

# A sense-able approach to art therapy: Promoting engagement for a child with developmental difficulties

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## Abstract

This article discusses the impacts of an art therapy intervention provided for a child with developmental difficulties. Qualitative and quantitative methods of data collection were utilised in the case study, including pre- and post-testing, interviews and therapist observations. The participant attended eight art therapy sessions, in which a specific balance of sensory input, provided through the therapist's management of art materials and utilisation of physical environment, supported the child's engagement in art therapy. This in turn led to positive therapeutic outcomes regarding the child's engagement at home and school, including improvements in attention and concentration, prosocial behaviour, emotional regulation and less defiant behaviour.

## Keywords

Art therapy, developmental difficulties, children, engagement, sensory

## Introduction

The ability to engage with the world around us is an important component in living a meaningful and connected life (Reid, 2008). For children with developmental difficulties, an inability to accurately receive, respond to and act on information from the surrounding environment can lead to poor engagement across various areas of their lives, which can have both immediate and pervasive long-term effects on their abilities, opportunities and well-being (Chiarello, Palisano, Bartlett & Westcott McCoy, 2011; Cummings, Kaminski & Merrell, 2008; McCartney & Phillips, 2005).

Art therapy has been effective in promoting behaviour and responses that assist effective engagement (Isis, Bush, Siegel & Ventura, 2010; Reid, 2008). However, for this client group, the integration of an expressive and a physical component to treatment may result in better therapeutic outcomes (Kearns, 2004). Given the supporting evidence for using sensory interventions with children with developmental difficulties, approaching art therapy with a

sensory focus may be a holistic way to address the experiences and support the engagement of these children (Kinnealey, 1998; Miller-Kuhaneck, Henry, Glennon, & Mu, 2007).

The primary research question for this study was: Will tailoring the sensory input provided in an individual art therapy intervention promote engagement for a child with developmental difficulties? This research aimed to assess whether providing specific sensory input within an art therapy intervention would improve the engagement of a child with developmental difficulties, both in the art therapy intervention itself and within the wider context of her life.

## Literature review

### Art therapy

Art therapy is the use of art-making within a professional therapeutic relationship (Edwards, 2004). The power of art therapy is in its capacity to utilise the nonverbal processes of art-making to help people express and integrate their life experiences (Malchiodi, 1998).

When utilised with school aged children, art therapy has been found to address a range of behavioural, emotional and personal issues, promoting positive change through self-expression (Malchiodi, 1998). Art therapy supports vulnerable students within mainstream education systems, particularly children with developmental difficulties (Anderson, 1992; Kearns, 2004; Robinson, 2009). This is achieved by providing opportunities to build positive self-concept, experience mastery of new skills, understand and cope with feelings, and improve interpersonal communication (Gersch & Sao Joao Gonclaves, 2006; Gunter, 2000; Pifalo, 2002; Slayton, D'Archer & Kaplan, 2010).

### **Engagement**

Engagement refers to a person's participation in the world around them; that is, active and meaningful interaction with their personal, social, systemic and physical environments (Champagne, 2011; Hitch, 2009; Law, Missiuna, Pollock & Stewart, 2005). Effective engagement across these environmental domains has many benefits, such as promoting social and emotional development and general well-being (Humphry & Wakeford, 2008; Reid, 2008). Conversely, an inability to engage with the surrounding environment – for example, minimal or superficial interaction – can manifest as poor academic performance, limitations in perception and communication, poor attention and concentration and ineffective regulation of emotions and behaviour (Cummings, Kaminski & Merrell, 2008; McCartney & Phillips, 2005; Reid, 2008). A child's level of engagement can also affect their ability to form and sustain appropriate relationships, and their capacity to interpret and extract meaning from experience, which are essential life skills (Bejerholm & Eklund, 2007; Chiarello, Palisano, Bartlett & Westcott McCoy, 2011; Hitch, 2009).

Literature suggests that children with developmental difficulties are more likely to experience problems with engagement than children without developmental concerns (Anderson, 1992; Chiarello, Palisano, Bartlett

& Westcott McCoy, 2011). This is particularly evident in the areas of behaviour, emotional regulation and expression, academic performance and expressive/receptive communication (Anderson, 1992; Herring et al, 2006). Poor engagement will result in difficulties coping both at home and school and can have pervasive, long-term effects for these children.

### **Art therapy and engagement**

Art therapy can enhance engagement in many areas of a child's life. The expression of emotion, enhanced personal understanding, the development of coping skills, and improvements in focus and impulse control are just some of the documented benefits of art therapy for children with developmental difficulties (Isis, Bush, Siegel & Ventura, 2010; Welsby, 1998). Improvements in any of these areas can have a positive influence on a child's ability to effectively engage with the world around them (Reid, 2011; Simmons, Griswold & Berg, 2010).

While engagement with the inner and outer world can be an outcome of participation in art therapy, art therapy is also a process that requires engagement. Engagement can be observed and measured through interactions with art materials, the therapeutic alliance between client and therapist, and in the triangular relationship between client, therapist and artwork (Edwards, 2004).

When working with children with autism, Evans (1998) found that specific art materials influenced the child's interaction with the art-making process. Evans discusses introducing art materials and experiences over time to "extend and control the process of the experience", therefore giving the child the opportunity to engage with the process on a deeper level (Evans, 1998, p.22). The outcome of this intervention for children with autism was improvements in communication and cognitive development, as well as the development of therapeutic rapport (Evans, 1998; Evans & Dubowski, 2001). This finding suggests that a child's level of engagement in an art therapy intervention can be manipulated

through the use of particular art materials and processes.

### **The senses**

There are seven senses (or systems) through which people receive sensory input. These include the visual, auditory, olfactory, tactile, and gustatory systems, as well as two lesser known systems, the proprioceptive and the vestibular (Kranowitz, 1998). The proprioceptive system allows people to understand the location of their body parts in relation to each other and the environment, while the vestibular system assists awareness of movement and balance (Lynch & Simpson, 2004).

