Surveying Hospitalized Children to Create Stimulus Drawings for an Art Therapy Assessment

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Submitted to the faculty of the Art Therapy Program
in partial fulfillment of the requirements for the degree
Master of Arts in Art Therapy
in the Herron School of Art and Design
Indiana University
May 2023
SURVEYING HOSPITALIZED CHILDREN

Abstract
Art therapy assessments can be a way to identify the needs of children in the medical setting. A four-question mixed methods survey approach was administered to children in a hospital as a preliminary step in developing an art therapy assessment. There were 25 participants between the ages of 6 and 12. The survey results found that children in the medical setting prefer dogs, large cats, house cats, and small rodents as their favorite animals. They chose houses, farms, and water as the top environments for the animals chosen. They chose food and water as the top needs of the animals. The most selected material for this task would be a mechanical pencil. The results of this survey will be the framework for creating stimulus drawings for the art therapy assessment.

Keywords: stimulus drawings, art therapy assessments, medical art therapy assessments
Acknowledgments

I would like to acknowledge and thank all the Riley Hospital patients who took part in my survey. Without each of them, this thesis would not be possible. I also would like to thank my supervisor Hannah Lugo for taking additional time to be my art therapy supervisor, for helping me execute my survey, and for being so supportive of me throughout my time at the hospital. I also want to thank her for being my second reader and editor of my paper. Thank you to the other art therapists at Riley: Megan Hicks, Emily Allbery, and Emily Slavich, for being supportive of my thesis and survey in the hospital setting. Further, to my family, I thank you for your support through the ups and downs of graduate school. I do not know where I would be without your encouragement and love. To my cohort: Eri, Kaylin, Brooke, Ben, and Kaylee, I am honored to have worked alongside you in this program. I am thankful for your encouragement, jokes, and shared pain we have endured together. I am blessed to have shared this experience with each of you, and it would not have been the same without you. Finally, to my professor and director, Eileen Misluk. I am so grateful for your guidance, leadership, and encouragement throughout my graduate school experience. I am so thankful for the time and energy you have invested in me, my thesis writing, and my art therapy assessment.
Table of Contents

Abstract ........................................................................................................................................... 1
Acknowledgments ........................................................................................................................... 2
Table of Contents ............................................................................................................................ 3
List of Tables .................................................................................................................................. 5
List of Figures ................................................................................................................................. 6
Chapter I: Introduction .................................................................................................................... 7
  Operational Definitions ............................................................................................................... 9
Chapter II: Literature Review ....................................................................................................... 11
  Population Needs....................................................................................................................... 11
  Population Considerations......................................................................................................... 13
    Materials ................................................................................................................................ 13
    Ability and Accessibility ....................................................................................................... 15
    Spirituality and Hospitalization ............................................................................................. 16
    Control ................................................................................................................................... 18
  Art Therapy ............................................................................................................................... 19
    Fear and Anxiety ................................................................................................................ 20
    Stress Reduction ................................................................................................................ 20
    Building Confidence ............................................................................................................ 21
    Communication .................................................................................................................... 22
    Control ................................................................................................................................... 23
    Expressing Emotion .............................................................................................................. 23
  Historical Background of Assessments ..................................................................................... 25
    Purpose of Assessments ....................................................................................................... 25
    Projective Assessments ......................................................................................................... 26
    Stimulus Drawings ............................................................................................................... 27
    Benefits of Assessments ....................................................................................................... 29
    Limitations to Assessments ................................................................................................. 31
    Assessments in Pediatrics .................................................................................................... 32
  Improving Future Assessments ................................................................................................. 34
Chapter III: Methods ..................................................................................................................... 36
SURVEYING HOSPITALIZED CHILDREN

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design of the Study</td>
<td>36</td>
</tr>
<tr>
<td>Location of Study</td>
<td>36</td>
</tr>
<tr>
<td>Time Period for Study</td>
<td>36</td>
</tr>
<tr>
<td>Enrollment Information</td>
<td>36</td>
</tr>
<tr>
<td>Recruitment</td>
<td>37</td>
</tr>
<tr>
<td>Informed Consent</td>
<td>37</td>
</tr>
<tr>
<td>Investigational Methods and Procedures</td>
<td>37</td>
</tr>
<tr>
<td>Instrumentation &amp; Data Collection</td>
<td>37</td>
</tr>
<tr>
<td>Data Analysis</td>
<td>37</td>
</tr>
<tr>
<td>Possible Risks and Discomforts</td>
<td>38</td>
</tr>
<tr>
<td>Special Precautions to Minimize Risks or Hazards</td>
<td>38</td>
</tr>
<tr>
<td>Chapter IV: Results</td>
<td>39</td>
</tr>
<tr>
<td>Chapter V: Discussion</td>
<td>48</td>
</tr>
<tr>
<td>Survey Observations and Recommendations</td>
<td>48</td>
</tr>
<tr>
<td>Themes</td>
<td>48</td>
</tr>
<tr>
<td>Animal Themes</td>
<td>48</td>
</tr>
<tr>
<td>Themes of Needs</td>
<td>49</td>
</tr>
<tr>
<td>Media Choice</td>
<td>49</td>
</tr>
<tr>
<td>Stimulus Drawing Pages</td>
<td>50</td>
</tr>
<tr>
<td>Stimulus Drawings</td>
<td>50</td>
</tr>
<tr>
<td>Structure of the Assessment</td>
<td>51</td>
</tr>
<tr>
<td>Rating System</td>
<td>51</td>
</tr>
<tr>
<td>Limitations</td>
<td>53</td>
</tr>
<tr>
<td>Future Research and Recommendations</td>
<td>54</td>
</tr>
<tr>
<td>Chapter VI: Conclusion</td>
<td>56</td>
</tr>
<tr>
<td>References</td>
<td>58</td>
</tr>
<tr>
<td>Appendix A: Informed Consent</td>
<td>68</td>
</tr>
<tr>
<td>Appendix B: Cover Letter/ Informed Consent</td>
<td>71</td>
</tr>
<tr>
<td>Appendix C: Data Collection Form</td>
<td>72</td>
</tr>
<tr>
<td>Appendix D: Stimulus Drawings</td>
<td>74</td>
</tr>
<tr>
<td>Appendix E: The Animal Stimulus Drawing Assessment</td>
<td>76</td>
</tr>
</tbody>
</table>
List of Tables

Table 1: Combined Survey Answers ............................................................................................ 41
Table 2: Animal Count.................................................................................................................. 43
Table 3: Environment Count ......................................................................................................... 44
Table 4: Needs Count.................................................................................................................... 45
Table 5: Assessment Rating Guide ............................................................................................... 52
SURVEYING HOSPITALIZED CHILDREN

List of Figures

Figure 1: Gender ........................................................................................................................... 39
Figure 2: Age ................................................................................................................................ 40
Figure 3: Materials Preferred ....................................................................................................... 40
Figure 4: Animal’s Needs: Themes .............................................................................................. 46
Figure 5: Animal Themes ............................................................................................................. 47
Chapter I
Introduction

Hospitalization can be an emotionally taxing and psychologically traumatizing experience for children (Dalei et al., 2020; Lerwick, 2013). Children who are chronically ill leave their familiar environment, the people who are important to them, and stop doing their favorite activities in exchange for a hospital stay, causing anxiety and stress to the patient and their families (Koukourikos et al., 2015). In addition, these families experience stressors in the hospital setting, such as medical examinations, pain, uncertainty, death, and loss of control (Koukourikos et al., 2015).

The main priority in the hospital environment is improving the patient's clinical symptoms, diseases, and physical health needs (Koukourikos et al., 2015; Councill, 2012), potentially neglecting mental health and developmental play. When mental health and play are neglected, a child is experiencing an atypical living environment, and experiences and can cause more complications in the long run. For example, children who are a "younger age, [have] anxious parents at induction, previous behavior problems at health care attendances, [have] a procedure greater than 30-minute duration and [were] admitted to [the] hospital more than five times previously" are associated with higher anxiety (Davison et al., 2006, p. 925). Furthermore, children with high anxiety levels before surgery are associated with more pain post-surgery (Kain et al., 2006). Addressing these concerns can resolve anxiety and trauma responses that could create long-term psychological effects on patients (Lerwick, 2016; Lerwick, 2013).

Art therapy and play are able to effectively address these issues in the hospital setting (Salsabila et al., 2022; Dalei et al., 2020; Lerwick, 2013). Art therapy enhances communication, emotional expression, distraction and improves symptomology in children with cancer (Aguilar, 2017). Art therapy can also reduce tension and increase the effects of relaxation on the body.
SURVEYING HOSPITALIZED CHILDREN
(Dalei et al., 2020). In addition, because creativity and play are developmentally necessary for children, art therapy can be a less threatening way to help them in an unfamiliar hospital environment (Dalei et al., 2020).

However, there needs to be a standardized way to assess the mental health needs of pediatric patients. Art therapy assessments can be used in this environment, but they were not explicitly created for this population (Councilll, 2012). Additionally, art-based assessments are underutilized in the art therapy field and are highly debated in the profession (Betts, 2006; Gantt, 2004). At this time, no art therapy assessment has been developed specifically for medical pediatric patients to gain insight into their hospital experience. I hypothesized that an art therapy assessment could be created to help identify some of the needs of pediatric patients.

Utilizing a mixed-methods survey, I gathered information to develop stimulus images and material recommendations in the preliminary development of an assessment. This survey asked pediatric hospitalized participants ages 6 – 12 to identify three of their favorite animals, what environments these animals live in, what needs the animals might have, and what materials they would use to draw these animals.
SURVEYING HOSPITALIZED CHILDREN

Operational Definitions

Art therapy - "An integrative mental health and human services profession that enriches the lives of individuals, families, and communities through active art making, creative process, applied psychological theory, and human experience within a psychotherapeutic relationship" (American Art Therapy Association [AATA], 2022, para. 1).

Child - A young person "between infancy and adolescence" (APA, 2022, para 1). For the purpose of this study, a child will be represented between the ages of six through twelve.

Coping strategy - Modifying one's thoughts or actions to a stressful or unpleasant situation (APA, 2022).

Expressive Therapies Continuum – “The Expressive Therapies Continuum represents a means to classify interactions with art media or other experiential activities to process information and form images (Hinz, 2009, p. 4).

