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Examining Adolescent Student Photography and Related Processes to Inform Day Treatment School Curricula and Behavioral Interventions

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Abstract

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by

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Abstract

Adolescent students with psychiatric disorders who are educated in day treatment school classrooms manifest cognitive limitations, maladaptive behaviors, and social functioning deficits that often lead to academic failure, impeding their productivity when they become adults and causing them to run afoul of the criminal justice system. Informed by their students' interests and perspectives, day treatment schoolteachers can individualize existing curricular and behavioral interventions, or develop alternatives so that unwanted classroom behaviors decrease and academic performance improves. This qualitative case study used Roland Barthes' (1981, 1985) theory of *semiotics* as a conceptual framework for answering how an analysis of photographs taken by adolescent day treatment school students who have psychiatric disorders provide insight into the students' interests and perspectives. The photography of seven adolescent participants, who were placed in a day treatment school and involved in its photography elective, was found to have communicated their interests and perspectives. A semiotic analysis was conducted of the photographs they took, observation notes made at the time the photographs were taken, and questionnaires collecting their reflections on taking the photographs. Should school-wide photography programs be implemented in day treatment schools and in schools with similar student populations nationwide, those programs could generate more effective curricula informed by their students' interests and perspectives. This could lead to a larger percentage of their graduates becoming productive members of society, thus prompting positive social change.

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Chapter 1: Introduction

This qualitative case study was designed to examine photography created by adolescents with psychiatric disorders educated in a day treatment school and the process of its creation as a means of informing day treatment pedagogy and behavioral supports. This chapter will show why the study needed to be conducted and its potential social implications through a summary of relevant background literature and by identifying the problem and research gap the study addressed. Research questions will be presented followed by the conceptual framework used to address them. The chapter includes a discussion of the study's nature, definitions, its scope and delimitations, limitations, and significance.

Background

Progress has been made nationally towards educating students with disabilities in mainstream classrooms (U.S. Department of Education, 2015). Despite this, a significant percentage of students, ages six through 21 and categorized as emotionally disturbed, are educated in separate schools such as day treatment schools (U.S. Department of Education). Though the Department of Education has not compiled a national average to represent this percentage, the highest percentages of students educated in separate schools are 28.3 percent in the District of Columbia and 26.7 percent in Illinois. It is 19 percent in New York (U.S. Department of Education), where the day treatment school attended by the adolescent participants of this study is located.

Their psychiatric disorders can place adolescent youth at risk of academic failure. Behaviors manifest in special education settings by youth with psychiatric disorders are

often comorbid with academic failure, which can impede their productivity when they become adults and increase the likelihood of them running afoul of the criminal justice system (Wilkerson, Gagnon, Melekoglu, & Cakiroglu, 2012). "Behaviors that adolescents adopt during this life stage have critical implications for their future health, well being and mortality" (Mmari, Blum, Sonenstein, Marshall, Brahmbhatt, Venables, & Sangowawa, 2014, p. 124).

Clark and Jerrott (2012) argued for the implementation of evidence-based interventions in day treatment that achieve long-term positive behavior changes and academic progress in adolescent clients. Not only does this benefit families coping with the needs of these adolescents but also society's efforts to find productive placements for them when they reach adulthood. The next chapter will demonstrate how current research studies show photography to benefit adolescent students and their teachers in a variety of settings. Improvement in adolescents' academic and behavioral performance, social skills, and motivation has been bolstered by data their teachers attained from their students' photography (DeCoster & Dickerson, 2014; Ginicola, Smith, and Trzaska, 2012; Kennedy, Reed, & Wamboldt, 2014a; Kennedy, Reed, & Wamboldt, 2014b; Veksler et al., 2008).

The diversity of meaning that can be found in adolescents' photographs and the breadth of themes that can emerge from their responses is exemplified by Kim et al. (2013): adolescent participants communicated themes of friendship, loss, their world, culture, life goals, and values through their photography. Kim et al. (2015) believed these themes "can inform the development of culturally relevant psychosocial interventions"

(p. 821). North Korean refugees exhibited high levels of psychological problems that are also found in day treatment school populations: i.e. depression, anxiety, thought disturbances, social withdrawal, PTSD, and attention deficit disorders (Kim et al., 2015). The Thupayagale-Tshweneagae and Benedict (2011) photo-elicitation study of South African adolescents orphaned by HIV and AIDS found common themes from the adolescent participants' photographs of nature, graveyards, houses, shops, hair salons, flowers, stars, and others and discussed the themes' implications for mental health practitioners.

Problem Statement

Many special education teachers providing instruction for adolescents with psychiatric disorders do so in self-contained classrooms within day treatment schools (Wilkerson et al., 2012). Teachers in day treatment schools are often tasked with individualizing existing curricula and implementing (and sometimes developing) alternative pedagogical strategies so that their students' disruptive and dangerous classroom behaviors decrease and their academic performance improves (Clark & Jerrott, 2012; Kennedy, Reed, & Wamboldt, 2014b).

Photography holds potential benefits to the development of behavioral interventions for adolescents whose psychiatric disorders impair their sense of right and wrong and sense of belonging to a society. They also don't necessarily demonstrate an understanding of the bounds of acceptable behavior within society. Such deficits, as well as an atypically limited imagination, are characteristic of many adolescents with autism spectrum disorder who often exhibit, "reduced, or atypical social interest, manifested by

rejection of others, passivity, or inappropriate approaches that seem aggressive or disruptive" (American Psychiatric Association, 2013, p.54).

Photography activities in themselves are motivating and effective academic and behavioral interventions (DeCoster & Dickerson, 2014; Ginicola, Smith, and Trzaska, 2012; Kennedy, Reed, & Wamboldt, 2014a; Kennedy, Reed, & Wamboldt, 2014b; Veksler et al., 2008). When employed as an art, photography can communicate adolescent photographers' desires, interests, intuition, points of view, and the poses and groupings they strive to attain (Eisner & Ecker, 1966). The opportunity for adolescents with mental health issues to express their feelings of concern, as well as hopes and plans for the future, through photographs they take can help them to bridge gaps in their social and communication skills (Rice, Girvin, & Primak, 2014).

Creating visual art like, photography, fosters adolescents' perceptual development, aesthetic growth, and intuitive knowledge, all of which combine to facilitate cognitive development (Eisner, 1979, 2005; Eisner & Ecker, 1966; Lowenfeld & Brittain, 1987; Michael, 1981). The arts may be more basic to thought processes than traditional academic subjects and can, therefore, "play a tremendous role in learning" (Lowenfeld & Brittain, 1987, p. 53). Some things that appear on the surface to not be necessary, such as adolescent art creation, might prove essential to their growth (Maslow, 1970). Maslow discussed styles of cognition relegated to artists that give them an insight into their environment unavailable to individuals who rely exclusively on abstract, intellectual thinking.

Purpose

This study was a group case study involving the participation of adolescents with psychiatric disorders who took part in a photography elective as students at a day treatment school. Its purpose was to discover if the interests and perspectives of the participants can be determined through their photography and if these insights are of value to educators in creating and improving academic curriculum and behavioral interventions intended to benefit adolescent students in day treatment schools. To this end, examples of their photography, notes I took of relevant circumstances when their photography was produced, and questionnaires (see Appendix A) completed by the adolescents pertaining to their photography were examined.

Research Questions

The central research question, "How does an analysis of photographs taken by adolescent day treatment school students who have psychiatric disorders provide insight into the students' interests and perspectives?" is informed by three subquestions:

1. What themes emerge from the comparing and contrasting of subjects the students chose to photograph?
2. To what extent can the students' interests and perspectives be determined through an examination of the cameras they chose to use?
3. What can be assumed about the students' interests and perspectives through an analysis of way they framed and photographed their subjects?

Conceptual Framework

This completed group case study was significant because it established photography as a means of informing pedagogy and behavioral supports intended to benefit adolescents with psychiatric disorders educated in day treatment schools and similar settings. This was achieved through the examination of photography composed by the study participants and the examination of the circumstances surrounding its creation. The photography created by present and former day treatment students, and the photographic and cognitive processes they employed, needed to be examined. Roland Barthes' (1981, 1985) theory of *semiotics*, detailed in the following chapter, provides a conceptual framework for understanding the perspectives of adolescents with psychiatric disorders through their photography.

Nature of the Study

Opportunities for participation in the visual arts have been applied as academic and behavioral interventions in classroom settings. These opportunities can facilitate the education and behavior modification of adolescents with psychiatric disorders characteristic of the day treatment school population. Lowenfeld and Brittain (1987) described photography as having "a respectable place in the art repertoire; processing, making enlargements, or editing films are activities that embody much of the same decision making that goes into painting" (Lowenfeld & Brittain, 1987, p. 464).When students address the problem of conveying an idea artistically and interpret the subject "through manipulation of film and the printing process, then photography becomes an art medium" (p. 465).

Photography is a historic form of healing (The American Art Therapy Association, 2014). Psychiatrists have long been interested in the artwork created by individuals diagnosed with a mental illness, and educators have discovered that students' art can reflect cognitive and emotional growth (The American Art Therapy Association). Art therapy also provides an effective means of facilitating communication and gauging the emotional well-being of clients in a variety of settings including the classroom (The American Art Therapy Association).

The nature of photography as a motivating activity for adolescent students eases its introduction in the classroom as a tool for understanding their interests and perspectives. Photography is in itself an enriching activity, providing a potentially more positive experience for the adolescents that might yield more insights than other methods, such as having them fill out surveys. Manipulating materials through a technical procedure as occurs during transference of one form of visual arts medium to another, such as when adolescents who were given the opportunity to paint are tasked with recreating the subject of a painting through camera technique and photographic composition. Moving to photography, which can involve highly technical processes, from another visual arts medium is a motivating activity for adolescents: "the secondary student, the adolescent, is very much concerned with experimentation and technical processes" (Michael, 1981, p. 339).

Capturing a scene through a simple camera's viewfinder or a digital device's LCD screen and pressing the button does not demand the skill required for other potentially frustrating activities: painting with fine brush strokes, applying the correct pressure of a

charcoal pencil on paper, or working clay until it resembles something close to what the student envisions. Sufficient control over a material is necessary for its use as a medium of artistic expression (Eisner, 1979). The eye-hand coordination that Eisner and Ecker (1966) noted must work instinctively for an adolescent to apply a pencil, pen, or brush to art creation is not required of photography, and "children do not have to be skillful in order to be creative" (Lowenfeld & Brittain, 1987, p. 69). Student photography can be a natural outgrowth of adolescents' common use of camera phones.