Information from the surrounding environment is received through these seven systems and interpreted by the brain to help people understand and function in the world around them (Kranowitz, 1998; Schaaf & Nightlinger, 2007). Information received through the senses also stimulates the body to respond in certain ways, such as becoming more or less alert or relaxed (Kranowitz, 1998; Lynch & Simpson, 2004). People who experience difficulties processing this sensory information are unable to effectively integrate the information received through one or more senses, and therefore are unable to make meaning from the information in their environment (Ayres, 1978; Kranowitz, 1998).

Literature indicates that children with developmental difficulties are often at higher risk of having difficulties with sensory processing (Lynch & Simpson, 2004). Sensory processing difficulties can have a significant impact on emotional security, social and communication skills, and academic performance. This may manifest as poor task performance across numerous areas, low self-esteem, poor classroom behaviour and inappropriate social responses (Kranowitz, 1998; Stephens & Royeen, 1998; Stonefelt & Stein, 1998; Tomchek & Dunn, 2007; Yochman, Parush & Ornoy, 2004).

Children can be supported to effectively process and integrate sensory information through exposure to sensory input designed

for their specific needs (Schaaf & Nightlinger, 2007). A balance of sensory input specific to an individual's needs can produce an adaptive response, assisting the brain to organise, integrate and make sense of the information from the surrounding environment (Ayres, 1979; Stonefelt & Stein, 1998). Examples of such adaptations could include supporting clients to engage in activities that provide more/less proprioceptive input, or exposure to more/less visual or auditory stimulation. Supporting a child's sensory processing can enhance their engagement with the world around them (Champagne, 2011; Yochman, Parush & Ornoy, 2004).

### **Art therapy with a sensory focus**

The brain is affected by and reacts to the sensory experience of making art which supports the existence of a complementary relationship between sensory interventions and art therapy. (Lusebrink, 2010). Thus art-making can help children with developmental difficulties build tactile and kinaesthetic awareness and achieve sensory integration (Robinson, 2009). Art therapy can build upon these sensory interventions, supporting self-esteem and personal expression within the context of a meaningful activity (Bundy & Murray, 2002; Stephens & Royeen, 1998).

Combining sensory interventions with art therapy is an effective way to work with children with developmental difficulties. This integrated approach can trigger physical and emotional reactions within the body, including the expression of emotions as well as physical adaptive responses (Lusebrink, 2010; O'Brien, 2004; Proulx, 2002; Robinson, 2009). Kearns (2004) found that integrating sensory exploration with expressive visual communication simultaneously addressed the sensory and emotional needs of children, enhancing their ability to engage within their world.

As the literature indicates, children with developmental difficulties can experience an increased sense of well-being, better academic performance and supportive social relationships if they are able to engage meaningfully with

the world around them. While both art therapy and sensory interventions have been effective in promoting behaviour responses that assist effective engagement, few studies exist that combine these modalities into a single holistic intervention.

Providing sensory input within an art therapy intervention – including both a physical and expressive component to treatment – has the potential to enhance treatment outcomes for children with developmental difficulties.

## Methodology

### Ethics approval

Ethical clearance for this study was granted from the University of Queensland Ethical Review Committee, and the Queensland Health Human Research Ethics Committee. All contact with the participant was via Queensland Health. Written consent was obtained from all involved prior to the commencement of this study, including written consent from parents of the participant to contact the participant's teacher.

### Design

This clinical research project utilised a single case study design. Case studies are one of the most accessible and valuable methods of practice-based research available to art therapists (Edwards, 2004; Gilroy, 2006). In addition to therapist observations, the validity of the research outcomes were enhanced through qualitative and quantitative methods of data collection, including pre- and post-standardised assessments and semi-structured interviews.

### Participant

The participant will be referred to as Ella. Ella was nine years old at the time of this study in 2011 and was living with both parents and two siblings in a metropolitan area of Queensland, Australia. Ella was referred for assessment and intervention with a Queensland Health community health team specialising in child development where the author/art therapist was on fieldwork placement.

All art therapy sessions took place at a local community health building.

At the time of referral to art therapy, Ella had a complex presentation with significant developmental difficulties impacting all areas of her daily functioning. Low levels of engagement at home and school were identified in relation to difficulties with organisation, planning, attention and impulsivity, at times manifesting in behaviours leading to Ella being disciplined. Additionally, Ella was recognised as having significant problems maintaining age-appropriate social relationships.

At the commencement of this study, Ella had been seeing a behaviour specialist at her school once a week for 14 weeks. This support continued throughout the duration of this study.

### Instrumentation

Five quantitative methods for data collection were utilised within this research project. These are briefly described below.

The Sensory Profile Caregiver Questionnaire and the Sensory Profile School Companion are standardised measures designed to assess a child's sensory processing abilities, and gather information in a natural session (Dunn, 1999; Dunn, 2006). Both questionnaires ask the informer to rate the frequency at which they observe particular behaviours: *Never*, *Seldom*, *Occasionally*, *Frequently* or *Always* (Dunn, 1999; Dunn, 2006). The Sensory Profile demonstrates strong internal consistency, content validity (via literature review, expert review and category analysis) and construct validity, and includes a standard error of measurement value for each section (Dunn, 1999; Dunn, 2008).

The Strengths and Difficulties Questionnaire (SDQ) is a standardised measure designed to identify behavioural and emotional deficits in children, and is used as a pre- and post-test to determine the effectiveness of an intervention (Mellor, 2005; Vostanis, 2006; Youth in Mind, 2009). The SDQ has demonstrated strong validity and reliability (Mellor, 2005; Vostanis, 2006). This measure consists of 25 items divided into five subscales (*Emotional*

*Symptoms, Conduct Problems, Hyperactivity-Inattention, Peer Problems, Prosocial Behaviour*). All components receive a score out of ten. The lower the score, the closer it is to *Normal* range, excluding *Prosocial*, in which higher scores are closer to *Normal* range. Separate pre- and post-forms have been developed for parents and teachers.