Medical art therapy - The process in which an art therapist provides art, imagery, or creative activities for an individual undergoing a medical procedure, physical illness, or physical trauma (Malchiodi, 1999).


Projective assessments - "A diagnostic technique based on cognitive projection or apperception" (Stemplewska-Zakowicz & Paluchowski, 2013, p. 424).
SURVEYING HOSPITALIZED CHILDREN

**Psychological assessments** - "The gathering and integration of data to evaluate a person's behavior, abilities, and other characteristics, particularly for the purposes of making a diagnosis or treatment recommendation" (APA, 2022, para. 1).

**Stimulus drawing** – A stimulus drawing "takes the place of words as the principal channel for receiving and expressing ideas" (Silver, 2001, p. 16). This approach offers limited line drawing sketches that include people, places, things, and animals for the participant to choose from.
Chapter II

Literature Review

Population Needs

Children with illness and medical diagnoses are a vulnerable population with unique needs in the inpatient hospital setting. This population's primary need is to seek medical attention and physical improvement rather than mental health services (Councill, 2012). However, there is still a place for mental health as adjunctive therapy in children's hospitals. Children are often struggling with anxiety (Dalei et al., 2020; Wikstrom, 2005), distress (Nainis et al., 2006), loss of control, safety (Skeels & Tan, 2010), lack of coping skills (Dalei et al., 2020), and pain (Dalei et al., 2020; Nainis, 2008; Nainis et al., 2006). In addition, patients often lose autonomy in many areas, such as control over their schedule or doing things for themselves (Skeels & Tan, 2010). With this in mind, patients should not lose their basic needs to feel safe and socially connected. Furthermore, children and their families state that they want better communication, respect, and confidence in the skills and abilities of their providers in the hospital (Lerwick, 2016).

Additionally, it was noted that pediatric patients' primary need is to know that they are safe and to receive age-appropriate information. Children are still experiencing anxiety, fear, and lack of communication in the hospital setting (Lerwick, 2016; Singh et al., 2011). A common experience for children in the hospital is feeling anxious or distressed. Wikstrom (2005) noted that inpatient children are dealing with themes of fear, powerlessness, and longing that Lerwick (2016) stated could result in increased anxiety and helplessness. When helplessness arises, a lack of cooperation with medical procedures can result. Lack of patient cooperation varies based on the developmental stage of the child. For example, a distressed toddler in the hospital setting may throw temper tantrums, stop eating, refuse to use the bathroom, or have difficulty sleeping (Salsabila et al., 2022). In contrast, an adolescent may become withdrawn and refuse to
SURVEYING HOSPITALIZED CHILDREN

communicate. Additionally, fear may cause children to reject nursing assistance and medication (Dalei et al., 2020). With this research, studies continue to address a need that children have for support in the hospital setting.

Children who are a "younger age, [have] anxious parents at induction, previous behavior problems at health care attendances, [have] a procedure greater than 30 min duration and being admitted to [the] hospital more than five times previously" is associated with higher anxiety (Davison et al., 2006, p. 925). Kain et al. (2006) conducted a controlled cohort study to understand if preoperative anxiety affects postoperative pain. The study included 241 children ages five to 12 scheduled to undergo surgery. The results found that patients with increased anxiety before surgery "[are] associated with increased postoperative pain, analgesic consumption, general anxiety, and sleep problems" (p. 656). Additional themes in the hospitalization setting for pediatric patients include control and safety. According to Dalei et al. (2020), children in hospitals lose control over their environments because they have little control over their schedules and what happens to their bodies. Lerwick (2016) noted that children need as much control as possible while in the hospital. When patients are unprepared for what will happen to them, it can increase anxiety and fear (Lerwick, 2016). Lack of control can impact psychological trauma in the hospital setting, demonstrated through "anxiety, aggression, and similar expressions of emotion" (Lerwick, 2016, p. 143).

Coping competence theory states that everyday demands of life, as well as significant life events, can stretch a child beyond their current coping capacity (Dumas, 1997; Blechman et al., 1995). Many children can view these life events as stressful because of the physical, cognitive, and emotional energy they must put into them. As a result, children often cope with issues in “prosocial, antisocial, or asocial ways” (Moreland & Dumas, 2007, p. 438). When children cope
SURVEYING HOSPITALIZED CHILDREN

antisocially, this could result in behaving aggressively or denying responsibility for their involvement in the problem (Moreland & Dumas, 2007). This could ultimately hurt themselves or others. Children who cope asocially are more avoidant in their responses to challenges (Moreland & Dumas, 2007). They withdraw from the situation, and their motivations are often rooted in fear (Moreland & Dumas, 2007: Izard, 1984; Waters & Sroufe, 1983). Coping competence theory assumes that all young children react in antisocial or asocial ways in early development, which will eventually serve as an essential learning experience (Moreland & Dumas, 2007; Blechman et al., 1995; Dumas, 1997). Children are less likely to cope prosocially until they are older and have been through enough challenges with consistent support or limits (Moreland & Dumas, 2007). As stated, children are a vulnerable population that have a wide variety of needs in the hospital setting. The impact of these needs, such as loss of control, safety, and coping, and increased anxiety, hinder the healing process and prolong treatment (Salsabila et al., 2022; Lerwick, 2016; Davison et al., 2006; Kain et al., 2006).

Population Considerations

As explored in the previous section, children in hospitals are a vulnerable population and considerations need to be addressed before working with them. Some of these considerations include what materials to use with them (Davis, 2021; Councill, 2012), their ability and accessibility (Clanchy et al., 2022), their spiritual and religious views (Zhvitiashvili, 2021; Koepfer, 2000), and their lack of control in the hospital (Lozano & Houtrow, 2018; Lerwick, 2016).

Materials

Many different types of materials, including art materials, are used in the pediatric medical setting. Medical settings create unique requirements for art materials to maintain safe
hospitalization spaces that abide by infection control and prevention. An art therapist must safeguard their clients through infection control. Infection control is essential to medical art therapy (Davis, 2021; Councill, 2012). There are universal protocols that are used to reduce the spread of infections in the hospital setting. These precautions, including disinfecting surfaces and supplies, and sanitizing hands before and after each patient interaction, are necessary to prevent the spread of germs across the hospital (Davis, 2021; Councill, 2012). As a medical art therapist, it is imperative to understand what art materials can be cleaned and reused. There are special considerations for using materials with this population. For example, when an art therapist travels from room to room with art materials, it is vital to note which materials have already been used and contaminated (Davis, 2021). In addition, it may be helpful to label which materials are used with specific populations so they are not used in other units or spaces that could cause cross-contamination.

Materials such as paper products cannot be cleaned and, therefore, cannot be reused by other patients. However, materials such as magazines can be used but must be set aside for at least a week between uses to allow germs to die off naturally. Other consumable materials like "masks, canvas, paper, textiles, clay, crayons, oil pastels, paint, paint-filled syringes, cotton swabs, popsicle sticks, stickers" are left with the patient to keep (Davis, 2021, p. 27) because it eliminates the spread of infection. This is best to do when a client is highly contagious. Certain art materials are inappropriate for the hospital setting, including natural materials that cannot be disinfected and could spread infections across patients (Davis, 2021; Councill, 2012). Specifically, wood is known to harbor infections because it retains bacteria, which makes it hard to keep clean (Milling et al., 2005). Clay is another natural material that can cause harm in hospitals (Davis, 2021; Councill, 2012) because when the clay is dry, the dust can harm patients
SURVEYING HOSPITALIZED CHILDREN

in the hospital's pulmonary units. In clay's wet state, it can harbor bacteria similar to wood.

Another consideration is whether the material has toxic chemicals or fumes (Davis, 2021; Nainis, 2008). Nainis (2008) noted that art materials with strong odors could cause certain patients to feel nauseated, such as patients with cancer and undergoing chemotherapy. Lastly, glitter can harm patients who need magnetic resonance imaging (MRI; Davis, 2021). If glitter were to get stuck to someone getting an MRI, it could burn their skin. Using non-metal glitter, such as glitter glues, is an appropriate alternative if the hospital administration approves.

Although infection control is essential in the hospital setting, it is also important to consider what materials are developmentally appropriate for each child (Malhotra & Kaimal, 2021). Age does not always correlate with developmental level, so an evaluation must be considered before giving materials to a patient. Depending on the child's physical, behavioral, and emotional status, the use of materials may differ. For example, a child working with an art therapist might use 3D materials like model magic to enhance motor skills. Restrictive or fluid materials could be offered depending on whether the patient needs more control, relaxation, or emotional expression.

**Ability and Accessibility**

Disability can be defined through different scopes, such as "intellectual, physical, sensory, cognitive, and psychological impairments" (Clanchy et al., 2022, p. 316). A key part of being in the hospital for many patients is being immobile in their beds. Their range of motion is, to some extent, reclined positions. The hospital beds are capable of moving to a sitting position, but that is the full range for some patients. Depending on the injury, pain, or treatment, they may have to remain in a laying position (Skeels & Tan, 2010). Additionally, limitations may exist for patients with certain medical interventions like IVs in order to not impede their treatments or
SURVEYING HOSPITALIZED CHILDREN

make them physically uncomfortable. Physical limitations can come in various ranges, and approved accommodations from the hospital are essential in determining appropriate interventions. Sue et al. (2022) noted that the general public tends to have lower expectations for people with disabilities, assuming they may not be as skilled or capable. With this in mind, counselors and therapists must be aware of this perspective while working in the hospital setting.

It is recommended to use a holistic approach to accommodate a temporary or permanent disability that maintains a biopsychosocial perspective (Clanchy et al., 2022; Maynard et al., 2009). This approach considers many aspects of the patient's life, including their medical history and identified impairments. According to Clanchy et al. (2022), a biopsychosocial model in pediatric care requires four considerations: the whole person, their function, the environment they are in, and time. Each component will allow for a big-picture understanding of each patient. According to Wilcox (2020), art therapists and medical professionals have the ability to question and change outdated medical models regarding disability. This includes outdated language and perspectives that are no longer relevant or helpful to the population by employing practices that support an equitable model of medical care.