Photography, for its simplicity, can also be the visual art of choice to be implemented in the classroom by teachers who have taken photographs but, as Eisner (1979) noted, "have little background in the arts and, in general, are not well prepared to teach them" (p. 91). Rice et al. (2014) noted that the use of photographs to elicit troubled adolescents' stories does not demand further skills or time from the professionals who work with them. It is important to note, however, that the interpretation of these photographs should be done by professionals familiar to working with adolescents in an educational or clinical setting and familiar with the adolescents whose work they seek to interpret.

Definitions

The American Academy of Pediatrics (n.d.) defines adolescents as children from 11 to 21: "Cognitively, young adults are still developing, and new research evidence suggests that this process may continue into the third decade of life" (p. 45). This wide age range suggests that adolescents with psychiatric disorders represent a significant number of the students educated in day treatment schools, demonstrating how important

it is that their teachers have effective means to ensure the adolescents are safe and learning (Wilkerson et al., 2012).

Adolescent students educated in day treatment schools have typically been diagnosed with one or more psychiatric disorders from the *Diagnostic and Statistical Manual of Mental Disorders, 5th Edition: DSM-5* (American Psychiatric Association, 2013), manifesting cognitive limitations, maladaptive behaviors, and social functioning deficits. Forness, Freeman, Paparella, Kauffman, and Walker (2012) identified "oppositional defiant or conduct disorders; attention-deficit/hyperactivity disorder (ADHD); depression, mood, or anxiety disorders; and schizophrenic and psychotic disorders" as prevalent psychiatric disorders among special education populations (p. 4). Students diagnosed with autism spectrum disorder are increasingly common as cases of children diagnosed with this disorder continue to rise nationwide (American Academy of Pediatrics, 2014).

Signs must be defined to facilitate a further understand Semiotics, this study's conceptual framework. Signs are visuals embedded in photographs that have social meaning (Barthes, 1981, 1985). The interpretation of what constitutes a sign in a photograph and its meaning varies with the context of an image and with the photographer's intent (Barthes, 1981, 1985).

Scope and Delimitations

The setting was a school and day treatment program located in New York state. The school and day treatment components worked conjointly to provide educational and therapeutic services for students five through 21 years of age. It operated under the

auspices of the New York State Office of Mental Health (OMH). The severity of the students' psychiatric disorders necessitated a more restrictive setting than self-contained classrooms in the city's Department of Education (DOE) provided. Each participant had been labeled as 'emotionally disturbed' by the DOE based upon a previously diagnosed psychiatric disorder found to interfere with their learning in a typical, mainstream classroom environment.

A questionnaire was individualized for each of five adolescents with psychiatric disorders who participated in a photography elective I developed and led at this day treatment school. Each questionnaire contained five photographs taken by a participant when they were active in the photography elective in the 2013-2014 or 2014-2015 school year. The photography elective has not since been held. The students were asked to respond to five multi-part, short-answer questions about each of five photographs, 25 questions per student. These questions were modified versions of the questions posed to adolescent participants of the Mmari et al.'s (2014) study. Similar questions were used by Kim et al. (2015) to stimulate adolescents' thoughts about the photographs they took and provided the researchers with in-depth information. The current study's questions further resembled prompts used by Smith et al. (2012) in a photo-elicitation study that allowed adolescents to explain how photographs they took illustrated their perspectives.

Limitations

The anecdotal notes utilized in the current study were intended to provide methods of improving teaching practice, not to inform research, limiting the value of these data and necessitating that it be supplemented by participant questionnaire

responses and my further interpretation of the imagery in the participants' photographs. Though I was guided by response the participants gave to the questionnaires, the two other data sources relied on my interpretations of them.

Citing school policy, the administration of the day treatment school expressed discomfort with me interviewing former participants of the photography elective and would not approve of interviews either by phone, Skype, or in person. This policy necessitated the use of questionnaires, and I was permitted to be present during their administration provided I did not directly question the participants.

There were limitations inherent with use of questionnaires. The questions asked relied on the participants recalling events of two to three years earlier. Scaffolding of participant responses was employed through the use of sentence starters and fill-in-the-blanks and limited the study to five, predetermined questions per photograph. Structured responses, created as a barrier to irrelevant or too brief responses, negated the diversity provided by open-ended questions. Face-to-face interviews would have best allowed for participants to clarify the meanings they saw in their photographs.

The study participants were formerly students of mine because I was the teacher for the photography elective. Printed and verbally stated requests to participate in the study were carefully worded so that the participants would not feel obligated to participate, but their desire to please me was an inherent limitation of the study that could not be proven completely extinguished. Though entreated not to do so, one or more participants may have attempted to write questionnaire responses they believed I wanted.

In an attempt to counter any personal bias I was harboring as the photography elective instructor and sole researcher in this study, analyzed data were also made available to all the members of the Dissertation Supervisory Committee, so that they could evaluate the study's dependability, confirmability, and credibility by reviewing the data, the employed methods of analysis, and the conclusions drawn from it. However, this action could not be proven to root out potential bias thoroughly.

The generalizability of the current study was weakened by having only seven participants. However, the weakness of the sample size should be viewed with less pertinence in light of an absence of similar studies on even a small scale. Future studies should involve larger groups of participants to represent a diversity of age, sex, race, and ethnicity. Ideally, researchers conducting future studies would have the latitude to detail the participants' psychiatric disorders.

Significance

There is little research available on the use of photography in the education of adolescents with psychiatric disorders. At the time of this writing, no research was found addressing the implementation of photography-based behavioral and academic interventions with youth who are being educated in day treatment schools. Day treatment teachers will foster positive behavior changes and academic progress in their students by providing evidence-based interventions. Over the long-term, the benefits will extend to families and communities coping with the population's specific needs as they reach adulthood (Clark & Jerott, 2012). Clark and Jerott (2012) noted that prior studies of the long term outcomes for adolescents placed in day treatment have shown improvement on

a variety of psychiatric symptoms that manifest in and outside the adolescents' homes.

Teachers can discover and recognize the individual strengths, personalities, and passions of their adolescent students by seeing their photography (Lanou, Hough, & Powell, 2012). The images hold clues to motivating students to improve their behavior and academic performance (Lanou et al.). Adolescents have produced images that provided insights into how they perceive their environment that educators can exploit (Eskelinen, 2013; Wilkerson et al., 2012). These insights will be detailed in Chapter 5. A deeper understanding into the hopes, dreams, interests, fears, and what the adolescents perceive as obstacles to performing well academically and socially, can allow education professionals to modify pedagogy and classroom structure accordingly (Eskelinen, 2013; Wilkerson et al., 2012).

Photography, when employed as a visual art, does more than record what can be seen and capture a single moment in time; it can exercise the imagination. Adolescents given cameras are able to find and record patterns and vistas in ordinary places. Photography "photographs the notable; but decrees notable whatever it photographs" (Barthes, 1981, p. 34). A photograph is imbued with meaning that communicates what is culturally significant and significant to the photographer. This meaning becomes relevant to teachers of adolescent students when those adolescents are the creators of photography made available for their teachers to study and learn more about their students from. Barthes' understanding of how the individual perceives a photograph conforms to Maslow's (1970) view that perception involves a process other than registering or absorbing the inherent nature of an actual event: frequently it involves the classification

or labeling of experiences instead of examining them (p. 209). Photographs potentially have important perceptual, cognitive, ideological, social, and ethical connotations that introduce "reasons or values into the reading of the image" (Barthes, 1981, 1985).

Adolescents whose psychiatric disorders are characterized by rigid or anxious behavior may benefit from photographing their surroundings without distortion. They require the comfort of art creation that entails "less perspective distortion from what they know about the things they see than people who are not rigid" (Eisner & Ecker, 1966, p. 189). The photographs can also function as a visual reality check, a means to counter a maladaptive understanding of the world. Other artistic practices that students may engage in, such as painting, cannot reproduce reality with the precision of a photograph.

As tools to bypass these students' denials and rationalizations, photographs can serve as concrete evidence of the reality and challenges adolescents with psychiatric disorders may face. The ability to transfer knowledge into reality-based situations afforded by visual images can potentially aid adolescents whose psychiatric disorders have psychotic features (Sawyer & Willis, 2011). They do not perceive reality with consistence or correctness. Photographs of their environment taken by these students could be employed to help these youngsters become more reality-based in their thinking. Ultimately, individuals begin to make sense of experiences by narrating visual imagery and internalizing what they have learned from doing so, allowing them to adjust their behaviors and transfer understanding to other aspects of their lives (Sawyer & Willis).

Lowenfeld saw instruction in the visual arts as a means to motivate adolescents in particular (Michael, 1981). Lowenfeld believed it important that adolescents be

encouraged to "sense they are actively and personally involved in an experience and to discover ways of expressing that personal relationship" (p. xii). In day treatment schools, photography can be a manifestation of art in which adolescent students are prompted to record their everyday experiences and those of others in great detail, fostering and expressing personal relationships between themselves and their experiences. This process enables adolescents who have diverse educational needs to be motivated by a "feeling of personification" that occurs in art creation (p. 341). By sharing their photographs with teachers and peers, adolescents with psychiatric disorders can take a step towards socialization that may have proven too intimidating without the aid of imagery. Lowenfeld and Brittain (1987) maintained that adolescents involved in art creation further develop social awareness in their portrayal of aspects of society with which they can identify.

Language can be inadequate to express many concepts teachers are called upon to explain (Arnheim, 1997). Likewise, it fails some adolescents with psychiatric disorders who need to communicate how they learn and their wants, needs, fears, goals, and interests. Where words fail, concepts can be presented visually. An adolescent can demonstrate an understanding of aerodynamics by taking a series of photographs showing a paper airplane's journey across the classroom or, as Arnheim (1997) suggested, images of the body in motion may be needed to explain how the body walks and remains balanced. Their students' photography can facilitate teachers to align their perceptions with those of their students thus improving the curriculum through individualizing its design and execution.

Language is described as one-dimensional, but visual mediums represent shapes in two and three dimensions required for theoretical reasoning (Arnheim, 1997). Visual imagery facilitates the communication of ideas whose complexity defies conventional language use and empowers teachers of adolescents whose language deficits limit their understanding of dialogue. Photographs can record and communicate the non-verbal components of a situation that cannot be communicated through written language (Thupayagale-Tshweneagae & Benedict, 2011).