Ella completed the Child Outcome Rating Scale (CORS) at the beginning of each art therapy session, and the Child Session Rating Scale (CSRS) at the end of each session. These forms are completed by making a mark along a line from a 'sad' face to a 'happy' face, indicating how the participant is feeling about certain areas (*Me, Family, School, Everything*). The CORS is a measure designed for children under 13 to assess global distress and treatment outcomes. It has strong reliability and construct validity (Duncan et al, 2006). The CSRS is a measure that provides feedback to the therapist regarding the child's experience of the therapeutic interaction, and is a measure of therapeutic alliance (Duncan & Miller, 2008).

## Procedure

Prior to commencing the art therapy intervention, the Sensory Profile Caregivers Questionnaire and Sensory Profile School Companion were posted to Ella's parents and teacher. These were completed and returned to the therapist. Ella's parents and teacher then attended separate semi-structured interviews conducted by the therapist to gain an understanding of Ella's current pattern of engagement. During this interview the SDQ was also completed (without input from the therapist), and the results were discussed. Following the completion of the intervention, parents and teacher attended separate follow-up interviews with the therapist to complete the follow-up SDQ and discuss observed changes in Ella's pattern of engagement.

Ella attended eight individual art therapy sessions, followed by a final review that included Ella, her parents and the therapist. All sessions were approximately 45-60 minutes in length. Sessions were non-directive in the sense that Ella was never provided with a

specific theme or subject, however, access to art materials was directive in that the art materials were purposefully selected by the therapist and were varied weekly. When deciding what materials to offer, the therapist took into account the various characteristics and potential of art media, for instance by considering the effects of offering materials that were fluid (e.g. watery/powdery materials that are easy to manipulate but difficult to control) or resistive (e.g. structured materials that may allow for detail/precision and are easier to control) (Hyland-Moon, 2009; Kagin & Lusebrink, 1978).

While the art therapy room remained consistent, use of the space was altered in response to Ella's sensory needs. This included, for example, working at a desk or on the floor. It also included providing additional proprioceptive input through some basic stretches and children's yoga poses at the beginning and end of some sessions, also facilitated by the art therapist.

## Data analysis

Data analysis included qualitative and quantitative methods. Scores from pre- and post-intervention SDQ's were compared for both parent and teacher versions, with qualitative data from interviews supporting all findings.

Regarding therapist observations, comprehensive notes were recorded following each art therapy session. The therapist referred to these throughout the intervention when considering the sensory stimuli provided. Upon completion of the intervention, these notes were studied and compared to assess Ella's reaction to the art therapy process and to the sensory environment. Ella's artworks were referred to, as were her use of materials and her sensory response to materials and the environment.

## Results

### Sensory profile

The information obtained from both versions of the Sensory Profile, as well as observations within earlier art therapy sessions, indicated that Ella sought additional sensory input in

Table 1: Sensory stimulation in art therapy sessions

| Session | Objective  | Art Materials  | Proprioceptive/Vestibular Input   | Result   |
|---------|--|--|---|--|
| 1-2     | Informed by Sensory Profile results, variety of input provided to assess sensory response to art materials and proprioceptive/vestibular input.  | Fluid, Resistive and Collage: acrylic paint, pencils, scented textas, gel pastels, sequins, paper/card in various colours and textures.  | Free choice to work at desk and/or floor, additional input provided through children's yoga activity.                         | Schematic art-making. Seeking proprioceptive/vestibular input and use of fluid material, however excessive input/use led to overstimulation and discouraged engagement. At times, understimulation was also observed.    |
| 3-5     | Following observations within previous sessions, a balance of input was provided to encourage engagement. Limits placed on use of fluid material and use of resistive materials encouraged at times. Utilisation of sensory impact of therapist. | Limited Fluid: watercolours, acrylic paint, glitter glue (alternated weekly).<br>Resistive: pencils, scented textas, clay.<br>Collage/Craft: sequins, balls/beads, paper/card. | Dedicated time working at the floor and table within each session, directed by therapist. No additional proprioceptive input. | Experiential art-making. Maintained verbal and visual expression, with increasing verbal expression in each session. Development of 'fairytales' and themes. More settled. Appeared to have more control over behaviour. |
| 6*      | Trial of 'overstimulating' environment. Sensory input altered to investigate the effect on Ella's engagement, as well as the impact of the therapeutic alliance on engagement.   | Fluid: acrylic paint, watercolours, glitter glue, chalk pastels.<br>Collage (fine): glitter, sequins, feathers.  | Most time spent working on the floor, additional input at beginning of session (children's yoga).                             | Uncontained, hyperactive, rolling on floor, less meaningful verbal interaction. Excessive proprioceptive/vestibular input appeared to overstimulate. Required use of clay to assist with session termination.            |
| 7*      | Trial of 'understimulating' environment. Sensory input altered to investigate the effect on Ella's engagement, as well as the impact of the therapeutic alliance on engagement.  | Resistive: pencils, scented textas, clay; crayons.<br>Collage: sequins, paper squares  | Most time spent working at desk. No additional proprioceptive input.  | Generally unsettled, restless, difficulties focusing on task. Reduced verbal interaction. Requesting fluid materials. Attempting to 'smear' collage materials.   |
| 8       | See Sessions 3-5   | See Sessions 3-5   | See Sessions 3-5  | Schematic and experiential art-making. Termination of fairytales. Meaningful verbal and visual expression.   |

\* Strategies were in place to emulate previous sessions (3, 4 and 5) to reengage Ella if necessary.

her daily activities as a means to support her engagement. However, it was evident that this sensory input required moderation as Ella had a tendency to overstimulate. Given this, a variety of sensory stimuli (visual, tactile, proprioceptive, vestibular, olfactory, auditory) was provided in art therapy sessions with a view to enhancing Ella’s engagement in the art therapy process, but was monitored closely for signs of over or understimulation. Table 1 gives a session-by-session summary of the sensory stimulation provided.