Spirituality and Hospitalization

Art expression is a powerful way to explore spiritual and religious beliefs (Koepfer, 2000). However, as an art therapist, several factors must be considered when discussing spiritual views in the hospital setting. This includes differences in spirituality and religion, views on end-of-life care and the afterlife, and attitudes toward suffering (Zhvitiashvili, 2021). Zhvitiashvili (2021) recommends using a collaborative approach that centers on client needs and values their decision-making process. Children in hospitals have little choice about their treatment, and using
A collaborative approach supports autonomy and, if they choose, spiritual exploration (Zhvitiashvili, 2021).

Koepfer (2000) explored spirituality and religion in the pediatric medical setting to understand cultural variables and ways of addressing spiritual issues in treatment. They found that understanding the cultural and religious background of the child and identifying value is essential to ethical treatment. Furthermore, Koepfer noted that the therapist's role is to "bear witness" to spiritual and religious content when it emerges in the artwork because it can be critical to the child's healing and adaptation (2000, p. 189). Therefore, before engaging in this work, it is important for the clinician to understand their own religious or non-religious beliefs and how their perspective may impact treatment.

According to Zhvitiashvili (2021), end-of-life care encompasses the personal, psychological, and existential. The personal aspect addresses symptoms and pain management. The psychological aspect focuses on change and coping. Furthermore, the existential aspect explores the meaning of life, death, and the reality of the two. Numerous problems can arise when working in end-of-life care; one is consent to treatment. For pediatric patients, this is seen in balancing the wants of the parents versus the patient's wants. This might look like interdisciplinary teams working with the families to navigate this and include the child in some decision-making processes. Additionally, an art therapist in palliative care can work with the client on legacy or memory-making. In this process, the client is able to engage in art making resulting in artwork that will remain with the family once they have died. Within this process, the client can explore meaning-making and process end-of-life.

Pain can look different from the perspective of the patient, the family, and the medical staff. Patients and staff have cultural attitudes, values, and understandings of the pain experience
SURVEYING HOSPITALIZED CHILDREN
(Lovering, 2006). However, the experience, causes, treatment, and value of pain look different individually and across cultures (Lovering, 2006). For example, when looking at the causes of pain, Weiner et al. (2011) noted that spiritual issues are not static across cultures. In addition, Filipino, Saudi, and Asian cultures may associate causes of illness with the evil eye or witchcraft (Lovering, 2006). In other words, pain can be seen as something an individual brings on oneself.
Lovering (2006) also noted that pain was perceived differently within generations and socioeconomic statuses in each culture. Lower socioeconomic and older individuals were able to tolerate more physical and emotional pain than younger and wealthier individuals. Weiner et al. (2011) noted that Latino cultures might perceive pain as punishment from spiritual power. Similarly, people from Tswana may view pain as punishment from their ancestors (Lovering, 2006). Although these things may be true for some of these cultures, not everyone in the same culture has the same views. Therefore, multicultural awareness and competency training are crucial to understanding and approaching all patients.

Control

The hospital setting limits opportunities for choice, autonomy, and control. Children in hospitals are in a position where often their caregivers control what happens to their bodies (Lerwick, 2016). This can decrease the child's sense of control and autonomy. Additionally, there is a clear power differential between the patient and the provider. Because of this, the provider needs to give the clients developmentally appropriate choices to help them reduce anxiety and autonomy during their stay. Giving the patient an agenda or schedule also provides a sense of control (Lerwick, 2016). This could include giving the child a brief explanation of what art therapy will look like with them. The explanation should be developmentally appropriate so the
SURVEYING HOSPITALIZED CHILDREN

Child can understand the interaction. Setting an agenda and explaining what is happening to the child can make expectations clear to the child and family.

Working toward self-management could be a goal for children lacking in this area. Self-management is the responsibility that optimizes health for an individual (Lozano & Houtrow, 2018). This could include taking medication, monitoring symptoms, physical activity, or goal setting. However, approaching self-management in a pediatric setting is different than it would be approached in an adult hospital. The providers must consider the child's dependency on their parents, their developmental level, how that affects their treatment trajectory, and their differential epidemiology (Lozano & Houtrow, 2018). Additionally, children's cognitive development may hinder how well they are able to define what is happening to them in the hospital (Lerwick, 2016). A successful self-management plan for children would include a collaboration between the patients, their families, and the health care provider.

Art Therapy

Art therapy "uses the creative process of art making to improve and enhance the physical, mental, and emotional well-being of individuals of all ages" (Dilawari & Tripathi, 2014, p. 85). Art therapy is used as complementary and additive service in the hospital setting to help meet the mental health needs of patients and their families (Councill, 2012; Lin et al., 2005). When working with children in hospitals, it is important to focus on the patient's strengths (Councill, 2012). Art therapy can be a natural way to build self-esteem, self-awareness, and emotional resilience in individuals (AATA, 2022). Art therapy can also help address individual needs, such as reducing stress (Yount et al., 2013; Wikstrom, 2005) and improving body image (Zhvitiashvili, 2021). Additionally, art therapy in a healthcare setting can increase the perceptions of well-being and, for people with chronic illnesses, can transform their sense of self.
when facing physical discomfort (Malchiodi, 2007a). Art therapy has the ability to address fear, stress reduction, confidence, communication, expressing emotion, and control as it pertains to pediatric patients.

**Fear and Anxiety**

Fear is a resounding theme when working with children in hospitals (Wikstrom, 2005). Causes of fear include "medical examinations, pain, death, fear of separation from parents, and fear of diagnosis, uncertainty, loss of control, and safety" (Koukourikos et al., 2015, p. 438). Art therapy is one way to combat fear in a medical setting. For example, art provides a sense of safety when using art materials that are familiar to the client (Hinz, 2009). Also, art can be a way to explore meaning and creativity in times of trouble (Malhotra & Kaimal, 2021). Additionally, Wikstrom (2005) conducted a qualitative analysis study with 22 participants to understand if hospitalized children communicate with expressive arts. The results showed that many patients dealing with fear, longing, and powerlessness found that expressive arts were valuable for communication and emotional expression.

Furthermore, a study by Dionigi & Gremigni (2016) explored the effects of combining art therapy and clown visits to reduce anxiety at parent separation for surgery on children ages 3-11. There were 78 children in the study. The results found that the children showed significant reductions in anxiety compared to the control groups of the study. Additionally, Dalei et al. (2020) conducted a comparative study to explore the effect of art and play therapy on hospitalized children with anxiety. The results found a significant reduction in children who used play and art therapy during their hospital stay.

**Stress Reduction**
Yount et al. (2013) conducted a randomized comparison study with 25 participants to assess stress reduction in hospitalized children after participating in an art therapy session. They measured the patient's cortisol levels before and after the art therapy session. The results presented a decreased measurable trend of cortisol levels after an art therapy session at the hospital. This means the patient's stress levels were lowered after each art therapy session.

Additionally, stress can be reduced through mental imagery and guided imagery, which is often used in art therapy (Dilwari & Tripathi, 2014). These interventions helped the patients "to reorganize one's thoughts or shift one's focus for the purpose of stress reduction or mental health" (p. 82). Also, art therapy was found to be distracting and calming (Nainis et al., 2006). The relaxation and calming effect of visual arts can facilitate opportunities for emotional healing (Stuckey & Nobel, 2010).

**Building Confidence**

Heron et al. (2013) noted that children as young as eight years old show body dissatisfaction. According to Zhvitiashvili (2021), body image is an important developmental experience to address when an individual adapts to a new environment. When it comes to children in hospitals, medical variables might play a role in body dissatisfaction (Fan & Eiser, 2009). For example, side effects can drastically change one's body image. Medications and treatments can cause weight loss or weight gain, alopecia, acne, scars, and other physical changes (Zhvitiashvili, 2021).

Additionally, the stage of treatment can play a role in body image (Fan & Eiser, 2009). For example, children in the remission stage of cancer or discharged from the hospital are re-entering social circles. Because of this, they may be more aware of their body changes (Fan & Eiser, 2009). In addition, because medical treatment has phases that can last for years, art therapy
SURVEYING HOSPITALIZED CHILDREN

can be one way to help the patient through the different transitions and changes in their body
during each stage (Zhvitiahsvili, 2021).

Additionally, making art can increase an individual's self-agency (Czamanski-Cohen &
Weihs, 2016). In other words, putting effort into artwork can result in a sense of accomplishment
and confidence. When creating artwork in a supportive relationship with the art therapist, this
kind of therapeutic work can translate to coping skills in other areas of the client's life. This can
further increase confidence in the individual.

**Communication**

For children struggling with putting their thoughts into words to communicate with
others, expression through visual art may be a preferred way of communicating (Silver, 2001).
Cristina and Aneta (2012) noted that the main advantage of art therapy for individuals who
struggle with verbally expressing themselves is to use drawings involving creating relationships
between different parts of an image. As the client creates the image, the art therapist monitors
what is happening. Art can create reactions and conversations between the client and therapist.
Additionally, Havsteen-Franklen and Camarena Altamirano (2015) note that making art is not a
secondary form of communication, but rather it can be an integral part of communicating.
Specifically, the authors noted that visual response-making could be the equivalent of mirroring
the individual's feelings or gestures they would use in verbal communication.

In the hospital setting, the art therapist often plays the role of advocate for patients.
Communication between doctors, nurses, and patients is not always seamless, and few patients
can name their healthcare providers (Singh et al., 2011). Communication between the art
therapist and patient can play an important role in developing a trusting relationship in the
hospital. Art making can aid in this process of connection between patient and therapist.
SURVEYING HOSPITALIZED CHILDREN

However, it is the art therapist's job to "create a sacred safe place for exploration: guiding clients to let emotions and thoughts arise, pay attention, choose to put something on the paper and thus let it go" (Czamanski-Cohen & Weihs, 2016, p. 67).

**Control**

In art therapy, art materials can be used to explore control (Hinz, 2009). It was noted that art materials could impact the person using them and how they feel. For example, "spilling, splashing, or destroying" while using art materials can create a feeling of loss of control, while "scribbling and smearing" may provide more control (p. 25). Additionally, when clients use familiar materials, they are more likely to feel comfortable and in control of what they are making. This can increase the client's trust and confidence in the therapist and the therapy process.

Although research supports that children struggle with loss of control in the hospital setting (Lozano & Houtrow, 2018; Lerwick, 2016), few sources address how art therapy can reduce these symptoms in this population. More research is needed to address this topic.