Summary

The following chapter comprises a literature review that will provide the theoretical basis for the cognitive and behavioral benefits of adolescent photography by identifying multiple theorists and their relevant work. This research culminates in an argument for the use of the photographs as a means of understanding the photographers' perspectives. Current research is then mined to analyze the practical implementation of theory. The search parameters used to identify the research presented are detailed and an explanation presented as to how articles were chosen in light of the absence of studies conducted with day treatment school populations.

Chapter 2: Literature Review

Introduction

Adolescents with psychiatric disorders who are placed in day treatment schools have social-emotional, behavioral, and cognitive deficits that require their special education teachers to individualize mainstream curricula and implement and develop alternative pedagogical strategies. This group case study examined photography completed by adolescents in a day treatment school for insights into their perspectives and interests that can potentially improve the pedagogy and behavioral supports purposed to their benefit. Photography created by adolescent students has been documented to provide teachers insight into their students' perspectives that the teachers many otherwise not have obtained (DeCoster & Dickerson, 2014; Ginicola et al., 2012; Kennedy et al., 2014b; Veksler et al., 2008). These data can be applied to improving pedagogy for the improvement of adolescent students' behaviors and academic performance (DeCoster & Dickerson, 2014; Ginicola et al., 2012; Kennedy et al., 2014b; Veksler et al., 2008). However, recent research has not been conducted in a day treatment school where it can potentially be of much benefit.

Current, peer-reviewed journals were vetted through a number of databases, including: Academic Search Complete, Education Research Complete, ERIC, PsycARTICLES, PsycINFO, Education Source, Teacher Reference Center, and Thoreau Multi-Database Search. Search engines used included: Google. Google Scholar, Bing, and Yahoo. To generate the most relevant results, the following search terms were used in conjunction with "photography," "photovoice," and "photo elicitation": adolescence(t,

ts); young adult; youth; child(ren); emotional, behavioral, and psychiatric disorder; day treatment; day habilitation; emotional disturbance; emotionally disturbed; photography; photovoice; photo elicitation; special education; special needs; self-contained; at risk; teach(ing); instruction; and pedagogy.

The lack of current research into the use of photography in day treatment schools necessitated researching the use of photography with adolescents with and without psychiatric disorders in settings other than day treatment schools. Settings included mainstream and mainstream inclusion classrooms within public and private schools, after-school, summer and community-based programs, and research studies involving adolescent participants taking photographs.

Theorists and The Art of Photography

Theorists Rudolph Arnheim (1974, 1986, 1997), Roland Barthes (1981, 1985), James Dewey (1959, 1980, 1997), Gerald Edelman (1987), Elliot Eisner (1966, 1979, 2002, 2005), Maxine Greene (1988), Viktor Lowenfeld (in Michael, 1981, with Brittain, 1987), Abraham Maslow (1970, 1973), Jean Piaget (1971), and Lev Vygotsky (1925-1971, 1934-1962) demonstrated the value of the visual arts in the cognitive and behavioral development of children. Photography is a ubiquitous and accessible visual art form. When examined in totality, these theorists' writings form the basis for identifying and understanding photography's cognitive and behavioral benefits so that these may be applied in day treatment schools.

The late social and literary theorist, Barthes (1985), studied the language of imagery and *signs*, visuals with social impact, in photographs. Among Barthes' insights was his conception of *semiotics*, the way signs and signifiers behave within society. He believed a photograph becomes like a painting when it is a "composition or visual substance deliberately treated in its own texture ... in order to impose a usually more subtle and more complex signified than other connotation procedures would allow" (pp. 12-13).

Aspects of semiotics contribute to an increased understanding of the communication systems within society. Helping adolescents navigate these systems facilitates their emotional health. Barthes (1985) recognized the usefulness of photographs in communicating concepts and emotions that text could not, and he offered guidance on how to seek out hidden meanings in images by describing what constitutes signs, objects in the image imbued with a greater meaning than their basic definitions. Barthes' research provided significant inspiration and guidance towards the development of this study.

A prominent means in which photography promotes cognitive and behavioral growth is by facilitating perceptual development in children. Arnheim (1974, 1986, 1997) addressed perceptual development in children by studying the artwork they create. Eisner (1966, 1979, 2002, 2005), both an educator and artist, and Arnheim contended that normal cognitive, behavioral, and language development in children is dependent upon their perceptual development. The skills involved with taking and developing photographs lend themselves to the expansion of neural networks, the biological process

occurring in the brain described by Edelman (1987) that accompanies cognitive and emotional development in youth. Children's involvement in art creation fosters perception and therefore aids in overall individual growth and emotional well-being. The development of self-awareness in children depends on the evolution of their perception, and the art of taking photographs fosters perception, which is an effective means of developing positive self-concept (Piaget, 1971). Eisner (1966, 1979, 2002, 2005) believed it was to society's overall detriment when opportunities to engage in visual art are denied or given a low priority in American schools.

It was Lowenfeld's (1987) contention that the benefits bestowed on children engaged in art creation include and surpass physical and cognitive competencies. Art creation is therapeutic because it facilitates children's social and emotional growth in ways traditional educational practices cannot (Michael, 1981). Greene (1988) suggested that schools are not preparing adolescents to contribute to our democratic society unless obstacles limiting their imagination are removed through art creation. School curricula, because of their failure to emphasize the arts, restrict the development of analytical skills necessary for them to contribute to our democracy as adults (Greene, 1988).

Vygotsky (1925-1971), a psychologist whose research encompassed helping children with special needs, developed a socio-cultural theory of children's cognitive development that when applied to the use of photography with adolescents supports many of Arnheim (1974, 1986, 1997), Dewey (1959, 1980, 1997), Eisner (1966, 1979, 2002, 2005) and Lowenfeld's (1987, Michael, 1981) contentions.

Maslow's (1970, 1973) understanding of children's behavioral, cognitive, and emotional growth was driven by his conception of a *Hierarchy of Needs*, a tiered system of physical and emotional needs. He saw the satiation of emotional needs as changing in priority of importance for children as they grow, a process that does not cease when they reach adulthood. The insights gained from recognizing and interpreting this system can aid educators working with adolescents who have psychiatric disorders in developing individualized academic and behavioral interventions for them. Maslow also discussed *self-actualization*, a path leading to adulthood in which basic needs are met, and there is freedom to pursue higher levels of self-fulfillment. Maslow saw art creation as an avenue towards self-actualization.

Photography's Cognitive Benefits

Artistic literacy.

Eisner (2005) believed visual art creation to be a cognitive activity that emerges from perception and aesthetic understanding to communicate unique forms of meaning resulting in *artistic literacy*. The effects of artistic literacy on cognition are not limited to the areas of art creation and appreciation. Artistic literacy enhances the meaning children make from their experiences and facilitates their use of more conventional methods of expression, and some aspects of it are innate to human beings. The visual arts are essentially comprised of cognitive activities that allow children to communicate through "unique forms of meaning" (Eisner, 2005, p. 76).

Eisner (1979) understood learning to be the process in which children make sense of their world, and he believed the learning process to be an artistic act. "We function as

architects of our own enlightenment; we build our own conceptual edifices and we want them to be beautiful...” (p. 271). The process of art creation parallels sequential learning as artists increase control over their respective mediums over time by solving qualitatively related problems (Eisner & Ecker, 1966). Eisner (2005) acknowledged this to be akin to artistic literacy and termed it *artistic thinking,* aspects of which are also inherent in human beings (p. 76). The application of intelligence is required and practiced through artistic expression when material such as paint and canvas or photographic film is converted into a medium (Eisner, 1979). Barthes (1981) described photography as assuming a pensive character, a form of artistic thinking he characterized as “subversive” for the images can cause the viewer to reflect or suggest a meaning apart from the literal one (p. 38). What he deemed subversive could provide insight into an adolescent photographer’s intended or subconsciously communicated meaning separate from the literal meaning.

Intuitive knowledge and perception.

Art creation fosters children’s intuitive knowledge which—distinct from logic, a product of the intellect—is knowledge born of the imagination (Eisner & Ecker, 1966). Intuition has a theoretic character and does not exist independently of intellectual knowledge. Intuition exists in imagery and is an outgrowth of perception: “the undifferentiated unity of the perception of the real and of the simple image of the possible” (p. 33).

Visual perception and cognition are complimentary, both channels enriching and reinforcing the learning process (Eisner and Ecker, 1966). Participation in visual art, such

as photography, fosters children's perception and therefore facilitates their cognitive development and capacity to be creative. Lowenfeld noted the importance of perceptual experience to any creative process and any other form of growth (Michael, 1981). Perceptual growth occurs in children through refined application of their sensory experiences. It begins with basic sensory experience, an experience in which the individual wholly participates that can be fostered by art activities in the classroom. A basic experience combines feeling, thinking, and perceiving, and can become very important to children. It finds expression through their artwork as they photograph, paint, or otherwise seek to create a visual link to their experience.

Edelman (1987) noted conditions relative to perceiving art when he explained the neither unitary nor closed nature of perceptual categorization. Subjective perception, the visual process for judging artwork, belongs to the realm of perceptual experience (Edelman, 1987). Psychophysical experiments have revealed stark differences between the unconscious *preattentive* visual processing of textures which are evoked in photography and attentive searches (Edelman, 1987). The subjective enjoyment of artwork would occur unconsciously as well as consciously when the visual impressions of it are processed.

Perception allows children to translate information brought them through their senses so they can form images and ideas that are the basis of higher cognitive processes such as language. Photography exemplifies the relationship between art creation and perception and perception and language development. Without instant categorization,

there is no perception, and photographs are verbalized and their subjects categorized the moment they are perceived (Barthes, 1985).

Barthes (1985) noted how a delay in verbalization of what is perceived visually indicates disorders of perception, anxiety, and trauma. This demonstrates the potential usefulness of photographs as diagnostic tools for helping to determine the existence and nature of psychiatric disorders in adolescents. Clues to a more precise diagnosis of anxiety and trauma-and-stressor related disorders might be found in the subject matter of photographs taken by adolescents and in their emotional responses to photographs taken by others.