### Parent observations and feedback

At the conclusion of the eight sessions, Ella’s parents reported improvements across all areas, with most significant improvements in *Hyperactivity*, *Conduct Problems* and *Peer Problems*. Specifically, significant improvements were reported in Ella’s attention span and concentration (e.g. longer attention to tasks at home, including homework). The parents identified that her awareness of personal boundaries had improved, as she had been witnessed giving people increased personal

space when requested. Ella also demonstrated positive changes regarding peer interaction (external to school environment). According to the SDQ, Ella’s parents identified that her *Total Difficulties Score* changed from *Abnormal* (21/40) at initial assessment to *Normal* (8/40) at final assessment.

Ella’s parents observed a reduction in the impact of her difficulties in *Home Life* and *Leisure Activities*. This was reflected in their daughter’s *Total Impact Score*, which reduced from 5/10 at initial assessment to 2/10 at final assessment. The results of Parent SDQs can be seen in Table 2.

### Teacher observations and feedback

Following the art therapy intervention, significant improvements were reported by Ella’s grade four teacher across all areas, with most SDQ scores moving from *Abnormal* to *Borderline/Normal* ranges. Ella’s teacher reported steady improvements in Ella’s effort and enthusiasm towards schoolwork, with significantly less refusal, defiance and non-compliant behaviour. Ella’s attention and

**Table 2: Strengths and Difficulties Questionnaire – parent version**

| SDQ Components   | Pre-Intervention     | Post-Intervention      |
|--|----------------------|------------------------|
| <b>Emotional Symptoms</b><br>• Physical complaints • Worries • Unhappy<br>• Nervous/clingy • Fearful                     | 3/10<br>(Normal)     | 2/10<br>(Normal)       |
| <b>Conduct Problems</b><br>• Temper • Obedience • Fighting/bullying<br>• Lying • Stealing                                | 3/10<br>(Borderline) | 0/10<br>(Normal)       |
| <b>Hyperactivity</b><br>• Restless/overactive • Fidgeting • Distractibility<br>• Impulsivity • Attention                 | 9/10<br>(Abnormal)   | 3.5/10<br>(Normal)     |
| <b>Peer Problems</b><br>• Solitary play • Friendships • Liked by peers<br>• Bullied by peers • Relationships with adults | 6/10<br>(Abnormal)   | 2.5/10<br>(Borderline) |
| <b>Prosocial</b><br>• Considerate • Sharing • Helpful if someone is hurt<br>• Kind to younger children • Helpful         | 7/10<br>(Normal)     | 8.5/10<br>(Normal)     |
| <b>Total Difficulties</b>  | 21/40<br>(Abnormal)  | 8/40<br>(Normal)       |

concentration had improved, and she was observed to display more age-appropriate behaviour within the classroom.

Social engagement at school remained an issue for Ella. While she received an improved *Peer Problems* score at final assessment, this score still fell within *Abnormal* range. It is interesting to note, however, that a significant improvement was observed in her *Prosocial* behaviour. Ella's teacher reported that overall Ella was engaging in more age-appropriate social interactions and behaviour. Her peers were observed to be more helpful towards her, showing signs of wanting to play with and sit near her. Refer to Table 3 for results from Teacher SDQ's.

Ella's *Total Difficulties Score* moved from *Abnormal* (29/40) at initial assessment to *Borderline* (14/40) at final assessment. However, Ella's *Total Impact Scores* regarding the impact of her difficulties on *Peer Relationships* and *Classroom Learning Outcomes* significantly reduced from 6/6 at initial assessment to 0/6 at final assessment.

## CORS/CSRS

Results from the CORS have been recorded in Table 4. Significant improvements in Ella's rating of *Family* were seen from Session 5, while her rating of *School* and *Me* fluctuated. Total scores remained above 'significant level of distress' (25/40) at all times.

Table 5 shows results from the CSRS. *Listening* (whether Ella felt the therapist listened to her) and *What we did* was consistently scored at 10/10, while scores for *How Important* (how important the session felt) and *Overall* varied. Ella remarked that she found *Overall* difficult to score as both ends of the scale that she had to choose between appealed to her ('I wish we could do something different' and 'I hope we do the same kind of things next time').

## Art therapy sessions

The art therapy sessions are discussed primarily in terms of the therapist's observations of Ella's engagement in the sessions, rather than the therapeutic content or themes that emerged

**Table 3: Strengths and Difficulties Questionnaire – teacher version**

| SDQ Components   | Pre-Intervention     | Post-Intervention     |
|--|----------------------|-----------------------|
| <b>Emotional Symptoms</b><br>• Physical complaints • Worries • Unhappy<br>• Nervous/clingy • Fearful                     | 5/10<br>(Borderline) | 1/10<br>(Normal)      |
| <b>Conduct Problems</b><br>• Temper • Obedience • Fighting/bullying<br>• Lying • Stealing                                | 6/10<br>(Abnormal)   | 2/10<br>(Normal)      |
| <b>Hyperactivity</b><br>• Restless/overactive • Fidgeting • Distractibility<br>• Impulsivity • Attention                 | 10/10<br>(Abnormal)  | 6/10<br>(Borderline)  |
| <b>Peer Problems</b><br>• Solitary play • Friendships • Liked by peers<br>• Bullied by peers • Relationships with adults | 8/10<br>(Abnormal)   | 5/10<br>(Abnormal)    |
| <b>Prosocial</b><br>• Considerate • Sharing • Helpful if someone is hurt<br>• Kind to younger children • Helpful         | 4/10<br>(Abnormal)   | 9/10<br>(Normal)      |
| <b>Total Difficulties</b>  | 29/40<br>(Abnormal)  | 14/40<br>(Borderline) |