**Expressing Emotion**

It is common for patients and their families to feel an array of emotions in the hospital setting (Lerwick, 2016). Healthcare providers can help patients and their families normalize the emotions that arise in this setting (Lerwick, 2016). When a health care provider connects with a patient and their emotions, this can build trust and help the patient feel safer in their environment (Lerwick, 2016). Hospitalized children, specifically, may need support to increase emotional containment and processing (Lerwick, 2013).
SURVEYING HOSPITALIZED CHILDREN

Play and creativity are natural forms of self-expression for children (Dalei et al., 2020; Koukourikos et al., 2015). According to Lerwick (2013), play in the hospital can reduce behavioral issues and increase children's emotional support. Additionally, Dalei et al. (2020) conducted a hospital-based comparative study on children ages three to six to understand the effects of art and play therapy during a hospital stay. The study included a questionnaire given to five staff members. The results found significant differences in anxiety levels among the children who participated in art therapy and play therapy.

Art therapy may also positively affect mood (Dilwari & Tripathi, 2014). Kanitz et al. (2013) found that using mind-body therapies, such as art therapy, can increase an optimistic view when coping with a chronic illness. Using clay also decreased negative moods in the medical setting (Metzl et al., 2016; Kimport & Robbins, 2012). Additionally, Metzl et al. (2016) conducted a comparison study of art therapy and music therapy on pain and mood in hospitalized children. The results found significant reductions in pain and an increase in mood for both expressive therapies; however, art therapy increased mood significantly more than music therapy.

Furthermore, creating artwork and "the process of externalizing internal emotional material can assist individuals in increasing emotional awareness" (Czamanski-Cohen & Weihs, 2016, p. 67). In other words, when an individual struggles with talking through difficult emotions or situations, using metaphors, symbols, and the formal elements of art can make it easier to access and process those emotions. Specifically, when an individual creates art with an art therapist, they can better articulate how they feel and why they are feeling these things. One example of using art to express emotions could be through kinesthetic, sensory, or tactile movement, such as molding clay (Stucky & Nobel, 2010).
Finally, when interacting with patients, the therapist's tone of voice can affect how an individual reflects emotions (Lerwick, 2016). For example, a calm, soft, and comforting voice in the hospital can help the provider become more attuned to the patients. This can ultimately build trust and create a sense of safety in an unknown environment.

**Historical Background of Assessments**

**Purpose of Assessments**

Since the early twentieth century, psychiatrists have been interested in art making to study personality and diagnose mental illness (Malchiodi, 2007b). This has progressed into what we know as art therapy assessments. The function of these assessments can vary depending on who created them, but in the earliest stages, art assessments were used as projective tools to gather information from participants (Handler, 2014). Although this is not the primary use of assessments today, similarities exist.

Assessments used to gather a baseline and assess progress are essential to good practice (Gantt, 2004). Although assessments are highly debated in the art therapy field, many art therapists will use them informally rather than formally as a tool to gather information (Gantt, 2004). According to Gantt (2004) and Kaplan (2003), the main functions of assessments are to plan treatment and analyze results. Assessments are one therapeutic tool used to gather information about a subject and draw conclusions. Additionally, Kaplan (2003) noted that drawings could be a way of determining a cognitive level as well.

However, there is a difference between art therapy assessments and psychological assessments that use art. The main differences are their purpose and processes (Kaplan, 2003). Psychological assessments focus on diagnosis, while art therapy assessments attempt to gather a
SURVEYING HOSPITALIZED CHILDREN

well-rounded image of strengths, problem areas, and client reactions to the artwork. Art therapists gather this information to create a treatment plan for their patients. For example, one way is to provide various art materials and observe how they interact with the media.

**Projective Assessments**

Projective assessments originated from psychodynamic theory, where the underlying assumption is that the individual who completes the assessment will "project" their own experiences, motives, and desires onto the page (Miller & Nickerson, 2006, p. 73). Examples of projective assessments include "sentence completion tests, apperception tests, and projective drawings" (p. 74).

The first art assessment, the Draw-A-Man assessment, was created in 1926 by Florence Goodenough (Handler, 2014). The Draw-A-Man assessment was developed to test intelligence, and it was purported that the results of these drawings pointed to personality traits and issues. It was not until the 1940's that the term projective drawings was used, and clinicians began to believe that children's drawings could reveal things about them that words could not. They started looking into how they drew the human figure and everyday objects such as houses and trees.

In 1949, Karen Machover created the Draw-A-Person assessment (D-A-P; Handler, 2014). The basic assumption of this test was that the drawn person was a projection of the self and the environment. This assessment has received negative feedback over the years. Specifically, concerns related to the validity, reliability, and clinical interpretations of drawings and associating drawing characteristics with mental diagnoses (Handler, 2014).
SURVEYING HOSPITALIZED CHILDREN

Although projective assessments have their criticisms, they are still used in schools and considered important when learning assessment history and process (Miller & Nickerson, 2006). Furthermore, some psychologists still view them as helpful and use them for developmental interventions. Additionally, professionals can learn from past mistakes, barriers, and trials that were presented when using projective assessments in the past (Gantt, 2004).

Other examples of projective art assessments include the Rorschach Inkblot Test, the Art Therapy-Projective Imagery Assessment, and the Draw-A-Person-In-The-Rain Test (Deaver & Bernier, 2014; Fishell Lichtenberg, 2014; Miller & Nickerson, 2006). Additionally, examples such as the House-Tree-Person test and Kinetic Family Drawing use similar requirements in their instructions, such as using the same materials and depicting a specific subject matter (Hinz, 2009). Many of these tests attempt to use graphic indicators to identify psychiatric symptoms or disorders (Deaver & Bernier, 2014; Hinz, 2009).

**Stimulus Drawings**

Stimulus drawings are pre-made line drawings representing people, places, things, and animals. The purpose of using these drawings is to offer an artistic approach that "takes the place of the words" when expressing ideas and using art as language or communication (Silver, 2001, p. 16).

Silver (2003; 2001) initially developed art therapy stimulus drawings to communicate with deaf children. As she worked with this population, she realized they were highly intelligent despite lower scores on standard intelligence tests and needing guidance during art making. As a result, she developed pre-made sketches for these children to choose from as a foundation for self-generated stories. The most popular pre-made sketches were compiled into the stimulus drawing sets and included in the Silver Drawing Test and the Draw a Story Assessment.
The Silver Drawing Test (SDT) was standardized in 1983 and at that time, was the only assessment written in alignment with the Standards for Educational and Psychological Testing (Brooke, 2004). Unfortunately, it has not been updated to meet current educational and psychological testing. This assessment aims to measure an individual's adjustment, cognitive abilities, math skills, and reading skills (Brooke, 2004). The SDT includes a three-part test that measures cognitive ability, emotional content, and self-concept (Earwood & Fedorko, 2016). The participants are instructed to complete a predictive drawing test in the first part. This engages the participant in logical thinking (Earwood & Fedorko, 2006). The second portion of the assessment includes a draw-from-observation test. This portion of the test assesses spatial awareness (Earwood & Fedorko, 2016). In the last portion, the participants create a story. In the story portion, the participants are asked to choose two images from the stimulus deck and create a story between those two images. The participants are encouraged to change the drawings and incorporate their creativity into them (Silver, 2001). After the drawing is complete, the individual writes a title and short story and then shares the story with the administrator (Hagg, 2018; Malchiodi, 2007b; Brooke, 2004). Silver (2009) states that different participants perceive stimulus drawings differently. Many people will choose images related to past experiences or behaviors that may reveal insights about themselves (Silver, 2009). The stimulus deck is also used in the Draw a Story (DAS) assessment designed by Silver where participants are asked to select two stimulus images and create a story between the two.

There are benefits and limitations to the SDT. The assessment is suitable for a wide variety of populations and has been tested with children, adults, and people who are illiterate. It is administered in a group or individual setting, and the short time is beneficial for individuals
SURVEYING HOSPITALIZED CHILDREN

with limited attention spans. Limitations of the SDT include required training for administrators and the section on drawing from observation has low test reliability (Brooke, 2004).

Silver (2009) conducted a literature review on the SDT and Draw-A-Story assessment (DAS), examining the correlations between depression and the results of this test. The results found that the SDT and DAS may be a tool to detect depression in children and adolescents as well as a possible tool to prevent suicide. Additionally, a quantitative study completed by Silver, 1996 (as cited in Silver, 2001, p.129) examined the gender differences in the fantasies of "delinquent and non-delinquent" adolescents using the DAS. The results of this study found no differences in gender, but there were differences when stories involved assault or solitary subjects. It was also noted that the non-delinquent boys drew more assaultive relationships than the delinquent boys.

A naturalistic multiple case study by Haggs (2018) aimed to reutilize stimulus drawings from the DAS and instead use them as a therapeutic tool with six participants (ages 9 – 60) experiencing grief. The study's results found that the modified version of the DAS was effective outside the context of an assessment. In addition, Haggs (2018) found that it was effectively administered with a range of "age, mental and physical ability or disability, and cultural difference" due to the interaction and relationship with the art media (p. 28).

Benefits of Assessments

According to Gantt (2004) and Betts (2006), assessments are at the core of good clinical practice. Many art therapists believe that art therapy assessments can increase understanding of emotional states, developmental levels, and psychological status. They also can be used for planning treatment goals and evaluating the client's presenting problems (Betts, 2006). On the other hand, formal assessments are relative to any profession that uses intervention or change
SURVEYING HOSPITALIZED CHILDREN
(Gantt, 2004). Additionally, formal assessments are rooted in comparison and description (Gantt, 2004). Formal assessments compare characteristics, strengths, problems, and elements in the artwork. They also use language, vocabulary, and definition to be clear, standard, and applicable to each situation it is used in. In addition, art-based assessments can be a beneficial practice due to the presence of art across all cultures (Betts, 2013). Art can be used across cultures and with diverse backgrounds through the use of line, movement, shape, material, color, form, shape, touch, and texture.

Howie (2013) found that assessments such as the Levick Emotional and Cognitive Art Therapy Assessment (LECATA) had no differences across cultures and did not need adjusting. It was used in over twenty years of studies, and there have been no cultural differences when this assessment was implemented in other countries. Additionally, Howie (2013) and Alter-Muri and Vazzano (2014) found that Lowenfeld's stages of art development is still a relevant tool for evaluating children's art in Western cultures based on chronological age.