Composing a photograph represents a form of communication that entails "a true lexicon" through the objects shown in the image, its syntax (Barthes, 1985, p. 11). Such a composition can communicate a plethora of information and emotions emerging through the connotation of assembled objects. Among the photographs used to exemplify this was one that included:

> a window open on tile roofs, a landscape of vineyards; in front of the window, a photograph album, a magnifying glass, a vase of flowers; we are, in other words, in the country, south of the Loire (tiles and vines), in a bourgeois dwelling (flowers on the table), whose aged resident (the magnifying glass) is reliving his memories (photograph album). (Barthes, 1985, p. 11)

Objects possess meanings in photographs because connoted messages are found within an image as a whole. Many adolescents whose language is impaired as a result of a

psychiatric disorder can express their emotions through exposure, lighting, and printing techniques; a photograph always holds meaning (p. 12).

Aesthetics and aesthetic perception.

Aesthetics, what we perceive to be beautiful or pleasing particularly in relation to art, has evolved to designate a form of judgment, experience, and value (Shelley, 2013). Aesthetic theories have influenced pedagogy, fostering debate as to whether or not a work of art is an aesthetic object. Such theories challenge people to reconcile the perceptual basis of an aesthetic judgment when they feel compelled to make arguments in support of it, question how best to contrast an aesthetic attitude with one of practicality, determine "whether to define aesthetic experience according to its phenomenological or representational content," and explore the relationship between aesthetic experience and aesthetic value (Shelley, 2013, para. 1). Eisner and Ecker (1966) described aesthetics as "the science of intuitive or expressive knowledge, which is the aesthetic or artistic fact" (p. 38), relating its study to communication as well as perception.

Maslow (1970), addressing an artist's perception in humanistic and prosaic terms, saw perception as something more than discrimination and categorization; he touted the ability of artists to see beauty in the ordinary for their own benefit and the benefit of those who perceive their artwork. However, he warned that human perception was too complex to classify based on the few attributes people find useful to themselves, relevant only to their concerns, satiating to their needs, or threatening these needs. "Taoistic, disinterested perceiving of the many-sidedness of a phenomenon (with especial reference not to usefulness but to its efficacy in producing end experiences), is one characteristic of

the *aesthetic perception*" (p.235). Aesthetic perception results when children develop a degree of perception that goes beyond interpreting the surrounding environment solely for adaptation and survival (Maslow). When basic survival needs are met, aesthetic perception allows children to see the beauty around them, which is necessary for the appreciation and creation of visual art (Maslow, 1970).

Eisner (2005) noted the existence of *aesthetic modes of knowing* that are essential to cognitive development in children. He described these modes of knowing as modulating the forms we perceive which, in turn, modulate our experience. This is the means through which children perceive the qualities of form of objects in their environment, thus learning the nature of the objects (Eisner, 2005). This competency, fostered by the creation of visual art, is necessary for children to connect perception with past experience (Eisner, 2005). The composition of a photograph can evoke the memory of alimentary paintings that, as suggested by Barthes (1982-1985), through their aesthetic qualities may signify such experiences as painting, going to the museum, eating, hunger, satiation, and others that the child innately organizes and connects. Aesthetic modes of knowing impose an order onto cognition (Eisner, 2005) that may be therapeutic to students diagnosed with schizophrenia, autism spectrum, and other psychotic disorders of which, according to the American Psychiatric Association (2013), disordered thinking is symptomatic.

The universal character of form making can be found in every aspect of life, and aesthetics play an integral role in the processes of perception and imagination (Eisner, 2005, p.98). Children benefit developmentally from being taught to be competent in one

or more forms of art. Producing art forms demonstrates aesthetic understanding, imagination, communication, and perception and can be done through photography at least as well as, if not better, than other visual arts. Barthes (1982-1985) noted that, when combined with text, photographic images are imbued with culture, morality, and imagination.

Piaget's (1971) theory of self lends itself to understanding children with autism by describing the importance of young children's transition beyond a state of egocentrism in which the child lacks self-perception and objectivity. A child's understanding of itself as an entity among other entities within its environment is prerequisite for normalized social interaction. Children on the severe end of the autism spectrum remain egocentric to some degree, as though trapped by their personal perspective (American Psychiatric Association, 2013).

Some forms of scientific inquiry can exemplify the relationship between higher cognitive processes and aesthetic understanding. Eisner (2005) contended that aesthetic understanding is analogous to logic and necessary to understand small, everyday concepts as well as complex scientific and philosophical ideas. As such, aesthetic understanding is integral to cognitive development. Ideas take on forms that people can share such as theories, frameworks, taxonomies, or conceptual systems (Eisner, 2005). When these forms are perceived to be coherent, they become aesthetically pleasing which leads to their acceptability (Eisner, 2005). Eisner (2005) argued that the basis for a scientific theory's acceptance transcends experimental results; the theory's "attractiveness" through its coherence is central when an individual judges its value (p. 98).

A day treatment school should foster aesthetic thought in adolescents through photography-based academic and behavioral curricular and interventions:

> Attention to the aesthetic aspects of the subjects taught would remind students that the ideas within subject areas, disciplines, and fields of study are human constructions, shaped by craft, employing technique, and mediated through some material. Works of science are, in this sense, also works of art. (Eisner, 2005, p. 103)

Artists and scientists create forms based on what their perceptual and cognitive faculties tell them seems right (Eisner, 2005). They make qualitative judgments as to the coherence and subsequent attractiveness of art forms that their audience perceives and makes similar aesthetic judgments about, thus benefiting cognitively (Eisner).

Adolescents with anxiety disorders may cope with a sense of powerlessness wrought by the belief that obstacles to their success are engrained in society, and it is beyond their power to effect social change (American Psychiatric Association, 2013). Eisner (2005), however, observed that when given an appreciation for the aesthetic qualities of art through its creation, young people can imagine themselves in the roles of scholars and critics and as creators and assessors of all things human-made. In so doing, youth are engendered with a sense of agency and an understanding that they have a role to play in society, that they *can* effect change (Eisner, 2005). Lowenfeld also viewed cognitive and social growth as resulting from aesthetic learning (Michael, 1981). He paralleled social growth—the ability to cooperate, make contributions to society, and

recognize the needs of others—with aesthetic and perceptual growth, contending that aesthetic experience emphasizes values important to society (Michael).

Barthes (1982-1985) described photography as creating images with a code of connotation that is historical and cultural: A photograph is imbued with signs that are attitudes, expressions, gestures, colors, or effects that the practices of society endow with meaning. Adolescents instructed in aesthetic thinking through composition training in a photography course, for example, can better perceive these signs. Lowenfeld contended that aesthetic experience fosters mental health and a more beneficial school experience for students (Michael, 1981). By failing to prioritize art creation opportunities for their students, schools bare responsibility for a lack of opportunities for creative expression in society through which some social ills could be better managed (Michael, 1981). The work of these theorists suggests that giving adolescents with psychiatric disorders access to cameras and the opportunity to create art with them might form the basis of a practical intervention to help these adolescents cope with mental disorders.

Academic curricula.

Student photography is not usually incorporated into academic curricula, though photography can facilitate learning in traditional subject areas. Art creates “beauty, perfection, harmony, and order,” conditions necessary to making coherent cognitive statements in any discipline (Arnheim, 1997, p. 254). Educational programs are aimed to facilitate children’s understanding of the world and "that understanding is secured and experienced in different ways” (Eisner, 1979, p. 128). Eisner refuted the idea that art

creation is solely feeling and only academic subjects like math and reading require thinking. He believed all forms of learning to be exercises in creativity.

Adolescents should be motivated to be creative, and creativity can be brought into the teaching of academic subjects to make them more motivating. Lowenfeld believed creativeness does not solely belong to the realm of art; it has a role to play in academic exercises as well (Michael, 1981). Giving adolescents the opportunity to engage in photography and appreciate photography created by others supports the traditional instruction of science, social and global studies, mathematics, and English language arts. Traditional chemical developing of negatives and prints requires the practice and understanding of chemistry and the ability to measure accurately. Digital photography requires skill with computer software.

Dewey (1980) argued that the only difference between the thinking of an artist and the scientific enquirer is that of "tempo and emphasis" (p. 14). Math and science, like art, are universal languages or rhythms of thought and action, both products of children's visual perception and culture that are intrinsic to literacy and find expression through visual art (Dewey, 1980). Photography encompasses math and science. Their linguistic elements can be purposed to facilitating communication with adolescents whose psychiatric disorders, such as autism spectrum disorder, make verbal discourse difficult or impossible (Berger, 2015), yet they grasp mathematical or scientific concepts.

Art creation engenders the same manner of thinking that yields scientific knowledge, and artwork is applicable "to new, imperceptive phenomena or ideas" (Vygotsky, 1971, chap. 2, p. 3). Lowenfeld noted that the Massachusetts Institute of

Technology required their graduates to take art courses so as to become better scientists through a greater understanding of creativity (Michael, 1981). Mathematics and science simplify and express conceptual experience in the form of replicable visual data. Visual art simplifies and expresses perceptual experience into replicable forms such as photography. Math and science are universal languages that find expression through art because "creativeness, whether it's applied in the arts or in the sciences, has common attributes" (Michael, 1981, p. 335). Taught to think creatively through participation in a visual arts curriculum, adolescents will naturally apply this pattern of thought to science (Michael, 1981). By graduating students who think like artists, schools produce potential scientists and mathematicians as well.

Eisner (1979) proposed that school curricula address topics that cut across traditional academic subject divisions such as communication, contemporary social problems, and popular culture. By doing so through photography, adolescents' experience of traditional academic subjects transcends sitting in a classroom and listening; they are going outside to photograph, a potentially more motivating activity. Photography provides engaging learning alternatives within the classroom as well: "As much can be learned about aesthetics from... cropping photographs for enlargement as can be learned from armchair lectures..." (Lowenfeld & Brittain, 1987, p. 136). Student photography also provides a means to assess the effectiveness of the instruction when adolescents are tasked with showing what they know through images. Individualized academic curriculum in day treatment schools can result in part through an analysis of photography created by adolescent students with psychiatric disorders.

Individualizing instruction.

Eisner (1979) believed that no concept in educational discourse has possibly "had greater currency than the concept of individualized instruction" (p. 159). Individualized instruction requires that educators allow children to take different lengths to reach the same goals, use "different kinds of explanations for different children," ask a variety of questions, provide different example types, engender motivation in different ways, and modulate their voice and tempo (p. 160).

Standardization, which the American education system applies to teaching methods, materials, and subject matter, involves teaching all students within the same age group the same things in the same way and expecting uniform results from them: "Even those teachers whose projects have been otherwise are constrained by state action plans and testing mechanisms" (Greene, 1988, p. 14). Autonomy and individualism are not produced on assembly lines, which Eisner (2003) warned American classrooms were becoming. If the curriculum does not recognize the individual, it cannot be expected to address self-expression.