**Table 4: Child Outcome Rating Scale**

| Components |     | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    |
|------------|-----|------|------|------|------|------|------|------|------|
| Me         | /10 | 5.2  | 4.1  | 7    | 10   | 10   | 9.3  | 6.8  | 8.1  |
| Family     | /10 | 4.9  | 4.1  | 4.7  | 4.4  | 10   | 10   | 10   | 10   |
| School     | /10 | 7    | 8.5  | 7.6  | 10   | 9.8  | 10   | 3.4  | 5    |
| Everything | /10 | 9    | 10   | 10   | 10   | 10   | 9.7  | 10   | 5    |
| Total      | /40 | 26.1 | 26.7 | 29.3 | 34.4 | 39.8 | 39.5 | 30.3 | 28.1 |

**Table 5: Child Session Rating Scale**

| Components    |     | 1    | 2  | 3  | 4    | 5    | 6    | 7    | 8    |
|---------------|-----|------|----|----|------|------|------|------|------|
| Listening     | /10 | 10   | 10 | 10 | 10   | 10   | 10   | 10   | 10   |
| How important | /10 | 5.2  | 10 | 5  | 4.5  | 5.1  | 5.3  | 10   | 10   |
| What we did   | /10 | 10   | 10 | 10 | 10   | 10   | 10   | 10   | 10   |
| Overall       | /10 | 10   | 5  | 10 | 4.9  | 10   | 10   | 7.5  | 7.3  |
| Total         | /40 | 35.2 | 35 | 35 | 29.4 | 35.1 | 35.3 | 37.5 | 37.3 |

during the therapeutic process. Table 1 shows the summarised session objectives, stimulation provided and results.

**Art therapy process:** Ella involved herself in both schematic art-making (focus on visual representation) and experiential art-making (focus on the experience rather than the final product) (Lowenfeld and Brittain, 1970; Malchiodi, 1998). Sessions 1 and 2 involved mainly schematic work (Figures 1 and 2) as well as development of therapeutic alliance.

Ella engaged in primarily experiential art-making in Sessions 3, 4 and 5. She was observed to use a combination of verbal and visual communication, linking her art to current issues in her life, as well as to complex creative stories (fairytales). An ongoing story developed throughout these sessions; each image represented a land visited by a mermaid princess as part of a quest to save her sick mother (Figures 3 and 4).

It was observed that when sensory stimulation was increased or decreased (e.g. Sessions 6 and 7), Ella found it difficult to consciously engage in the art therapy process.

Verbal and visual expression fluctuated in these sessions (Figures 5 and 6).

Session 8 involved both schematic and experiential art-making and focused on termination, including completion of the mermaid princess story.

**Response to art materials:** Ella utilised vast quantities of fluid and collage materials, particularly glitter-glue, paint and sequins. She was physically active in their application, standing to squeeze or pour the material onto the paper, then smearing it with her hands. Figures 7 and 8 show results of this technique. It was consistently observed that using an excess of fluid materials (Sessions 1, 2 and 6) lead to overstimulation, thus affecting Ella’s engagement. This manifested in impulsive and chaotic behaviour (crawling around the room, flicking and throwing art materials, rapidly swapping between multiple art activities), reduced verbal expression and complete absorption in the experience

Generally, Ella was observed engaging in more meaningful verbal and visual communication when using resistive materials,



Figure 1: *The Mermaid Princess and her Castle* (Sessions 1-2), Mixed-media on cardboard, 297 x 420mm.



Figure 4: *Fire Land* (Session 4), Tissue paper, feathers and glue on cardboard, 297 x 420mm.



Figure 2: *The Lion's Den* (Sessions 1-2), Mixed-media on paper, 297 x 420mm.



Figure 5: *Untitled I* (Session 6), Acrylic paint on paper, 297 x 420mm.



Figure 3: *Love-Love Land* (Session 3), Oil pastel and acrylic paint on paper, original image 420 x 297mm.



Figure 6: *Baby Land* (Session 7), Mixed-media on cardboard, 297 x 420mm.



Figure 7: *Untitled II* (Session 7), Mixed-media on cardboard, original image 297 x 420mm.

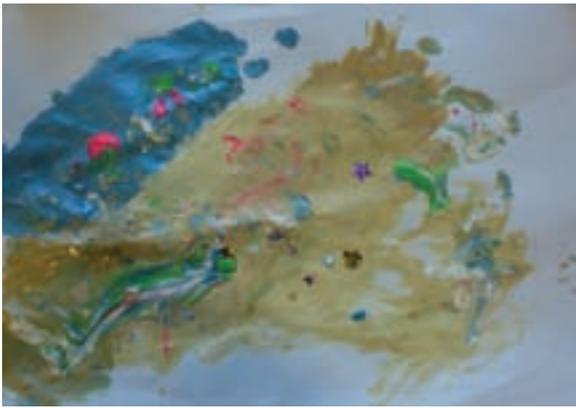


Figure 8: *Untitled III* (Session 2), Acrylic paint and sequins on paper, 297 x 420mm.



Figure 9: *Love-Love Land Treasures* (Session 3) Polymer clay, varied dimensions (clockwise from the left; 86 x 49mm; 72 x 34mm; 50 x 103mm; 87 x 63mm; 114 x 23mm).



Figure 10: *Baby Dragon* (Session 4), Polymer clay and feathers, 74 x 101 x 67mm.

such as clay, texta and pencils. Examples of meaningful engagement included verbal discussions regarding difficulties and worries she experienced at school, and her ability to hear and respond to feedback. When using resistive materials – particularly clay – Ella also expanded on her fairy tale, creating magical

items (Figure 9) and companion characters (Figure 10) for the mermaid princess. Even in Session 6 (when overstimulation occurred), the use of resistive materials toward the end of the session had a containing and grounding effect on Ella, supporting re-engagement in the art therapy process. However, an excess of resistive materials was consistently observed to be understimulating, resulting in significant loss of focus and tangential behaviour (e.g. Session 7).

**Response to physical environment:** Ella was encouraged to work at the table and on the floor. Planning for a combination of both table and floor time within a session appeared to support Ella's engagement by providing her with a variety of proprioceptive and vestibular input while avoiding over or understimulation (e.g. Sessions 3-5 and 8).