Alter-Muri and Vazzano (2014) conducted a study to better understand gender differences in children's art using Lowenfeld's stages of art development. The results found that boys incorporated vehicles, weapons, and sports more than girls, but girls used more colors than boys. Girls were also more likely to use equal amounts of warm and cool colors.

Hinz (2009) noted that the Expressive Therapies Continuum (ETC) uses the client's strengths and barriers to gain and assess information. Additionally, the ETC "can provide suggestions about where to begin a course of therapy, the direction of therapeutic work, and the choice of therapeutic art media" (Hinz, 2009, p.193). Furthermore, Betts (2013) found the ETC to be a valid tool for assessing clients cross-culturally. The author noted that the assessment's universality makes it culturally appropriate.
SURVEYING HOSPITALIZED CHILDREN

Informal and formal assessments have different types of benefits. Informal assessments can be used as an interviewing tool to get to know clients better (Gantt, 2004). In using informal assessments, Kaplan (2003) points out that an art therapist can evaluate a client by watching their art-making process, their reactions to the artwork, and gathering information through informal dialogue, which aids in determining their mental state. On the other hand, formal assessments compare characteristics, strengths, problems, and elements in the artwork (Gantt, 2004). They also use language, vocabulary, and definition to be clear, standard, and applicable to each situation they are used in. Having assessments and studies on assessments like the ones stated above can provide qualitative and quantitative data to research, which can further progress the art therapy field.

Limitations to Assessments

In the 1970s and 80s, projective assessments started to decline in usage due to the lack of reliability and validity (Betts, 2006). Coupled with a decreased belief in psychoanalytic theory and an increased value on behavioral theory, projective assessments were seen as less effective modes of assessing. (Betts, 2006). This opinion was supported by the lack of scientific background, little data supporting validity and reliability in research, and not rooted in credible psychological theory (Betts, 2006). Additionally, research for assessments tends to be small-scale (Betts, 2006). This means that the results may not apply to the general population.

Furthermore, the interpretation of the artwork is highly subjective, and the results can vary each time (Betts, 2006). Some art therapists argue that trying to categorize art expression is ineffective. Specifically, McNiff does not see how categorizing pathological element is an area worth pursuing (Betts, 2006). Additionally, Gantt (2004) argues that the construction of rating systems matters. If the rating system design and rules are unclear, agreement on ratings will vary,
making the results less valid. Finally, nominal or categorical rating systems may disregard the subtle differences in each drawing. It may only focus on what is present or not present when there is more to the drawing than the categories presented (Gantt, 2004).

There have also been issues with using assessments cross-culturally. Betts (2013) noted that when applying assessment cross-culturally, the administrator needs to be aware of their own cultural biases. For example, Howie (2013) reviewed the reliability and validity of art therapy assessments. The author found that the Face Stimulus Assessment needed to be modified for clients who were cognitively impaired. Additionally, the author found that the scores for Human Figure Drawings were lower in other cultures and that the Diagnostic Drawing Series identified wrong diagnoses when used outside of the United Stated. Lastly, the Person Picking an Apple from a Tree assessment needed the word "fruit" to be substituted in other cultures instead of using the word "apple" (Howie, 2013).

Assessments in Pediatrics

Medical and physical health concerns are the primary focus of treatment in the hospital setting. However, that does not mean that patients cannot benefit from learning coping skills and adjustment during their stay. Formalized art therapy assessments are not typically used in medical hospitals but can still be utilized for therapeutic benefit. For example, the Person Picking an Apple from a Tree (PPAT), the Bridge Drawing Assessment, and the Invention Drawing have all been utilized as clinical tools within the medical setting (Ciucci, 2021; Councill, 2012). In this context, they are used to identify problem-solving and coping skills and gain insight into their current perspective.
Councill (2012) noted that there is no correct way to assess children in hospitals; instead, there are various methods to do it. However, she noted that looking at the developmental level and considering the patient's understanding of their illness is to be noticed when creating an assessment for this population. Additionally, she noted that good art therapy assessments could show the patient's strengths.

**Person Picking an Apple from a Tree.** The PPAT is an art therapy assessment used to understand a client's mental state, symptoms, and progress in art therapy (Bucciarelli, 2011). This assessment is rated with the Formal Elements of Art Therapy Scale (FEATS). The FEATS is a Likert-type rating scale that utilizes formal elements to rate how items are drawn. Bucciarelli (2011) conducted a normative study of 100 non-clinical participants to evaluate the PPAT assessment's validity. The results of this study indicated that the FEATS was a reliable tool for scoring this assessment. However, the alignment to the DSM-III is no longer a valid tool for diagnostic assessment. The results of the study also concluded that studying non-clinical drawing data enlarges the collective knowledge of the art therapy field. Additionally, the standard materials for this assessment include an 18” x 20” white drawing paper and 12 Mr. Sketch scented markers.

**Bridge Drawing Assessment.** The Bridge Assessment evaluates the client's perceptions of the present and their expectations of the future (Council, 2012; Hays & Lyons, 1981). Similarly to the PPAT, this assessment is rated with a modified version of the FEATS created by Martin and Betts (2012). Councill (2012) stated that this assessment could work well with the pediatric population because the present and future are important topics to explore in the hospital setting. Furthermore, Hays and Lyons (1981) supported the use of this assessment with adolescents because, developmentally, they are in a transitional period in their lives, "going from
SURVEYING HOSPITALIZED CHILDREN

someplace to someplace else" (p. 208). Additionally, the materials for this assessment include materials such as colored pencils, crayons, pastels, or felt tip markers. It is also done on a 12” x 18” white paper (Darewych, 2014).

Invention Drawing. Lastly, the Invention Drawing is a directive utilized in many hospital settings. The purpose of this directive is for the patient to create an invention that could help reduce symptoms or stressors related to the hospital environment (Ciucci, 2021). The outcome of the drawing could give insight into how the patient is coping and provide a solution to their current problem. This directive supports the patient in communicating their needs to providers. The recommended materials for this activity are a number two pencil, an eraser, and graph paper. This is intended to elicit the feeling of being an inventor. Although this is the recommended material, a wide range of materials can be used based on patient preference.

Improving Future Assessments

Although there are problems regarding the structure and ratings of assessments, there could be solutions to these problems. According to Betts (2006), there are suggested remedies for the limitations of using art therapy assessments. These remedies include focusing on the formal elements of the image rather than the content, developing a better rating system for assessments, establishing norms before deciding on a theory to use, and considering other theories to use instead of relying on psychoanalytic theory like projective assessments. Additionally, it was suggested that art therapists study the issues in assessments and learn from the mistakes made (Gantt, 2004).

Mcniff noted that art therapists need to consider the entire person and their contexts rather than the evaluation results of a person (Betts, 2006). Similarly, Gantt (2004) noted that a
SURVEYING HOSPITALIZED CHILDREN

good and thorough assessment should have several factors that result in a biopsychosocial perspective of a person. Although the multi-axial system is no longer in the Diagnostic and Statistical Manual of Mental Disorders (DSM), this is a good example of how to apply this approach assessment procedures (Gantt, 2006; American Psychiatric Association, 1980).

Betts (2006) offered a series of general questions to ask before creating an assessment. Examples of these questions are, "What are we assessing that other fields are or cannot?" and "Are there generic assessments that could be applied to any population or setting?" (Betts, 2006, p. 25). These questions are designed to more clearly identify the purpose of the assessment, the appropriate population, and the rating instruments that support reliability and validity measures.

Psychologists and art therapists have both recognized that art can reflect moods and emotional states as well as track therapeutic progress (Gantt, 2004; Gantt & Tabone, 1998). Although some art-based assessments have been reliable or valid, it is important to take what is useful from each of them and discard what is no longer appropriate. Doing this will help further the field in a better direction. Furthermore, Gantt (2004) noted that graduate programs should update assessment materials rather than teaching solely from sources such as Machover (1949), Hammer (1997), and Burns (1982) because teaching the most recent research and learning from past mistakes is most beneficial for incoming students and professionals. Finally, Betts (2006) noted that when art work is being used to evaluate or gain information about clients, the art therapist needs to be conscious of the tools and approaches they use.
Chapter III
Methods

Design of the Study

This study utilized a mixed methods survey approach to explore the first steps of creating an art therapy assessment with stimulus drawings. A mixed method study is research that uses the strengths of both qualitative and quantitative collect data (Betts & Deaver, 2019). This approach will involve surveying hospitalized children to determine what animals they like, what environment these animals live in, and what the animal needs to live in these environments (see Appendix C). I hypothesize that this survey will determine what animals to include in a stimulus drawing deck for a new art therapy assessment. This process lays the foundation for an art therapy assessment to understand the experience and potential needs of children in a hospital setting.

Location of Study

The survey was conducted at a large pediatric hospital in a midwestern metropolitan city.

Time Period for Study

The study took place over the course of six weeks from January to March 2023.

Enrollment Information

Pediatric patients who were receiving inpatient services ages 6 – 12. A minimum of 15 participants is expected; there is no maximum. Participants had to be receiving inpatient services, there was no required length of stay, proficient in English, and able to verbally answer questions. Exclusion criteria included patients who were not within the age range or receiving inpatient services, not able to verbally articulate answers, not proficient English services, or qualify for
SURVEYING HOSPITALIZED CHILDREN

translation or interpretation services. No referral fees or rewards will be given for participating in this study.

Recruitment

Convenience sampling was used, including current art therapy patients and referrals from providers. I provided a letter to parents or guardians regarding the study to gauge interest (see Appendix A). Recruitment for the study took approximately 10 minutes.

Informed Consent

If interested, I provided an informed consent of the IRB-approved study that was reviewed and signed by a parent or guardian (see Appendix B). The informed consent was reviewed with the participant, and they will verbally assent to participation. This process took approximately five minutes.

Investigational Methods and Procedures

After enrollment, I asked for the participant's age and gender. Once that is documented, I asked the four survey questions. This took no more than 15 minutes.

Instrumentation & Data Collection

I recorded the survey in Qualtrics. This is a secure system that is password protected and only available to the principal investigators.

Data Analysis

I used descriptive statistics to report demographic data and question 4 about material selection. Descriptive statistics is a “procedure for depicting the main aspects of sample data, without necessarily inferring to a larger population” (APA, 2022, para. 1). A content analysis
SURVEYING HOSPITALIZED CHILDREN

will be used for questions 1- 3 to determine the frequency of responses. Content analysis is a qualitative study that “evaluates mass communication data to develop and apply quantifiable codes derived from written sources of data” (Betts & Deaver, 2019, p. 265). A thematic analysis was used to create themes for the animals, environments, and needs.