Awareness of what their students are potentially capable of is as important to educators as knowing what their students are already able to do on their own. Vygotsky (1934-1962) described a *zone of proximal development* (ZDP) that applies to individual learners. It encompasses the skills, knowledge, and concepts that a child could grasp if a moderate level of assistance is provided to that child. The discrepancy between children's mental age and the level they reach in solving problems with assistance indicates their ZPD, what they are actually capable of achieving (Vygotsky, 1934-1962). To incorporate

ZPD in individualized instruction, a teacher or mentor may reveal the first step in a solution or ask a leading question, any intervention appropriate to the learner's skill and level of cognitive functioning (Vygotsky, 1934-1962).

All children learn at different rates and mental age can significantly lag behind chronological age. Vygotsky (1934-1962) contended that though children can do more with assistance than without, it is only within the limits set by their current state of cognitive development. This is an important factor when instructing adolescents who have psychiatric disorders and developing academic interventions for them, because these disorders can cause a "discrepancy between chronological age and the appropriate developmental stage" (Michael, 1981, p. 50).

Lowenfeld felt Vygotsky's concepts should be applied to children's creative activity (Michael, 1981). Lowenfeld envisioned children expressing themselves according to their "own individual potentialities" (p. 4). Should adolescents be engaged with tasks outside their ZDP, there is the likelihood of boring them with tasks that are too easy or generating frustrating tasks that are too difficult. When teaching students art creation, high expectations must be paired with giving them the support necessary to implement creative solutions (Michael, 1981). If not, the teachers have failed in their ultimate purpose: "to see the product in equilibrium or commensurate with the abilities of the student" (p. 334). Lowenfeld cautioned against educators aiming so high that what is taught becomes out of reach of the individual student: "This is very important. We always have to start on the level of the student and extend his abilities…" (p. 334).

Dewey (1997) similarly concluded that at every level of a child's cognitive development "there is an expanding development of experience," the pattern of which should be addressed by a learning experience tailored to the individual (p. 88). It is the school's role to provide this experience, which is more effective and motivating than education geared towards a standardized curriculum that assumes conformity (Dewey).

Lowenfeld and Brittain (1987) noted that secondary school teachers "must capitalize upon the interests and concerns of their students" in order to motivate them (p. 354). Ignoring adolescent students' interests and concerns could lead to frustrating experiences (Lowenfeld & Brittain). Effective educators must determine the needs, interests, and potential and current capacities of the students they are teaching while simultaneously arranging "the conditions which provide the subject-matter or content for experience that nurture these characteristics, satisfy these needs, and develop these capacities" (Dewey, 1997, p. 58).

Dewey (1997) and Vygotsky's (1934-1962) theories can be tailored to the education of adolescents with psychiatric disorders. Developmental psychopathology contends that among children who share a psychiatric diagnosis, no child is typical in every way; time may bring improvement in some children, while others encounter increasing problems (Berger, 2015). Similar disorders may vary in precipitating factors, methods of treatment, and prognosis (Berger).

Many adolescents in special education, in part due to the nature of the psychiatric disorders with which they are diagnosed, may lack the capacity and motivation to achieve, behave in, or regularly attend school without the aid of an individualized

behavior plan. The lack of classroom support such a plan provides can result in students with psychiatric disorders engaging in disruptive and dangerous classroom behaviors. In the US, an Individualized Education Program (IEP), a legal document that specifies a student's academic and behavioral needs and level of functioning is given to students who are determined to require special education services (U.S. Department of Education, n.d.). Having an IEP is required before students can be placed in day treatment schools. IEPs include the nature and extent of related special education services individual students are to be provided and specific instructional and behavioral goals through which their progress is to be evaluated (U.S. Department of Education). However, goals based on the interests of the students and art creation activities that can identify, foster, and further individualize instruction based on these goals are not required by federal guidelines.

A socially meaningful activity.

Socially meaningful activities are motivating, promote cognitive growth, and have a positive impact on student behavior (Dewey, 1959; Lowenfeld & Brittain, 1987; Michael, 1981). Socially meaningful activities can include student photography, and photography can be a socially meaningful activity in itself. Eisner (1979) criticized educational programs that only saw value in traditional academic disciplines. Such programs define becoming educated as "learning how to use the ideas within these disciplines" which are often irrelevant to children and, by providing few opportunities that are of particular importance to them, fail to capitalize on every child's unique talents (p. 58). Vygotsky (1934-1962) cautioned that concept formation:

> …cannot be taught by drilling but can be accomplished only when the child's mental development itself has reached the requisite level…. Practical experience shows that direct teaching of concepts is impossible and fruitless. A teacher who tries to do this usually accomplished nothing but empty verbalism, a parrotlike repetition of words by the child, simulating knowledge of the corresponding concepts but actually covering up a vacuum. (pp. 82-83)

To motivate adolescents, they must see some purpose in an academic activity. Through science and math lessons, adolescents can be taught "a certain discipline of the reasoning powers," but this is of little value compared to "the training of attention and of judgment that is acquired in having to do things with a real motive behind and a real outcome ahead" (Dewey, 1959, p. 37). Lowenfeld noted that with adolescents especially, the things that are important to them relate to social activities (Michael, 1981).

Mainstream adolescent students relate good performance on standardized tests with better chances of getting into the college of their choice. Adolescents with psychiatric disorders, however, are less likely to see the intrinsic value of academic tasks. The concrete thinking associated with autism spectrum disorder, for example, may inhibit an adolescent from associating a passing score on a state math test to productivity later in life.

Many adolescents with psychiatric disorders may be more likely to see themselves employed in construction, working with tools, building, repairing, or taking down objects of stone, metal, and wood. Tasks such as converting fractions to decimals are not used on the worksite and are therefore irrelevant, generating no intrinsic

motivation to pass a math test. Adolescents with oppositional defiant disorders may understand that a high school diploma is needed to be hired by a construction company and passing a math test is necessary to obtaining a diploma, but this understanding might not avoid test refusal in typical defiance of authority or prevent them from putting their best effort. An inability to sustain focus can sabotage the chances of adolescents with attention deficit disorders to pass a standardized test. A manner of education and assessment that is clearly relevant to these adolescents' lives and futures is called for. Photography lends itself to socially meaningful and motivating activities, the objectives of which are assessed, as Eisner (1979) suggested, by an analysis of the artwork the students produce.

> Art is a personal and satisfying activity at any age, for although the arts are responsible for a greater awareness of the external world, it is also the arts that give vent to the emotions, the joys and fears of life. (Lowenfeld & Brittain, 1987, p. 2)

Because it combines both purpose and enjoyment, photography is intrinsically motivating and socially meaningful. Images made by adolescents armed with point-and-shoot cameras or camera-equipped digital devices can identify and help them to understand a social problem. The images they create can then be duplicated and disseminated to broaden a community's awareness.

A democracy identifies and deals with problems such as youth challenged by mental illness through an open dialogue, but Greene (1988) lamented that media-provided messages and announcements had replaced necessary discussion in our society.

This originated in social disinterest for public concerns, leaving a silence where there should be "impassioned and significant dialogue" (Greene, 1988, p. 2). Greene (1988) asked how our society can be free if freedom only exists when societal problems are analyzed and acted upon:

> Stunned by hollow formulas, media fabricated sentiments, and cost-benefit terminologies, young and old alike find it hard to shape authentic expressions of hopes and ideals…. What does it mean to think forward into a future? To dream? To reach beyond? (p. 3).

Greene (1988) identified the need for reform in education that includes alternative ways of fostering the freedom to surpass the given and see how things can be different, an acute need of adolescents with psychiatric disorders.

Dialogue is necessary for American democracy to flourish (Greene, 1988). Photography provides a language that is universally understood, a necessity in a culture as diverse as our own. It is able to convey ideas that mere words are incapable of expressing. Dewey (1980) contended that if all meanings could be expressed adequately in words, the arts would not exist: "There are values and meanings that can be expressed only by immediately visible and audible qualities, and to ask what they mean in the sense of something that can be put into words is to deny their distinctive existence" (p. 77)

Art creation can elicit a quality of belonging "to the larger, all-inclusive, whole which is the universe in which we live," an answer to youth in society's withdrawal from engaging in the problems facing it (Dewey, 1980, p. 202). Greene (1988) also noted a need for youth to surpass the constraints of a reality perceived as deficient by looking at it

only from their particular vantage points in the world. When young children no longer see themselves as the center of the world, they place themselves as objects among other objects and become integral parts of the universe they have constructed by freeing themselves from their personal perspectives (Piaget, 1971). This process is built upon in Adolescence, when youth must learn that there is a larger world beyond themselves in which they are citizens, and a gratifying sense of unity comes with internalizing this realization (Dewey, 1980).

What Piaget (1971) identified as a hereditary understanding of Euclidean three-dimensional geometry which appeared innate to children may account for a natural proclivity youth have for art creation. Though not everyone can be an artistic virtuoso, the ease of producing photographs makes photography an accessible mode of art creation, and art creation can demonstrate that "far more is possible for individuals than is ordinarily recognized" (Greene, 1988, p. 5).

Dewey (1959) considered influencing affairs to be the area through which education can serve as "the most important instrument of action" because schools are microcosms of society (p. 7). Eisner (1979) held parallel beliefs, writing, "Because schools are social institutions—that is, institutions created by the society for the achievement of socially designed purposes—they are influenced by forces that pervade that society" (p. 276). Student photography can serve as a catalyst for a broader movement toward social change. The ability to photograph is independent of academic skill levels, empowering individual adolescents regardless of where standardized measures would rank them.

Dewey (1959) was critical of education that favors purely academic subjects, the value of which young people dismiss as lying in a remote future, over immediate experience of social relevance. Purely academic tasks are less likely to be motivating than experiences that Lowenfeld indicated are a general preference among adolescents (Michael, 1981). Work relevant to life in the community should be children's source of stimulation and control; academic subjects are not truly educational because they do not become part of children's life experiences (Dewey, 1959). It is a violation of children's nature to abruptly introduce them to academic studies that are not relatable to their social life: "the true nature of correlation on the school subjects is not science, nor literature, nor history, nor geography, but the child's own social activities" (p. 25). The arts are among the crucial social activities that fulfill the need to make children aware of their heritage and thus enable them "to perform those fundamental types of activity which make civilization what it is." (p. 26). Dewey suggested that art can be the medium through which formal subjects of curriculum can be taught. Science, for example, "is educational in so far as it brings out the materials and processes which make social life what it is" (p.26).