It was observed that Ella became restless and disengaged from art-making and from the therapist if she worked at the table for extended periods. This resulted in her diving onto the floor and rolling on the ground. Increased proprioceptive or vestibular input due to extensive art-making on the floor also appeared to cause Ella to disengage, resulting in overexcitement, hyperactivity and inability to maintain meaningful verbal interaction with the therapist.

The presence of the therapist within the art therapy space had an impact upon the sensory environment, and therefore affected Ella's engagement with the art therapy process. At times, the therapist's own sensory impact was purposefully utilised. Techniques employed by the therapist to reengage Ella or redirect her attention included increasing or decreasing the volume and amount of words used, moving closer in proximity or giving additional personal space. These techniques were most effective when used in combination with the appropriate art materials and the physical environment.

## Discussion

Ella required a combination of fluid and resistive materials, time working at the table and the floor, and a varying amount of sensory input from the therapist in order to function

effectively within an art therapy session. If any of these components were unbalanced, it became difficult for Ella to achieve and maintain engagement for the duration of the session. This 'formula' of sensory input is similar to a sensory diet, which is a personalised planned schedule of activities designed to provide specific sensory input to enhance function (Dunn, 2008; Kranowitz, 1998).

It was observed in Sessions 3, 4, 5 and 8 that commencing the session with the use of fluid materials at the table engaged Ella in the process of art-making. Following this with the use of resistive materials while working on the floor maintained Ella's engagement for the duration of the session, and encouraged conscious verbal and visual communication.

The therapist's observations of Ella's engagement in Sessions 6 and 7 also support the efficacy of this 'formula'. In Session 6, overstimulation from excess fluid materials and proprioceptive input (working on the floor and children's yoga) lead to Ella's disengagement. Likewise, the understimulating environment in Session 7 inhibited Ella's ability to engage with the art-making process or with the therapist. Although by this time the therapeutic alliance was strong enough that Ella was able to be contained within these sessions, she was not able to achieve the same quality of verbal or visual expression and communication witnessed in previous sessions. This is a common experience for children with developmental difficulties whose sensory needs are not met by their environment (Dunn, 2008; Kranowitz, 1998).

The conscious manipulation of art materials and environment by the art therapist has previously been explored by Evans (1998) and Evans and Dubowski (2001). In their work with children with autism, Evans and Dubowski found they could enhance the child's experience of an art therapy intervention through the use of particular art materials and environmental factors such as furniture and lighting. Significant positive outcomes were reported, including increased communication skills and development of deeper therapeutic rapport (Evans, 1998; Evans & Dubowski,

2001). Although the client group and motivation for choice of art materials differs from the study presented in this paper, these combined findings provide strong evidence for the careful consideration and preparation of art materials and environment when working with children with developmental difficulties.

Responses to fluid and resistive materials are also discussed in art therapy literature. Fluid materials that are difficult to control are reported to exacerbate and enhance emotional states and can encourage hyperactivity and playfulness. Alternatively, resistive materials can provide a calmer, more structured therapeutic experience (Malchiodi, 1998; Rubin, 2010). While these responses to art materials may represent a generalised experience, the sensory aspect of this intervention allows for individual variation according to sensory needs. It is interesting to note that while an excess of fluid materials negatively affected Ella's engagement, she required some fluid materials to encourage initial engagement in the art therapy session. It was only once she had reached a point of engagement that resistive materials were helpful in providing more structure to Ella's verbal and visual expression.

Examples of Ella's verbal and visual expression were witnessed in her artworks and art-making process. Figures 3 and 4, 9 and 10 were created in Sessions 3 to 5, when a balance of sensory stimulation was provided, and during which the story of the mermaid princess quest was developed. For example, when visiting Fire Land (Figure 4) the mermaid princess rescued the baby dragon (Figure 10), who became her friend and companion on her journey. Together, they visit Love-Love Land (Figure 3, created in the previous session), where they find magical treasures (Figure 9) that help them on their journey. Additionally, the creation of Love-Love Land was accompanied by a verbal exploration of the concept of being 'broken-hearted', following a difficult interaction Ella had had with a friend from school. All these pieces were treasured by Ella, and were revisited at various points throughout the course of the intervention.

Conversely, Figures 5, 6 and 7 were created in Sessions 6 and 7, when Ella was not able to achieve sustained engagement within the art therapy process. No verbal information of any kind accompanied these images. They were created quickly, and set aside as soon as they were complete. While Ella did name one of these images (Baby Land) and linked it to the mermaid princess story, she did this in Session 8 when reviewing her artworks.

As is evidenced by the qualitative and quantitative data gathered from Ella's parents and her teacher, improvements in Ella's level of engagement were observed across her life at home, school, and at extracurricular activities. While specific scores differ between parent and teacher observations, all scores reduced significantly in most areas. At final assessment, Ella's parents and teacher agreed that *Emotional Symptoms*, *Conduct Problems*, and *Prosocial* behaviours all fell within Normal range. Ella's CORS also reflect this, with most scores increasing throughout the course of therapy. In particular, the significant improvements in Ella's rating of *Family* from Session 5 correlate with reports from her parents at final assessment that improved engagement had been observed within the home environment. Interestingly, the focus of Ella's fairytale also changed around this time. The emphasis of the story changed from whether or not the mermaid princess would be able to save her sick mother to the various lands the mermaid princess was visiting and the adventures that took place there. No further companion animals or magical objects were created from this point.

*Peer Problems* were identified as an issue by Ella's parents and her teacher at both initial and final assessment. This has been an ongoing issue for Ella, and is possibly reflected in the fluctuating scores on the CORS. Verbal feedback from Ella during art therapy sessions indicated a correlation between peer problems at school and her rating of *School* and *Me* on the CORS.

