, material choices, and directives in each intervention are thoroughly considered to satisfy these different needs of this population. The whole intervention is divided in three stages, which gradually lead the individuals with DS to build up confidence and skills step-by-step. These three stages can be the framework for other art therapists to look at what goals they want to focus on. It is recommended that art therapists utilize the developed stages for individuals with DS. This would allow for the development of different interventions within these three stages for supporting individuals with DS for various therapeutic goals. In addition to using the framework, art therapists may continue examining which materials are most effective and annotating challenges and questions that arise in practical implementations.

This study also illustrates effective approaches and interventions for working with this population, which is growing in recent decades along with the increasing needs of various supportive interventions (Herron-Foster & Bustos, 2014). After all, even if the results of this study organized previous art therapy research with DS and created a framework for working with people with DS, every individual has unique diagnosis and needs. Hence, the adjustments and adaptations of this treatment plan should be taken into consideration when implemented in the practical field.

CHAPTER VI:CONCLUSIONS AND RECOMMENDATIONS

The research objective is to review the previous art therapy studies for appropriate interventions with people who are diagnosed with DS, and then develop an art therapy treatment plan for this population. A literature review is used as the research method. In order to expand the collected data, some diagnoses, such as developmental disabilities and intellectual disabilities, are used as the search terms because of the relevant symptoms and similar limitations.

This study has searched and collected a certain amount of potential resources related to working with the DS population. Although the relevant resources were scarce, this study may still provide reliable support for the art therapy treatment to people diagnosed with DS. The results are presented in three phases, focusing on the difficulties, effective interventions, and therapeutic goals for people who have DS. Based on the presented literature review and therapeutic goals, the art therapy treatment plan is developed.

The art therapy treatment plan may provide a structure for art therapists to work with people who have DS. In this treatment plan, improving personal expression, social skills, self-esteem, and cognitive development are four therapeutic goals supporting the needs and limitations of this population. By gradually completing each intervention in the treatment plan, the individuals with DS would be able to make progress. Also, because this population has been growing for decades (Herron-Foster & Bustos, 2014), many health care settings and communities may encounter issues in finding further resources for supporting the increasing DS population. The resources collected in this study could provide a quick guide and direction of treatment for therapists who want to work with this population.

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This study did not include the discussion of measuring methods for evaluating the outcome of the treatment plan. Therefore, further research may focus on measuring the clients' outcome of this art therapy treatment plan and refine the treatment provided to people with DS. Because this treatment plan is designed based on reviewing the previous studies and compiling the research results, there may be deviation when it comes to the actual practice in the field. The future research may also shift the focus among specific ages of people diagnosed with DS. The treatment plan presented in this study only focused on common issues and needs of individuals with DS, but this population in different age groups has distinct issues (Dykens, 2007; Fidler, Most, & Philofshy, 2009). These varied issues will lead to different therapeutic needs and goals, which should be further studied.

The researchers who want to conduct research related to this population in the future may also use this study as a foundation. Because this population was understudied in the art therapy field, it would be time-consuming to search and review potential research to collect relevant data. This study incorporates the effective interventions and relevant goals through searching and reviewing previous art therapy research, and the major findings may be a shortcut for looking at what could best support this population. Thus, the researchers who are interested in studying art therapy and people with DS could utilize the data collected in this study as a starting point.

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