Photography's Behavioral Applications

The relevance of student photography to cognitive development parallels its efficacy as a positive behavioral intervention for adolescents with psychiatric disorders. Lowenfeld studied the art created by children who have intellectual disabilities and psychiatric disorders in part due to art creation's positive effects on their behavior (Michael, 1981). Intellectual disability in itself is a "heterogeneous condition with

multiple causes. There may be associated difficulties with social judgment; assessment of risk; self-management of behavior, emotions, or interpersonal relationships; or motivation in school or work environments" (American Psychiatric Association, 2013, p. 38).) When children's cognitive growth has been impeded and they become emotionally disturbed, exhibiting delinquent behaviors, there is an abundance of evidence to suggest "that art creation may have a therapeutic effect, gradually leading the child back to a balanced psychological disposition" (Eisner and Ecker, 1966, p. 266). Barthes (1982-1985) likened the pictures photographers have in their minds with the condition that enables people to conceive all the different arts, such as painting, movies, literature, and the theatre.

Motivation.

Academic and behavioral interventions inspired by and incorporating adolescent student photography benefit from the degree to which photography is motivating. Motivation in adolescents arises from the opportunity to create images that purposefully interpret or enhance the quality or essence of their experiences (Eisner & Ecker, 1966), and most adolescent students view art creation in general as enjoyable (Lowenfeld and Brittain, 1987).

A lack of motivation contributes to the failure of adolescents with psychiatric disorders to make academic, behavioral, and social progress in their classrooms. Aiding students in coping with these deficits requires teacher-directed behavioral and academic interventions purposed towards capturing student interest. Motivation may be impaired by anxiety disorders, behavior disorders, mood disorders, personality disorders, autism

spectrum and symptomatically similar disorders, and psychotic disorders such as schizophrenia (American Psychiatric Association, 2013).

The American Psychiatric Association (2013) noted that for youth with autism spectrum disorder, "Special interests may be a source of pleasure and motivation and provide avenues for education and employment later in life" (p. 54). Photography can be one of these special interests or be a tool to capture the situations and objects of interest. Eisner (1979) suggested that teachers, by providing artistic experiences in the classroom motivate their students, create a climate that encourages risk taking, exploration, and play. Art creation done in groups becomes an opportunity for socialization, and things that are especially important to adolescents relate to social activities (Michael, 1981, p. 339). Large groups of adolescents simultaneously engaged in art creation such as photography can facilitate motivation in the students because "mass motivation is contagious" (Michael, 1981, p. 17).

Lowenfeld and Brittain (1987) discussed the importance of a motivating and socially meaningful visual arts curriculum, noting that art "is a personal and satisfying activity at any age, for although the arts are responsible for a greater awareness of the external world, it is also the arts that give vent to the emotions, the joys and fears of life" (p. 2). Schools prioritize art creation to foster in students, playfulness, empathy, surprise, curiosity, ingenuity, and individuality, the ingredients for motivating students (Eisner, 1979).

Self-actualizers.

The need for contentment is inherently motivating in everyone. Clarity, richness, and sense for the miraculous found in artists' perception of the world equates to joy (Maslow, 1970). Maslow believed art creation allows artists to view common sights such as sunsets, flowers, or trees with the same excitement, attention, and strong emotional reactions as though each time were their first. Adolescents with psychiatric disorders can be artists to some degree. Art creation allows individuals to become *self-actualizers,* "people who are no longer motivated by the needs for safety, belongingness, love, status and self-respect because these needs have already been satisfied" (Maslow, 1970, p. 198). Creative people are also good workers, and self-actualized artists are free to strive for higher forms of self-fulfillment (Maslow, 1973).

Helping adolescents with schizotypal personality disorder to become self-actualizers by providing them photography activities may facilitate their ability to form close relationships, emotionally express themselves, and function socially by addressing what the American Psychiatric Association (2013) describes as their eccentricities in perception, cognition, behavior associated with paranoia, distorted self-images, and incoherent personal goals.

Deprivations and frustration characteristic of lived experience contribute to the creation of self-actualizers (Maslow, 1970). Such individuals overcome adversities like those presented by psychiatric disorders (Maslow, 1970). This contributes to their healthy self-esteem in the long term, though the initial effects of life's setbacks may be detrimental to feelings of self-worth (Maslow, 1970). Students with panic disorder or posttraumatic stress disorder (PTSD), for example, might be guided through art creation

to become self-actualizers, whose self-discipline springs from opportunities to deal with reality directly and learn from its intrinsic rewards and punishments (Maslow, 1970). Self-actualization can help combat *derealization*, feelings of unreality, symptomatic of both the disorders (American Psychiatric Association, 2013).

The self-respect inherent in self-actualizing people derives from autonomy and individuality existing simultaneously with their social, altruistic, and loving traits (Maslow, 1970). Self-fulfillment and self-esteem are potentially therapeutic to students whose ideas of self-worth are compromised by psychiatric disorders. Self-actualizing characteristics may be fostered in these students when photography gives them the opportunity to be artists.

Sensitivity.

Empathy, sensitivity, and understanding are elusive to some adolescents depending on the nature of their psychiatric disorders. Photographs can transform reality by engendering empathy (Barthes, 1980-1981). Lowenfeld indicated that creative art activities such as photography facilitate elementary-school-aged students to become "more happy in the deepest sense" through sensitivity towards themselves and their environment (Michael, 1981, p. 3). Adolescents with psychiatric disorders can achieve this sensitivity by allowing them to perceive their environment with a creative eye, the lens of a camera. Ultimately, sensitivity can motivate adolescents to become productive members of society as adults (Michael). Fostering sensitivity through art creation is of particular value to adolescents diagnosed with a disruptive behavior disorder who are at

risk of academic failure, subsequent involvement with the criminal justice system, and entering into adulthood ill-equipped to live independently (Wilkerson et al., 2012).

The visual and the kinesthetic.

Visual and kinesthetic modes of learning are best coupled to facilitate positive behavioral development in adolescents. Lowenfeld described many students as *visualizers*, motivated to create artwork that demonstrates changes caused by light, distance, and motion (Michael, 1981). Photography captures these changes, so its pursuit can be motivating to adolescents whose psychiatric disorders do not impair their potential to become visualizers. Eisner and Ecker (1966) noted that approximately one of four students possesses an inclination towards kinesthesia and touch (p. 104). These students might be motivated through traditional photography's hands-on aspects: manipulating a camera, the agitating of containers and chemicals during film development, and the use of their hands on the photographic paper during darkroom printing. Adolescents exposed to the visual arts become very involved with the experimental and technical aspects (Michael, 1981, p. 339). Whenever adolescents draw something, and their work is furthered through a technical medium, the inserted technique is motivating (Michael). The medium takes the burden of direct expression away from students, bringing a translation of this direct expression closer to them at which point they accept it (Michael, 1981).

Photography is an accommodating technical medium for it merely requires that students be given cameras and the opportunity to seek out and photograph what they drew. The camera itself draws an object with light. "Photography becomes an art medium

when students convey an idea artistically and interpret the subject by manipulating film and the darkroom printing process" (Lowenfeld and Brittain, 1987, p. 465) or through digital means of capturing an image and its manipulation and printing via computer. Photography has "a respectable place in the art repertoire; processing, making enlargements, or editing films are activities that embody much of the same decision making that goes into painting" (Lowenfeld and Brittain, 1987, p. 464). Traditional, analog methods of photography thrive today despite the ubiquitous use of digital photography (Macdonald, 2012). Regardless of the method, modern or traditional, the art of photography transmits photographers' intuition, their points of view, and the pose and groupings they strive to attain (Eisner and Ecker, 1966).

Organizing thought processes.

Adolescents with psychiatric disorders may not demonstrate ordered thought processes. Adolescents diagnosed with OCD experience intrusive thoughts, images, or urges and exhibit repetitive behavior that is responses to these intrusions (American Psychiatric Association, 2013). Adolescents who have intrusive thoughts about causing harm, for example, may avoid social interactions (American Psychiatric Association, 2013).

Lowenfeld understood aesthetic growth to reflect the capability of adolescents to harmoniously organize what they perceive (Michael, 1981). This allows for aesthetic experience to generate a balanced emotional state that aids adolescents with academic and behavioral functioning. Art activities can be implemented to motivate students and improve their cognitive capacity by fostering more flexible, fluent, and independent

thinking, as well as help them to develop appropriate behavior through organized thoughts, feelings, and perceptions (Michael, 1981). Organized though processes are applied naturally to the sciences and other academic subjects (Michael, 1981).

Maslow (1970) also indicated art as an avenue towards quelling troubled thought processes. He believed that artists must make art if they are to be at peace with themselves: People must be what they can be. Most children have the potential to become artists by operating a camera or digital device that captures images. Amateur photographers are often advised to keep their images free from the extraneous, to seek unity in pursuit of a photograph for that imposed order makes the image aesthetically pleasing (Barthes, 1980-1981).

Disorganized and dissociative patterns of thought and perception that accompany schizophrenia or psychosis interfere with an adolescent's cognitive processing. A degree of control over maladaptive behaviors and emotion may be obtained through aesthetic experiences provided by photography in which photographers can arrange the scenes they are to capture (Barthes, 1980-1981). The act of arranging or composing is an exercise in seeing aesthetically which conditions photographers to organize their thoughts and perceptions as they do elements of a photograph.

Coping with trauma.

Barthes (1980-1981), when expressing the utility of photographs in helping individuals cope with unwanted thoughts, put forth the idea of photographing troubling subjects to drive them from their minds. To do so can be of therapeutic value to adolescents with PTSD who may be prone to experiencing persistent and distressing

memories of a traumatic event when in school (American Psychiatric Association, 2013). Traumatic situations can be captured through a photographic process (Barthes, 1980-1981, 1982-1985), thus offering clinicians working with adolescents who have PTSD a tool to with which to confront them with images related to the traumatic events.

In psychoanalytic theory, sublimation is the diversion of instinctive or sexual drives from their immediate goals, to those of a more acceptable social, moral, or aesthetic nature (Durand & Barlow, 2015). According to Barthes (1982-1985), photographs of traumatic events can pacify and sublimate those events (p. 19). According to psychoanalytic theory, recalling and reliving unconscious emotional trauma releases the associated tension through *catharsis* (Durand & Barlow, 2015). Maslow (1970) equated artistic expression with cathartic and release phenomena, as strong a motivational forces as strong as the search for sustenance or companionship.