Art therapy interventions encourage self-expression and personal understanding, assisting children with developmental

difficulties to engage effectively with the people and systems around them (Isis, Bush, Siegel & Ventura, 2010; Malchiodi, 1998; Rubin, 2010; Welsby, 1998). Tailoring the sensory input in this art therapy intervention promoted Ella's engagement with the art therapy process, thereby enhancing the quality of the therapeutic outcomes. If Ella had not been able to effectively engage in the process of art therapy, it is unlikely the therapeutic outcomes would have been as significant.

## Limitations and recommendations

As evidenced by the literature, sensory interventions have the potential to enhance engagement for children with developmental difficulties by producing a physical adaptive response. However, it is unlikely these sessions (weekly) were regular enough to promote long lasting physical adaptive responses that could assist with engagement for sustained periods outside of the art therapy session. A recommendation for further studies would be to enhance the sensory aspect of this intervention by increasing the regularity of sessions to two to three times per week.

This method is not directly transferable to other children with developmental difficulties as the combination of sensory input was individually tailored to Ella's sensory needs. However, the results of this study indicate that it is beneficial for art therapists to have a thorough understanding of the sensory needs of children within this client group, in order to maximise engagement within an art therapy intervention and thereby enhance therapeutic outcomes. Further, it is recommended that this method be researched with other client groups who are responsive to sensory interventions, such as children and adults with physical disabilities, and people with mental illness.

As previously disclosed, Ella was participating in a behavioural intervention at school prior to and for the duration of this study. The extent to which this affected her overall engagement is unclear. This study would need to be repeated without the additional behavioural intervention to identify

the extent to which these positive changes were a result of the art therapy intervention.

Repetition on a wider scale is recommended in order to further explore the efficacy of this intervention.

## Conclusion

Children with developmental difficulties can experience an increased sense of well-being, better academic performance and supportive social relationships if they are able to engage meaningfully within their personal, social, systemic and physical environments. As is evidenced by the literature, both art therapy and sensory interventions have been successful in promoting behaviour and responses that assist effective engagement.

Engagement in the art therapy process can be enhanced by taking the sensory needs of children with developmental difficulties into account, and providing appropriate sensory input through art materials and use of environment. The powerful effects of art therapy in enhancing personal understanding and expression can only be heightened by the addition of a sensory component to the intervention. Thinking from a sensory perspective when planning these art therapy sessions was a short-cut to reaching a point of engagement with Ella, for whom sustained engagement would otherwise have been difficult.

Meaningful engagement with the process of art therapy can improve the therapeutic outcomes of the intervention, leading to increased levels of engagement in others areas of the child's life. The results of this study show that tailoring the sensory input provided in an individual art therapy intervention can promote engagement for a child with developmental difficulties.

## References

- Anderson, F. E. (1992). *Art for all the children: Approaches to art therapy for children with disabilities*. Springfield, IL: C.C. Thomas.
- Ayres, A. J. (1978). *Sensory integration and learning disorders*. Los Angeles, CA: Western Psychological Services.
- Ayres, A. J. (1979). *Sensory integration and the child*. Los Angeles, CA: Western Psychological Services.
- Bejerholm, U., & Eklund, M. (2007). Occupational engagement in persons with schizophrenia: Relationships to self-related variables, psychopathology, and quality of life. *American Journal of Occupational Therapy*, 61, 21–32.
- Bundy, A. C., & Murray, E. A. (2002). Sensory integration: A Jean Ayres theory revisited. In A.C. Bundy, S. J. Lane, & E. A. Murray (Eds.), *Sensory integration: Theory and practice* (2nd ed.) (pp.3-29). Philadelphia, PA: Davis.
- Champagne, T. (2011). The influence of posttraumatic stress disorder, depression, and sensory processing patterns on occupational engagement: A case study. *Work*, 38, 67-75.
- Chiarello, L. A., Palisano, R. J., Bartlett, D. J., & Westcott McCoy, S. (2011). A multivariate model of determinants of change in gross-motor abilities and engagement in self-care and play of young children with cerebral palsy. *Physical & Occupational Therapy in Paediatrics*, 31(2), 150-168.
- Cummings, K. D., Kaminski, R. A., & Merrell, K.W. (2008). Advances in the assessment of social competence: Findings from a preliminary investigation of a general outcome measure for social behaviour. *Psychology in the Schools*, 45(10), 930-946.
- Duncan, B. L., & Miller, S. D. (2008). 'When I'm good I'm very good, but when I'm bad I'm better': A new mantra for psychotherapists. *Psychotherapy in Australia*, 15(1), 60-69.
- Duncan, B. L., Sparks, J. A., Miller, S. D., Bohanske, R. T., & Claud, D. A. (2006). Giving youth a voice: A preliminary study of the reliability and validity of a brief outcome measure for children, adolescents, and caretakers. *Journal of Brief Therapy*, 5(2), 71-88.
- Dunn, W. D. (1999). *Sensory profile user's manual*. San Antonio, TX: The Psychological Corporation.