Possible Risks and Discomforts

The risks of this survey were minimal but included being uncomfortable with the questions and survey answers possibly being breached.

Special Precautions to Minimize Risks or Hazards

I used Qualtrics to record the participant's answers to minimize the possibility that survey answers will be breached.
A survey was conducted, and descriptive statistics were used to organize the findings. Furthermore, a content analysis was used to organize the animals, environments, and needs. A thematic analysis was used to identify themes. Twenty-five surveys were administered, and one survey was excluded because the participant did not meet the inclusion criteria. Two participants were nonverbal. One participant answered question #1 by creating the noise that the animals makes (i.e., barking for a dog and meowing for a cat). This participant’s answers on Questions #2 and #3 were excluded because a family member answered the environmental questions for them. Another participant answered questions via a dry-erase board.

**Figure 1**

*Gender*
Note: Participants were asked about their gender during the survey. This information was also found on the referral list. There were 13 females who participated and 11 males.

Figure 2

Age

Note: Participants were verbally asked for their ages. This information was also found on the referral list. There were 2 six-year-olds, 2 seven-year-olds, 2 eight-year-olds, 4 nine-year-olds, 5 ten-year-olds, 6 eleven-year-olds, and 3 twelve-year-olds.

Figure 3

Materials Preferred
Note: This was the last question asked on the survey and included multiple-choice answers. There were 13 participants who chose mechanical pencils, 7 who chose markers, and 4 who chose colored pencils.

Table 1

Combined Survey Answers

<table>
<thead>
<tr>
<th>Animal</th>
<th>Environments</th>
<th>Needs</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alligator</td>
<td>Water</td>
<td>Food</td>
<td>6, 11</td>
</tr>
<tr>
<td>Axolotl</td>
<td>New Mexico</td>
<td>Fresh Water</td>
<td>10</td>
</tr>
<tr>
<td>Bat</td>
<td>Caves, Trees</td>
<td>Food, Sleep</td>
<td>10, 12</td>
</tr>
<tr>
<td>Bear</td>
<td>Caves</td>
<td>Food</td>
<td>8</td>
</tr>
<tr>
<td>Cat</td>
<td>House/Home, The Wild</td>
<td>Food, Meat, Water</td>
<td>7, 9, 11</td>
</tr>
<tr>
<td>Chicken</td>
<td>Anywhere besides the ocean</td>
<td>Water</td>
<td>11</td>
</tr>
<tr>
<td>Cow</td>
<td>Farm</td>
<td>I don’t know, Water</td>
<td>7, 8</td>
</tr>
<tr>
<td>Dinosaur</td>
<td>The Wild</td>
<td>Meat</td>
<td>9</td>
</tr>
<tr>
<td>Dog</td>
<td>Dog House, Farm, Grasslands, House/Home</td>
<td>Chew Toy, Dog, Food, Fresh Air, Love, Shelter, Water</td>
<td>6, 7, 8, 9, 10, 11, 12</td>
</tr>
<tr>
<td>Animal</td>
<td>Environment</td>
<td>Need</td>
<td>Ages</td>
</tr>
<tr>
<td>------------------------</td>
<td>------------------------------</td>
<td>-------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>Dolphin</td>
<td>Ocean/ Sea</td>
<td>Oxygen, Water</td>
<td>10, 11</td>
</tr>
<tr>
<td>Dragon</td>
<td>In a Made-Up World</td>
<td>Water</td>
<td>10</td>
</tr>
<tr>
<td>Duck</td>
<td>Pond</td>
<td>Water</td>
<td>11</td>
</tr>
<tr>
<td>Hawk</td>
<td>Trees</td>
<td>Trees</td>
<td>6</td>
</tr>
<tr>
<td>Horse</td>
<td>Farm</td>
<td>Love, I don’t know, Water</td>
<td>7, 8, 11</td>
</tr>
<tr>
<td>Koalas</td>
<td>Trees</td>
<td>Trees</td>
<td>10</td>
</tr>
<tr>
<td>Large Cats (Bobcats, Cheetahs, Lions, Tigers)</td>
<td>Africa, Forest, Jungle, Plains, Rain Forest, Savana, Zoo</td>
<td>Food, Meat, Prey, Shelter, Water</td>
<td>9, 10, 11, 12</td>
</tr>
<tr>
<td>Lemurs</td>
<td>Rain Forest</td>
<td>Food</td>
<td>10</td>
</tr>
<tr>
<td>Llama</td>
<td>Farm</td>
<td>Food</td>
<td>6</td>
</tr>
<tr>
<td>Monkey</td>
<td>Jungle</td>
<td>Fruits, I don’t know</td>
<td>12</td>
</tr>
<tr>
<td>Otter</td>
<td>Water</td>
<td>Food</td>
<td>12</td>
</tr>
<tr>
<td>Penguin</td>
<td>Cold</td>
<td>Fish</td>
<td>12</td>
</tr>
<tr>
<td>Pig</td>
<td>Muddy Areas, Outside</td>
<td>Food, Warmth</td>
<td>7, 11</td>
</tr>
<tr>
<td>Rhino</td>
<td>I don’t know, Plains</td>
<td>Stay with its family, Vegetables</td>
<td>6, 12</td>
</tr>
<tr>
<td>Shark</td>
<td>Water Biome</td>
<td>Fish</td>
<td>12</td>
</tr>
<tr>
<td>Sheep</td>
<td>Farm</td>
<td>Cage</td>
<td>7</td>
</tr>
<tr>
<td>Sibling</td>
<td>Funny Environment</td>
<td>I don’t know</td>
<td>9</td>
</tr>
<tr>
<td>Skunk</td>
<td>Indiana</td>
<td>Water</td>
<td>10</td>
</tr>
<tr>
<td>Small Rodents (Chinchillas, Hamsters, Guinea Pigs, Bunny)</td>
<td>Animal Shelter, Holes in the Ground, Home, I don’t know</td>
<td>Food, Home, Leaves</td>
<td>6, 7, 8, 9, 11</td>
</tr>
<tr>
<td>Snake</td>
<td>The Wild</td>
<td>Food</td>
<td>10</td>
</tr>
<tr>
<td>Snow Fox</td>
<td>Snow</td>
<td>Camouflage</td>
<td>9</td>
</tr>
<tr>
<td>Snow Owl</td>
<td>Snow</td>
<td>Wings</td>
<td>9</td>
</tr>
<tr>
<td>Turtle</td>
<td>Ocean/Sea</td>
<td>Someone to take care of its babies, Water</td>
<td>8, 10</td>
</tr>
<tr>
<td>Worm on a String</td>
<td>The Wild</td>
<td>Food</td>
<td>9</td>
</tr>
<tr>
<td>Zebra</td>
<td>Zoo</td>
<td>Food, Water</td>
<td>10, 11</td>
</tr>
</tbody>
</table>

**Note:** This table shows the combined answers for each animal, environment, need, and what ages chose each animal.
### Table 2

**Animal Count**

<table>
<thead>
<tr>
<th>Animal</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alligator</td>
<td>2</td>
</tr>
<tr>
<td>Axolotl</td>
<td>1</td>
</tr>
<tr>
<td>Bat</td>
<td>2</td>
</tr>
<tr>
<td>Bear</td>
<td>1</td>
</tr>
<tr>
<td>Cat</td>
<td>5</td>
</tr>
<tr>
<td>Chicken</td>
<td>1</td>
</tr>
<tr>
<td>Cow</td>
<td>2</td>
</tr>
<tr>
<td>Dinosaur</td>
<td>2</td>
</tr>
<tr>
<td>Dog</td>
<td>12</td>
</tr>
<tr>
<td>Dolphin</td>
<td>2</td>
</tr>
<tr>
<td>Dragon</td>
<td>1</td>
</tr>
<tr>
<td>Duck</td>
<td>1</td>
</tr>
<tr>
<td>Elephant</td>
<td>1</td>
</tr>
<tr>
<td>Giraffe</td>
<td>1</td>
</tr>
<tr>
<td>Hawk</td>
<td>1</td>
</tr>
<tr>
<td>Horse</td>
<td>3</td>
</tr>
<tr>
<td>Koalas</td>
<td>1</td>
</tr>
<tr>
<td>Large Cats (Bobcats, Cheetahs, Lions, Tigers)</td>
<td>10</td>
</tr>
<tr>
<td>Lemurs</td>
<td>1</td>
</tr>
<tr>
<td>Llama</td>
<td>1</td>
</tr>
<tr>
<td>Monkey</td>
<td>2</td>
</tr>
<tr>
<td>Otter</td>
<td>1</td>
</tr>
<tr>
<td>Penguin</td>
<td>1</td>
</tr>
<tr>
<td>Pig</td>
<td>2</td>
</tr>
<tr>
<td>Rhino</td>
<td>2</td>
</tr>
<tr>
<td>Shark</td>
<td>1</td>
</tr>
<tr>
<td>Sheep</td>
<td>1</td>
</tr>
<tr>
<td>Sibling</td>
<td>1</td>
</tr>
<tr>
<td>Skunk</td>
<td>1</td>
</tr>
<tr>
<td>Small Rodents (Guinea Pigs, Hamsters, Chinchillas, Bunnies)</td>
<td>4</td>
</tr>
<tr>
<td>Snake</td>
<td>1</td>
</tr>
<tr>
<td>Snow Fox</td>
<td>1</td>
</tr>
</tbody>
</table>
SURVEYING HOSPITALIZED CHILDREN

<table>
<thead>
<tr>
<th>Animal</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Snow Owl</td>
<td>1</td>
</tr>
<tr>
<td>Turtle</td>
<td>2</td>
</tr>
<tr>
<td>Worm on a String</td>
<td>1</td>
</tr>
<tr>
<td>Zebra</td>
<td>2</td>
</tr>
</tbody>
</table>

Note: There are 38 animals total. Each participant chose 3 animals.