Captioning photographs that depict traumatic events may also be of therapeutic benefit. Traumatic images are connected with uncertainty and anxiety over the meaning of objects and people's attitudes as depicted in the photograph (Barthes, 1982-1985). Society combats the terror of uncertain signs by pairing photographs with a written message, the caption (Barthes, 1982-1985), fulfilling a need of individuals to take an unexpected or unconventional event and "twist or force or shape the event into a form that is more familiar, more abstract, more organized..." (Maslow, 1970, p. 210). This need becomes more acute with traumatized students who require the assistance of their day treatment school's clinical staff and teachers to process traumatic events. The opportunity to compose and caption photographic representations of the event, using

objects to symbolize it, is a potential intervention for lessoning maladaptive classroom behaviors of adolescents coping with trauma.

Facilitating social development.

Barthes (1980-1981) described photography as comprised of three emotions or practices: "to do, to undergo, to look" (p. 9). Photographers' emotions are relevant to the viewfinder through which they frame, limit, and adjust perspective (Barthes). Photographs communicate the subtle social and cultural cues that adolescents with psychiatric disorders such as autism spectrum disorder do not subconsciously process. Photographic activities provide practice for adolescents with autism spectrum disorder to identify those cues through the camera viewfinder.

More than other visual arts, photography immediately yields those details that constitute the essence of ethnological knowledge, communicating a social subtext through a collection of objects (Barthes, 1980-1981). Certain concepts and "iconographic connotations" that do not lend themselves to other art forms are ready-made to be expressed via photographs (Barthes, 1982-1985, p. 10).

Photography compels adolescents to analyze familiar surroundings with a critical eye, focusing not just on the aesthetic qualities of objects in the environment but on characteristics of their environment they would normally overlook. Adolescents with autism spectrum disorder often lack the ability to comprehend social relationships and exhibit compulsive behavior (American Psychiatric Association, 2013). Given a camera in school, they might be compelled to photograph their entire classroom environment. It may be difficult for them to limit their subject matter, but photographing the

unremarkable could be advantageous. Peers can be photographed playing a board game, an unremarkable occurrence for a free period in the classroom but adolescents with autism spectrum disorder or similar disorders may learn pro-social behaviors from capturing such scenes. Barthes (1980-1981) described photography as a form of theatre revealing to photographers as well as their subjects what is hidden. In the afore mentioned application, social cues are spotlighted. By sharing their photographs with teachers and peers, adolescents can also take a step towards socialization that may have proven too intimidating without the aid of imagery.

Teachers often make use of cooperative learning strategies. There is a prevailing belief that students who work with their peers on assigned tasks are practicing a form of socialization and reaping more benefits than they would when confined to a student-teacher didactic (Eisner, 1979). Vygotsky's (1962) research into the zone of proximal development promises greater achievement for students who work cooperatively on a task with a more capable peer, a visual arts curriculum should allow for cooperative learning. Dewey (1959) wrote of a positive discipline born "of doing things that are to produce results, and out of doing these in a social and cooperative way" (p. 41). Vygotsky (1962) saw the learner as "guided and supported by and participates in a social-instructional environment that seeks to develop mental structures via personal relationships embedded in a shared activity—that seeks to acculturate as well as stimulate mental structures" (McCaslin & Hickey, 2001, p.234). Dewey (1997) noted that the crucial formation of purpose in a student is derived "partly from the information, advice, and warning of those who have had a wider experience" (p. 69).

Photography can incorporate scaffolding, the method of social learning described by Vygotsky (1962) that involves one experienced at a skill assisting a novice in learning it through prompting, questioning, and other cues, would likely help learners with diverse needs stemming from social, emotional, or cognitive limitations "to teach themselves to make and calibrate choices for purpose-specific situations and projects, and to make a framework and detail choices that integrate and synthesize effectively" (Hope, 2010, p. 44). Photography further facilitates cooperative exercises by putting peers on an equal footing with one another. When adolescent students are provided with identical, simple to use, picture-taking devices, they are given equal artistic capability.

Lowenfeld believed that two students modeling the same thing when engaged in art creation has positive emotional benefits for both students (Michael, 1959). He felt it to be highly important to foster the ability to invent, imagine, and explore in any art medium cooperatively between students because students working cooperatively generate a form of positive discipline that aids them in areas transcending art creation (Michael).

Adolescents further develop social awareness through their involvement in photography because the images they create or are exposed to portray aspects of society with which they can identify (Lowenfeld and Brittain, 1987). Lowenfeld promoted encouraging students to make pictures so that they sense "they are actively and personally involved in an experience and to discover ways of expressing that personal relationship" (Michael, 1981, p. xii). When adolescents record their everyday experiences and those of others in photographic detail, personal relationships between themselves and

their experiences are easily perceived, engendering feelings of personification that are applicable as behavioral interventions (Michael, 1981).

Art interventions in school facilitate the integration of children within the community or groups to which they belong (Eisner and Ecker, 1966). Barthes (1980-1981) described a photograph's power to convey lineage among biologically related family members because resemblance is the crux of identity. Thus photography may positively impact adolescents with attachment disorders that impair their sense of belonging to their family by helping them connect with their ancestry. Resemblance facilitates familial identity, which is more compelling and reassuring than legal status; thinking about origins is soothing whereas dwelling on the future can be disturbing (Barthes, 1980-1981).

Language of socialization.

The practice of photography is well suited to facilitating communication and, therefore, socialization. Barthes (1982-1985) noted that photographic images exist socially when integrated with categories of language.

Difficulties in expression and language characterize many psychiatric disorders and are most acute with autism spectrum disorder (American Psychiatric Association, 2013). Many educational approaches for students with this disorder seek to assist them with communicating their wants and needs and, in the case of higher functioning students on the spectrum, enhance their communication skills to facilitate socialization. Adolescent students can be prompted by a teacher to describe what is occurring in the photographs they've taken. Their oral or written responses indicate whether or not they

have gained insight into the socialization depicted in the photographs, insight they would likely not have obtained simply from observing a scene. An individual's perceptions of a photograph include noting expressions and gestures, the language of socialization (Barthes, 1980-1981). Interventions for adolescents can capitalize on these perceptions, aiding them with recognizing social cues. The language of photographs includes meanings beyond that communicated through exchanged utterances (Barthes, 1982-1985).

Eisner (1979) described photography as a potentially powerful way to help individuals "vicariously participate in the life that school provides" (p. 186). Students of diverse backgrounds, by photographing their environment and sharing these images with their teachers and peers, foster an understanding of one another that bridges cultural divides (Eisner, 2005). They participate culturally in the portrayed actions, figures, faces, gestures, and settings (Barthes, 1980-1981). This aspect of photography potentially extends to bridging gaps between diverse patterns of thought and ideas among adolescents with and without psychiatric disorders, a step towards integrating adolescents from day treatment schools into their communities and mainstream schools.

Good photographs speak (Barthes, 1980-1981). Barthes compared the photograph to the basic act of showing a word that since the advent of Sanskrit "suggests the gesture of a child pointing his finger at something and saying: *that, there it is, lo!*" (p. 5). *Selective mutism* is a psychiatric disorder characterized by an inability to verbally communicate in school or otherwise stressful situations (ASHA, Selective Mutism, 2011). Adolescents who cannot speak due to autism spectrum disorder or selective

mutism can press the shutter button on a camera or digital device and instantly communicate their wants, needs, and interests.

Disruptive, aggressive, destructive, and self-injurious behaviors can be spawned by the inability of some adolescents with psychiatric disorders to communicate via spoken language or even to write or type what they need to say. Photography fosters the complex language of socialization. When people showing their photographs to others and they reciprocate with photographs of their own, the social facility of photography is exemplified (Barthes, 1980-1981). The ubiquitous smart phone and its ever-improving capacity to take, store, and post photographs on social media has greatly facilitated and expanded this practice.

Current Research: Practice Validating Theory

Current research documents how student photography promotes social as well as cognitive and emotional growth. The following studies will detail how student photography can be used as a basis for behavioral and academic interventions for adolescents with psychiatric disorders. Photography will also be shown facilitate socialization, which suggests its potential for improving the social skills of adolescents with psychiatric disorders if they are given the opportunity to share their photographs with peers with and without disabilities. Sharing their photographs with adults allows adolescents to communicate in a unique way and assists with the bonding between student and educator (Ginicola, Smith, & Trzaska, 2012). The establishment of rapport is also integral to the quality of photography-based qualitative research (Smith, Gidlow, & Steel, 2012). Rice, Girvin, and Primak (2014) implemented *photo-elicitation*, a

qualitative research methodology. Photo-elicitation used participant photography to facilitate discussion with adolescents in foster care to facilitate their mental, physical, and social well being when they leave foster care (Rice et al., 2014). Like adolescents in day treatment school, many adolescents in foster care struggle with psychiatric disorders such as depression, anxiety, and PTSD, having to deal with these while negotiating the normally challenging developmental process of adolescence (Rice et al., 2014). Rice et al. (2014) noted that "engagement is a requisite component of successful alliance formation and collaboration" and adolescents represent a group that is often difficult to engage (p. 45).

Eskelinen (2011) explored the environment and lived experience of third through ninth grade Finnish students with special needs through their photography. The participating adolescents' photography revealed that they perceived elements that went unnoticed by adults in objects the adolescents deemed important (Eskelinen). Photography is a necessary tool for students in need of special emotional and learning support to perceive and explore new additions to their environment (Eskelinen).

Current research suggests that involving adolescents who have psychiatric disorders in photography can not only provide them with developmentally beneficial experiences, but it also provides their teachers data with which to design academic and behavioral interventions for their benefit. Photographs are elements of visual expression and art, as much so as painting, sculpting, crafting or any other visual art form one might imagine (Eskelinen, 2011). Photography, however, is an art form that is often more easily taken up by adolescents.

Photography-based interventions as well as photography in itself can be implemented by day treatment school teachers to facilitate the behavioral and academic goals of their adolescent students. Lanou, Hough, and Powell (2012) used photography to create a visual reminder strategy built around a fifth-grader's interests that incorporated his visual learning characteristics to effectively address disruptive behaviors resulting from autism spectrum disorder. Photographs enabled him to regulate his emotions and express his emotional state appropriately, facilitating communication with teachers.