- Dunn, W. D. (2006). *Sensory profile school companion*. San Antonio, TX: The Psychological Corporation.
- Dunn, W. D. (2008). *Living sensorially*. Philadelphia, PA: Jessica Kingsley Publishers.
- Edwards, D. E. (2004). *Art therapy*. London, UK: Sage Publications.
- Evans, K. (1998). Shaping experience and sharing meaning: Art therapy for children with autism. *Inscape*, 3(1), 17-25.
- Evans, K., & Dubowski, J (2001). *Art therapy with children on the autism spectrum: Beyond words*. Philadelphia, PA: Jessica Kingsley Publishers.
- Gilroy, A. (2006). *Art therapy, research and evidence-based practice*. Thousand Oaks, CA: Sage Publications.
- Gersch, I., & Sao Joao Gonclaves, S. (2006). Creative arts therapies and educational psychology: Let's get together. *International Journal of Art Therapy*, 11(1), 22-32.
- Gunter, M. (2000). Art therapy as an intervention to stabilize the defences of children undergoing bone marrow transplantation. *The Arts in Psychotherapy*, 27(1), 3-14.
- Herring, S., Gray, K., Taffe, J., Tonge, B., Sweeney, D., & Einfeld, S. (2006). Behaviour and emotional problems in toddlers with pervasive developmental disorders and developmental delay: associations with parental mental health and family functioning. *Journal of Intellectual Disability Research*, 50(12), 874-882.
- Hitch, D. (2009). Experiences of engagement in occupations and assertive outreach services. *British Journal of Occupational Therapy*, 72(11), 482-490.
- Humphry, R., & Wakeford, L. (2008). Development of everyday activities A model for occupation-centered therapy. *Infants & Young Children*, 21(3), 230-240.
- Hyland-Moon, C. (2009). *Materials and media in art therapy*. New York, NY: Taylor and Francis.
- Isis, P. D., Bush, J., Siegel, C. A., & Ventura, Y. (2010). Empowering students through creativity: Art therapy in Miami-Dade County public schools. *Art Therapy: Journal of the American Art Therapy Association*, 27(2), 56-61
- Kagin, S. L., & Lusebrink, V. B. (1978). The Expressive Therapies Continuum. *Art Psychotherapy*, 5, 171-180.
- Kearns, D. (2004). Art therapy with a child experiencing sensory integration difficulty. *Art Therapy: Journal of the American Art Therapy Association*, 21(2), 95-101.
- Kinnealey, M. (1998). Princess or tyrant: A case report of a child with sensory defensiveness. *Occupational Therapy International*, 5(4), 293-303.
- Kranowitz, C. S. (1998). *The out-of-sync child*. New York, NY: Skylight Press.
- Law, M., Missiuna, C., Pollock, N., & Stewart, D. (2005). Foundations of occupational therapy practice with children. In J. Case-Smith (Ed.), *Occupational therapy for children* (5th ed.) (pp.53-87). St Louis, MO: Elsevier.
- Lowenfeld, V., & Brittain, W. L. (1970). *Creative and mental growth*. New York, NY: Macmillan.
- Lusebrink, V. B. (2010). Assessment and therapeutic application of the Expressive Therapies Continuum: Implications for brain structures and functions. *Art Therapy: Journal of the American Art Therapy Association*, 27(4), 168-177.
- Lynch, S. A., & Simpson, C. G. (2004). Sensory processing: Meeting individual needs using the seven senses. *Young Exceptional Children*, 7(4), 2-9.
- McCartney K, Phillips D (2005). *Blackwell handbook of early childhood development*. New York, NY: Blackwell Publishing.
- Malchiodi, C. A. (1998). *The art therapy sourcebook*. Los Angeles, CA: Lowell House.
- Mellor, D. (2005). Normative data for the strengths and difficulties questionnaire in Australia. *Australian Psychologist*, 40(3), 215-22.
- Miller-Kuhaneck, H., Henry, D. A., Glennon, T. J., & Mu, K. (2007). Development of the Sensory Processing Measure – School: Initial studies of reliability and validity. *American Journal of Occupational Therapy*, 61(2), 170-175.
- O'Brien, F. (2004). The making of mess in art therapy: Attachment, trauma and the brain. *Inscape*, 9(1), 2-13.
- Pifalo, T. (2002). Pulling out thorns: Art therapy with sexually abused children and adolescents. *Art Therapy: Journal of the American Art Therapy Association*, 19(1), 12-22.
- Proulx, L. (2002). The sensory experience and internalization. In *Strengthening emotional ties through parent-child dyad art therapy: Interventions with infants and preschoolers* (pp.53-67). Philadelphia, PA: Jessica Kingsley Publishers.
- Reid, D. (2008). Exploring the relationship between occupational presence, occupational engagement, and people's well-being. *Journal of Occupational Science*, 15(1), 43-47.

- Reid, D. (2011). Mindfulness and flow in occupational engagement: Presence in doing. *Canadian Journal of Occupational Therapy*, 78(1), 50-56.
- Robinson, K. S. (2009). Part of the team: Art therapy with pre-school children with developmental delays and disabilities in a children's treatment centre setting. *Canadian Art Therapy Association Journal*, 22(2), 34-43.
- Rubin, J. A. (2010). *Introduction to art therapy*. New York, NY: Routledge.
- Schaaf, R. C., & Nightlinger, K. M. (2007). Occupational therapy using a sensory integrative approach: A case study of effectiveness. *American Journal of Occupational Therapy*, 61, 239-246.
- Simmons, C. D., Griswold, L. A., & Berg, B. (2010). Evaluation of social interaction during occupational engagement. *American Journal of Occupational Therapy*, 64, 10-17.
- Slayton, S. C., D'Archer, J., & Kaplan, F. (2010). Outcome studies on the efficacy of art therapy: a review of findings. *Art Therapy: Journal of the American Art Therapy Association*, 27(3), 108-119.
- Stephens, C. L., & Royeen, C. B. (1998). Investigation of tactile defensiveness and self-esteem in typically developing children. *Occupational Therapy International*, 5(4), 273-280.
- Stonefelt, L. L., & Stein, F. (1998). Sensory integrative techniques applied to children with learning disabilities: An outcome study. *Occupational Therapy International*, 5(4), 252-272.
- Tomchek, S. D., & Dunn, W. (2007). Sensory processing in children with and without autism: A comparative study using the Short Sensory Profile. *American Journal of Occupational Therapy*, 61, 190-200.
- Vostanis, P. (2006). Strengths and difficulties questionnaire: Research and clinical applications. *Current Opinion in Psychiatry*, 19(4), 367-72.
- Welsby, C. (1998). A part of the whole: Art therapy in a girls' comprehensive school. *Inscape*, 3(1), 33-40.
- Yochman, A., Parush, S., & Ornoy, A. (2004). Responses of preschooler children with and without ADHD to sensory events in daily life. *The American Journal of Occupational Therapy*, 58(3), 294-302.
- Youth in Mind. (2009). *What is the SDQ?* Retrieved from <http://www.sdqinfo.org/a0.html>