Table 3

Environment Count

<table>
<thead>
<tr>
<th>Environments</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animal Shelter</td>
<td>1</td>
</tr>
<tr>
<td>Caves</td>
<td>2</td>
</tr>
<tr>
<td>Everywhere Besides the Ocean</td>
<td>1</td>
</tr>
<tr>
<td>Farm (Farm, Muddy Areas)</td>
<td>10</td>
</tr>
<tr>
<td>Forest</td>
<td>2</td>
</tr>
<tr>
<td>Funny Environment</td>
<td>1</td>
</tr>
<tr>
<td>Grasslands</td>
<td>1</td>
</tr>
<tr>
<td>Holes in the Ground</td>
<td>1</td>
</tr>
<tr>
<td>House</td>
<td>13</td>
</tr>
<tr>
<td>I don’t know</td>
<td>2</td>
</tr>
<tr>
<td>In a Made-Up World</td>
<td>1</td>
</tr>
<tr>
<td>Outside</td>
<td>1</td>
</tr>
<tr>
<td>Park</td>
<td>1</td>
</tr>
<tr>
<td>Plains</td>
<td>2</td>
</tr>
<tr>
<td>Pond</td>
<td>1</td>
</tr>
<tr>
<td>Rain Forest</td>
<td>2</td>
</tr>
<tr>
<td>Savana</td>
<td>1</td>
</tr>
<tr>
<td>Snow (Cold)</td>
<td>3</td>
</tr>
<tr>
<td>States/ Continents (Africa, Indiana, New Mexico)</td>
<td>3</td>
</tr>
<tr>
<td>Trees</td>
<td>3</td>
</tr>
<tr>
<td>Water (Ocean and Sea)</td>
<td>8</td>
</tr>
<tr>
<td>The Wild</td>
<td>4</td>
</tr>
<tr>
<td>Zoo</td>
<td>4</td>
</tr>
</tbody>
</table>

Note: There were 24 environments in total. Each participant chose one environment for each animal.
Table 4

Needs Count

<table>
<thead>
<tr>
<th>Needs</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cage</td>
<td>1</td>
</tr>
<tr>
<td>Camouflage</td>
<td>1</td>
</tr>
<tr>
<td>Chew Toy</td>
<td>1</td>
</tr>
<tr>
<td>Fish</td>
<td>2</td>
</tr>
<tr>
<td>Food</td>
<td>25</td>
</tr>
<tr>
<td>Fresh Air/ Oxygen</td>
<td>2</td>
</tr>
<tr>
<td>Fruit</td>
<td>1</td>
</tr>
<tr>
<td>Home</td>
<td>1</td>
</tr>
<tr>
<td>I don’t know</td>
<td>7</td>
</tr>
<tr>
<td>Leaves</td>
<td>1</td>
</tr>
<tr>
<td>Love</td>
<td>2</td>
</tr>
<tr>
<td>Meat</td>
<td>1</td>
</tr>
<tr>
<td>Prey</td>
<td>2</td>
</tr>
<tr>
<td>Shelter</td>
<td>2</td>
</tr>
<tr>
<td>Sleep</td>
<td>1</td>
</tr>
<tr>
<td>Someone to take care of its babies</td>
<td>1</td>
</tr>
<tr>
<td>Stay with its family</td>
<td>1</td>
</tr>
<tr>
<td>Trees</td>
<td>1</td>
</tr>
<tr>
<td>Vegetables</td>
<td>1</td>
</tr>
<tr>
<td>Warmth</td>
<td>1</td>
</tr>
<tr>
<td>Water</td>
<td>13</td>
</tr>
<tr>
<td>Wings</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: There were 22 needs in total chosen in this survey. Each participant chose one need per animal.
Figure 4

Animal’s Needs: Themes

Note: Themes were categorized by levels of need according to Maslow’s Hierarchy of Needs (Maslow, 1943).
Notes: Themes were categorized by the environments that participants chose for each animal. Answers “sibling” and “worm on a string” were excluded from the data.
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Chapter V

Discussion

Survey Observations and Recommendations

A significant observation made during the survey and data analysis was the developmental differences in the participants. The wide age range of participants enhanced the data collection with a more advanced understanding of animals, environments, and needs. For example, a 12-year-old participant chose “water biome” for an environment for a shark. On the other hand, a six-year-old participant chose “I don’t know” for an environment for a rhino. I wondered if offering two scripts, one for younger children and one for older children would have impacted the results. Specifically, the word “environment” used in question #3 may not have been fully understood by every participant. But on the contrary, I was not asked to define the word to any participant, and some parents explained the question after it was asked so this may have impacted understanding. Furthermore, question number four would read more clearly if it started with the lead in, “If you were to draw these animals…” before the question.

Themes

The animals, environments, and needs were organized by frequency based on the content analysis of the data. Then a thematic analysis was done to organize animals, environments, and needs into groups or themes, for example animals that live on the land, in the sea, or fly in the air.

Animal Themes

The animal themes were organized based on the environment the participants chose. The themes include natural environments, this included the wild, New Mexico, Africa, plains,
SURVEYING HOSPITALIZED CHILDREN

outside, snow, the jungle, the wild, caves, the cold, water, sea, ocean, Indiana, savanna, grasslands, trees, holes in the ground, rain forest, pond, and everywhere besides the ocean. Homes, farms environments, fantastical environments, and the zoo are the other themes based on the survey answers. Excluded responses include “Worm on a String” which is the child’s favorite toy and “my sibling” because that did not meet the criteria of an animal.

It was determined that while “zoo animals” and “natural environments” could be further categorized (i.e., ocean, grasslands), it was determined that this would not be helpful in the development of the stimulus drawing deck of environments. Furthermore, during the survey administration, I was aware that several younger participants were not aware of the subcategories of zoo animals. Utilizing the term “zoo” and “natural environments” aligned with participant language.

Themes of Needs

The needs were organized by frequency and then categorized according to Maslow’s Hierarchy of Needs (Maslow, 1943). These include needs for survival, love, and connection. Interestingly, pets and wild animals were identified as needing the same amount of love. Specifically, three participants chose “Love” for a horse, turtle, and rhino. Additionally, one participant chose animal specific environmental adaptations for needs including wings and camouflage. This was noted because it focused on the animal adapting to its environment rather than environmental needs.

Media Choice

According to the survey results, a mechanical pencil was the most popular answer for creating their drawings. This material choice is in line with The Silver Drawing Test (Silver,
Surveys involving hospitalized children (2007). Reasons provided for this include the accessibility of an eraser, and it offers structure in drawing the image prior to adding color.

**Stimulus Drawing Pages**

Based on the data above, the following section details the development of the Animal Stimulus Drawing Assessment. Following closely to the structure of the SDT, the assessment will provide 14 stimulus drawings, seven images of animals and seven images of environments. One of the seven for both categories will include a blank card, so the participant can choose their own environment or animal.

**Stimulus Drawings**

The determinations for the images were first made based on answer frequency. The most frequently identified animals were dog, large cat, horse, and small rodent. The next animal added was on environment frequency – the ocean - the most popular water creature was the dolphin. Finally, the last environment that was listed was the air so a bird was included in the stimulus deck.

Stimulus drawings are simple line drawings that are used as a guide to image and story development. These line drawings will be recognizable imagery to a diverse population and simple enough to recreate. The animals – dog, large cat, horse, small rodent, bird, and dolphin – are located in Appendix D. The development of the environments – house, farm, tree environment, ocean, and air environment – were more challenging to create imagery that was easily recognizable. Instead, the environment drawings included elements from the responses like– house, farm, and ocean. The last two environments chosen were air and tree environments to encapsulate both the jungle and the wild together. The air environment was chosen to give the
participants another place that their animals may not belong in. There is only one animal on the stimulus drawing sheet that belongs in this environment.

Structure of the Assessment

The Animal Stimulus Drawing Assessment (see Appendix E) includes administration guidelines and drawing form. The assessment can be read independently (recommended for ages 9 – 12) or aloud (recommended for ages 6 – 8) and determinations for this are based on client needs and clinical appropriateness. The participants will have up to 20 minutes to complete the assessment. This was determined based on the SDT (Brooke, 2004).

The script of the assessment will be “Draw a picture of an animal in an environment it does not belong in. You may choose images from the sheets provided, or you may choose to create your own image.” A modification for younger children would be, “Draw a picture of an animal in a place it does not belong in. You may choose from the images from the sheets provided, or you may choose to create your own image.”

Once the participant completes this task, they will be asked to complete a second part of the assessment. The script will say, “Draw something that will help the animal live in that environment.” Again, a modified version of this script could replace “environment” with “place” for younger kids.

Additionally, it will be encouraged that the participants modify for draw their own version of the animals and environments. Copying the stimulus drawings exactly will be discouraged. The script could sounds like: “If you choose from the picture sheet, you are encouraged to draw the pictures the way you like. Try not to copy the image.”

Rating System
SURVEYING HOSPITALIZED CHILDREN

The rating system was developed based on the needs and the environment that were chosen by the participants. Because the assessment is based on placing an animal in an environment that it does not belong, I anticipate that the needs the participants choose will be related to food, water, shelter, love, tools, or adaptations of the environment.

First will be to determine if the participant was able to place an animal in an environment that it does not belong it. Based on the results of the animal and environment pairing in the survey and basic understanding of animal needs the following determination were made. With this said, no final determinations regarding animal environment pairing should be made prior to listening to the story created by the participant. This is meant to serve as a guide to reviewing the first part of the assessment.

Table 5

Assessment Rating Guide

<table>
<thead>
<tr>
<th>Animal</th>
<th>Environmental Pairing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small rodent</td>
<td>Sea or air</td>
</tr>
<tr>
<td>Large cat</td>
<td>Sea, air, home, farm</td>
</tr>
<tr>
<td>Dog</td>
<td>Air, sea</td>
</tr>
<tr>
<td>Horse</td>
<td>Air, water, home</td>
</tr>
<tr>
<td>Dolphin</td>
<td>Farm, home, air, land</td>
</tr>
<tr>
<td>Bird</td>
<td>Water</td>
</tr>
</tbody>
</table>

I anticipate that the needs provided in the second part of the assessment will align with Maslow’s Hierarchy of Needs – love, food, water, and shelter. However, in the context of the assessment, I predicted that the needs of the animals may also reflect adaptations to the environment or animal. This means the participant may draw the animal adapting to the environment (e.g., drawing a bird with scuba gear in the ocean) or protections from the
SURVEYING HOSPITALIZED CHILDREN

environment (e.g., a parachute for a dog in the air environment) It is also possible that the participant draws the environment adapting to the animal (e.g., drawing a cage for the lion in the home environment). Assessing the second part of the assessment includes determining if the need does help the animal survive in the environment. And, if yes, how does it help.

I hypothesize that this assessment will help the therapist determine the needs of the child within the hospital environment through the use of metaphor. By using the metaphor of an animal and identifying ways to help it survive, this may provide insight into the needs of the child.

The presentation of the assessment may need to be adapted based on the needs of the population and assessment administration. It may or not be helpful to keep the stimulus drawings on a singular page like it is presented in the SDT or to make them in the form of a card deck. The benefits of using a card deck are that the participant could easily reference the images while they are drawing, and it would be easy to move the images around. Although, depending on the needs of the hospitalized child, this may make it difficult to manage the materials. And, administering this assessment in a group setting could be impractical with a deck of cards. Each student would need their own deck to participate. Having each of the images on one or two pages would be more practical for administration in a group setting or to meet the needs of the client. With this in mind, using a stimulus drawing page, rather than separating the images into a deck is recommended for this assessment.

Limitations

One of the limitations of this study would be the exclusion of non-English speakers from the survey. Since this exclusionary criterion was determined prior to meeting with participants, I
SURVEYING HOSPITALIZED CHILDREN

I am unaware of how many non-English speaking individuals were excluded. Although, there was no determination for the level of language proficiency required to participate, this study did include individuals who were bi-lingual. Furthermore, another limitation is the biases in categorizing each of the survey answers. To reduce bias, the data analysis results, content, and thematic analysis were reviewed by the thesis committee.

The time limitations of the survey being completed in four weeks, meant that a small sample of hospital patients were surveyed. Additionally, due to the unpredictable environment patients are experiencing difficult situations and inopportune timing may have impacted the results. Furthermore, there is limited research on how to create art therapy assessments and stimulus drawing. Because there is limited research on the subject, more research needs to be done to know if this course of method is beneficial.

Future Research and Recommendations

In future studies, this research could be expanded to other hospitals for longer periods of time. Larger scale studies could produce a more accurate representation of diverse answers and populations. In addition to this, this research study could be expanded to other populations. For example, this might include populations in foster care, juvenile facilities, or homeless shelters. Each of these populations is in possible short-term stay environments that may not be ideal or comfortable for the participant. This could translate similarly to the inpatient children’s hospital setting.

Additionally, this research study is the preliminary steps to creating an art therapy assessment. Because of this, future studies need to record taking and administering the assessment. These future studies will gain insight into what adaptations need to be made to and
SURVEYING HOSPITALIZED CHILDREN

give insight into whether or not the assessment will give consistent, reliable, and valid results.

Furthermore, administering the assessment will open other opportunities for research such as administering the assessment cross-culturally.
Conclusion

Children have a variety of needs in the hospital setting. This population's primary need is to seek medical attention and physical improvement, but mental health is still an important aspect to the patient’s health (Councill, 2012). Children struggle with anxiety, distress, lack of coping skills, loss of control, pain, and safety (Dalei et al., 2020; Skeels & Tan, 2010; Nainis, 2008; Nainis et al., 2006; Wikstrom, 2005). For example, patients lose autonomy and control with scheduling or doing things for themselves (Skeels & Tan, 2010). Regardless, patients should not lose their basic needs to feel safe and socially connected.

Additionally, there are benefits and limitations to art therapy assessments. Benefits include increasing understanding of emotional states, developmental levels, and psychological status. Furthermore, they are also used for planning treatment, goal setting, and evaluating presenting problems (Betts, 2006). Projective assessments have little data supporting validity and reliability and are not rooted in credible psychological theory (Betts, 2006). Additionally, assessment research is limited with small sample sizes, small-scale, and not generalizable (Betts, 2006). Furthermore, interpreting artwork is highly subjective, and the results can vary each time (Betts, 2006). Each of these limitations needs to be considered when creating an art therapy assessment.

The present study is the preliminary step to creating an art therapy assessment to assess the needs of children in hospitals. Stimulus drawings were created based on the mixed methods survey results of 24 participants six and 12 years old. They identified their top three favorite animals, the environments that the animals live in, the needs of these animals, as well as the
SURVEYING HOSPITALIZED CHILDREN

materials they would like to use to draw the animals. The animals and environments were analyzed and then using a content and thematic analysis. The top five animals for stimulus drawings are dogs, large cats, horses, small rodents, birds, and dolphins. The top environments for those animals are a house, farm, tree environment, ocean environment, and the zoo.
SURVEYING HOSPITALIZED CHILDREN

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SURVEYING HOSPITALIZED CHILDREN


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Appendix A

Informed Consent

INDIANA UNIVERSITY INFORMED CONSENT STATEMENT FOR RESEARCH

Animal Survey

IRB: # 17501

Your child is being asked to join a research study. Scientists do research to answer important questions that might help change or improve the future. This consent form will give you information about the study to help you decide if you want your child to participate. Please read this form and ask questions before agreeing to the study.

All research is voluntary. You and your child can choose not to take part in this study. If you and your child agree to participate, you can change your mind later and leave the study at any time. You will not be punished if you choose not to participate.

The purpose of this study aims to understand what animals to include in an art therapy drawing assessment. This assessment will help art therapists understand the needs of children in the hospital. The survey questions will be used to gather your child's favorite animals, habitats, and art materials. This survey is the first step needed to create this new assessment.

We are asking you for permission to let your child be in this study because your child is between the ages of six (6) and twelve (12) and is a patient at Riley Children's Hospital. The study is being done by Ellie Bolt, an art therapy graduate student at IUPUI. She is under Eileen Misluk, Director of the Graduate Art Therapy Program.

If you agree to let your child be in the study, your child will do the following things.

- Take part in a survey about animals. It will last up to 15 minutes. The survey will be read aloud to the participants, and the researcher will write down their responses.

Before agreeing to the study, please consider the risks and possible benefits of taking part in this study:

Your child may be uncomfortable while answering the survey questions. Your child can skip any questions that make them uncomfortable or do not want to answer.
There is a risk someone outside the study team could get access to your survey responses. To reduce this risk, we use a password-protected system to write down your child's answers.

**You will not be paid for participating in this study. There is no cost to participate.**

**We will protect your information** and make every effort to keep your personal information confidential, but we cannot guarantee absolute confidentiality. No information that can identify you will be shared when this study is published.

Your personal information may be shared outside the research study if required by law. We also may need to share your research records with other groups. For example, this would be for quality assurance or data analysis. These groups include the Indiana University Institutional Review Board, its designers, and state or federal agencies. They may need to access the research records (as allowed by law).

Information collected in this study may be used for other research studies or shared with other researchers for future research. If this happens, information that could identify you, such as your name, will be removed before any information or specimens are shared. Since this information will be removed, we will not ask for your consent again.

**If you have questions about the study or have a problem with the research**, contact the researcher, Ellie Bolt, at 317-900-9113 or erbolt@iu.edu. Or Eileen Misluk at emisluk@iupui.edu, 317-278-9460.

For questions about your rights as a research participant, to discuss problems, complaints, or concerns about a research study, or to get information, please get in touch with the IU (Indiana University) Human Research Protection Program office at 800-696-2949 or at irb@iu.edu.

**If you decide to participate, you can change your mind and leave the study at any time in the future.** If you choose to withdraw, you may stop at any point in the survey process.
SURVEYING HOSPITALIZED CHILDREN

PARTICIPANT'S CONSENT

After reading all the above, I agree to participate in this research study. I will be given a copy of this informed consent document to keep for my records.

Printed Name of Person Obtaining Consent: ____________________________

Signature of Person Obtaining Consent: ____________________________

Date: ______________

Printed Name of Parent: _________________________________

Signature of Parent: _________________________________

Name of Child: _________________________________

Date: ______________
Appendix B

Cover Letter / Informed Consent

Dear Parents/Guardians,

My name is Ellie Bolt. I am currently an art therapy graduate student from Herron School of Art and Design at IUPUI. As a student, I attend classes at IUPUI and am conducting my internship at Riley Children’s Hospital. I will graduate with my Master’s Degree in Art Therapy in May 2023. As part of the school’s requirements for graduation, I must complete a thesis research study.

For my research, I wish to conduct a research study at Riley Children’s Hospital with a minimum of fifteen (15) patients as my participants. The target patients will be between the ages of six (6) and twelve (12). I will ask the patients to engage in a survey. To determine the participants, the patients who can contribute to my study are those who must have their parent’s agreement to a consent form before the research can be attained.

You are receiving this letter because your child is between the ages of six (6) and twelve (12) at Riley’s Children’s Hospital. Any information your child creates in the study will be kept confidential. No names will be used, as your child’s answers will be marked with a number instead.

Attached with this letter is the consent form that you will need to sign to allow your child to participate in my research. I want to thank you in advance for allowing your child to be a part of this project, which contributes toward my progress in obtaining my Master’s degree and toward the knowledge of the field of art therapy. I believe that this study will be greatly beneficial for the field of art therapy.

Sincerely,

Ellie Bolt, Art Therapy Student

Eileen Misluk, Director, Art Therapy
Appendix C

Data Collection Form

Data and Questions that will be collected:

Age:
Gender:

1. What are your top 3 favorite animals?

   Potential Questions asked by participant: Does it have to be a real animal?
   Answer: No

2. What environments does each animal live in?

   Potential Questions asked by participant: Does it have to be a real environment?
   Answer: No

3. What does the _____________ (fill in with child’s 1 response) need to live in their environment?
   (Repeat for all animals)

   Potential Questions asked by participant: Do you want basic things like food and water?
   Answer: It is your decision. It is completely up to you. There is no right or wrong answer.
   Potential Question: How many ideas do you want?
   Answer: At least one idea but you can tell me as many as you want.

4. What material from this list would you use to make your drawing?
   a. Markers
   b. Colored pencils (woodless)
SURVEYING HOSPITALIZED CHILDREN

c. Mechanical pencil
Appendix D

*Stimulus Drawings*

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**Blank**

Choose your own
Blank
Choose your own
Appendix E

The Animal Stimulus Drawing Assessment

Task One: Draw a picture of an animal in an environment it does not belong in. You may choose images from the sheets provided, or you may choose to create your own image. If you choose from the picture sheet, you are encouraged to draw the pictures the way you like. Try not to copy the image.

Task Two: Draw something that will help the animal live in that environment.