Lanou et al. (2012) addressed classroom interventions specific to early-stage adolescents with autism spectrum disorder, describing significant cognitive and behavioral benefits they gained when their strengths, talents, and interests were identified and incorporated into their education. The children's photography helped to provide detailed visual strategies built around their interests to reduce disruptive behavior. The validation of the children's passions correlated with improved academic performance and a decrease in undesired behavior.

Lanou et al. (2012) described high-functioning students with autism spectrum disorder as "creative thinkers with strengths in visual processing, logical reasoning and attention to detail," a counterbalance to their difficulty recognizing and regulating their emotions (p. 176). Creative interventions that incorporate elements of photography are likely to prove useful for engaging adolescents with various needs (Rice et al., 2014). Photography can capitalize on adolescents with autism's tendency to process information more efficiently when it is presented visually. All the interventions presented by this study had a visual component. Though the study only addressed children and early-stage

adolescents with autism spectrum disorder, the challenging behaviors they demonstrated are associated with older adolescents with the same and other psychiatric disorders. The interventions lend themselves to adaptation by the more diverse population of a day treatment school.

Digital Storytelling

Autographic depictions of the self and digitally illustrated storytelling can lead researchers to a greater understanding of adolescents' self-concepts (Harkness and Stallworth, 2013). Sawyer and Willis (2011) noted that digital technology such as that employed in cameras, tablets, and camera-equipped cell phones have made adolescents comfortable with using their photography to create stories that "reflect the personal uniqueness and dramatic flair of adolescent perspective" (p. 275). Breakthroughs in technology offer new ways of teaching children to be empathetic, compassionate, and positive (Sawyer & Willis), typical aims of teachers working with students who have psychiatric disorders.

Creative photography activities help adolescents work through their emotional issues by providing an outlet for expressing their individuality, reducing stress, building self-esteem, and increasing social skills (Sawyer and Willis, 2011). Adolescents employed their photography through *digital storytelling* as a behavioral support for elementary-school students in the Sawyer and Willis study. The adolescents created original multimedia stories that illustrated appropriate social behaviors and positive coping strategies. These could be viewed on computers or handheld devices, providing a platform to foster dialogue between teachers and their elementary school students. With

assistance from participating teachers, adolescents thought of challenging behaviors demonstrated by younger children and came up with suggestions of appropriate alternative behaviors. Group discussions brought behaviors and situations that had gone unacknowledged to the surface and provided a forum for open discourse and clarification of what constituted appropriate actions and behaviors. This process facilitated the adolescents' introspection about their own needs and behavior and fostered an increased empathy for the challenges faced by younger children. Sawyer and Willis hypothesized that the younger children familiar with these digital stories would consider new approaches to their problems then create their own that illustrate alternative means of coping.

Digital storytelling is easily implemented and replicated, facilitating its use by teachers of adolescents in a variety of settings (Sawyer & Willis, 2011). The creation of digital stories appeared to enhance the self-awareness and self-esteem of the adolescents while modifying the behavior of elementary-school students they are written for Sawyer and Willis (2011), supporting Rice et al.'s (2014) contention that photographs promote mental health when serving as an externalized medium for the expression of adolescents' emotional issues. Adolescents who have met with success coping socially in day treatment schools can create digital stories of their experiences to aid younger students with similar diagnoses. Teachers gain insight on adolescent perspectives through this process and apply these to behavioral and academic interventions.

Photovoice

Photovoice, which is similar to photo-elicitation*,* is a participatory action method of research that seeks knowledge in the participants' photography that illustrates diverse aspects of their lives. Kim, M., Hong, Ra, and Kim, K.'s (2015) study of the psychosocial adjustment of North Korean adolescent refugees ages 13 through 20 living in South Korea facilitated the adolescent participants comfort with expressing their experiences, values, and feelings through photovoice. Teachers who develop and create successful academic and behavioral interventions with adolescents who have psychiatric disorders benefit from a bond with their students. Adolescent students spend much of their day with teachers, seek guidance from them in matters beyond academics, and confide in them. Teachers, Harkness and Stallworth (2013), successfully used photovoice to develop relationships with four adolescent girls whom they were tutoring in math. With the methodology of photovoice, adolescent students photograph objects and activities of personal relevance within a specific thematic framework such as their instructional needs.

Harkness and Stallworth's (2013) adolescent participants took photographs that demonstrated real-world connections: a checkbook represented the need for math in everyday life, batting average on a sports website demonstrated the ubiquity of math, a participant linked bathroom floor tiles with graph paper, and cicadas mating showed multiplication. As the math concepts were communicated, participants' personal details emerged as well: an adolescent's two different-sized dogs represented scales; an iPod, and a television and its remote control combined in an expression of frustration with homework-preventing distractions. Another participant's dance studio revealed her

passion while the shapes within it represented her frustration with geometry. Overexposure prevented one participant's photographs from coming out, but they would have been of her bedroom, horse, and camera. An ideal learning environment was depicted as an empty classroom, indicating a desire for one to one teacher attention. A high-school library communicated the need for quiet places.

Harkness and Stallworth (2013) concluded that the photographs captured by one of the girls indicated low self-esteem through metaphorical depictions that demonstrated a need for different forms of support than the other participants. Images helped determine that a decreased reliance on their teachers in order for them to perceive themselves as competent in math was called for with two participants. The fourth participant's photography suggested that she was prepared to see the relevance of context and assumptions when performing math equations as these help develop mathematical understanding.

In Graham, Reyes, Lopez, Gracey, Snow, and Padilla (2013), participants shared photographs they had taken during group discussions, a tenet of photovoice, in which they began to identify emerging themes and the relationships between them. Insight into students' strengths and interests brought about through their photography connects teachers to each individual student as they teach (Harkness and Stallworth, 2013). Photovoice was used by a science teacher to determine how adolescent students in his class perceived science. Details about their science knowledge, interests, and home lives were revealed and incorporated into the classroom curriculum. By doing so, he

demonstrated respect for the adolescents' acquired knowledge by "listening to their voices as captured in the images they took" (Harkness & Stallworth, 2013, p. 332).

Harkness and Stallworth (2013) suggested that photovoice can create a strong enough connection to allow math teachers to get their adolescent students to "re-perceive" math as a creative, non-threatening, and even enjoyable subject (p. 345). Re-perceiving is possible should teachers also structure their adolescent students' classroom experiences based on an analysis of photographs the adolescents share in class discussions (Harkness & Stallworth). Special education teachers can adapt this practice to help adolescents with psychiatric disorders perceive obstacles in their lives as surmountable. Photovoice has historically shown its flexibility in a variety of contexts, such as with at-risk middle school and urban high school students, populations that contain adolescents with psychiatric disorders (Harkness and Stallworth, 2013). As well as failing to complete academic tasks and having low test scores, adolescents identified as at-risk demonstrate behavior problems, and social-emotional difficulties (Harkness and Stallworth). Photovoice lends itself to facilitating the development of instructional and behavioral interventions for the predominately at-risk day treatment school population.

Understanding self-concept.

Student photography in Harkness and Stallworth (2013) provided metaphors for the participants' self-images. One of the adolescent girls took photographs of a shattered window, broken wooden steps to "nowhere," and overgrown hedges and weeds that represented a discouraging lack of comprehension in math, resultant low self-esteem, and the need for more support than the other girls (Harkness & Stallworth, 2013, p. 338, 344).

A circled, large red F at the top of a sheet of paper also expressed annoyance at teachers that emphasize that a student is failing (Harkness & Stallworth, 2013).

An adolescent participant of Smith et al. (2012) revealed to researchers how important meeting friendship obligations was to him through the content of his photographs. An adolescent communicated his loneliness and isolation by taking a photograph of the sky empty of birds in Kim et al. (2015). A picture of himself standing amidst trees was used by an adolescent participant of Thupayagale-Tshweneagae and Benedict (2011) to indicate the emotional pain he was suffering: "When people see me, they see a very quiet nice boy. Little do they know that inside I am suffering... I wish I could have the peace that these trees enjoy" (p. 357). A landscape photograph in Rice et al. (2014) represented an adolescent making positive changes to his life and the realization that he had to move on from past traumatic experiences.

Motivation.

Photography activities when integrated into classroom pedagogy can motivate students with psychiatric disorders to modify their behavior and academic performance. Chief among the many means through which photography activities motivate adolescents is the enjoyment it provides students, especially when students are given the freedom to photograph subjects of interest and personal relevance. Smith et al. (2012) gave adolescent participants of their study on adolescents' perspectives on an outdoor education program the freedom to choose objectives, places, and motives for their photography that allowed them more opportunities to show their own perspectives on and

relation to the environment. Photography tasks also allow adolescents freedom of movement (Eskelinen, 2011).

Eskelinen's (2011) participatory photography project used photovoice. Adolescents' photographs were examined as artistic presentations. Among photography's motivating factors was the ability to capture the bright colors of balls and hula-hoops, the glow of reflectors on knapsacks, coats, and sneakers produced by camera flash, painted lines on the school's gym floor, and line patterns created by lighting fixtures and ceiling boards.

Empowerment.

Empowerment is a positive side effect of student photography. Psychiatric disorders associated with depression and anxiety can render adolescents feeling hopeless and helpless in the face of internal and external factors beyond their control. Eskelinen (2011) saw photography as a form of artistic and empowering expression. Rice et al. (2014) noted that adolescents' photographs can be used to develop intervention plans that foster empowerment, allowing adolescents to process emotional trauma. Digital storytelling allows adolescents freedom to experiment and results in their increased sense of ownership over the narrative's content and the process of it creation (Sawyer and Willis, 2011, p. 276).

Studies involving the utilization of photography with adolescents require voluntary participation to foster their sense of control over the process. Sawyer and Willis (2011) limited participation to those adolescents who volunteered to share their projects with the researchers, and only interested youth were recruited for Graham et al.'s (2013)

photovoice project that targeted violence prevention among inner-city, Detroit minority adolescents and young adults. Like the two afore mentioned studies, Smith et al. (2012) used a self-selected sample who were therefore motivated by the idea of taking photographs with cameras.

Inner-city, Detroit minority youth represent a marginalized population (Graham et al., 2013). Adolescents with psychiatric disorders are arguably as much so. In Graham et al., photovoice was characterized by the participants taking photographs and telling stories with the ultimate goal of changing elements of their environment that were conducive to violence. The participants were motivated to photograph vacant lots, abandoned buildings, and other signs of economic deprivation because the images might have educated policy-makers as to the importance of cleaning up, rebuilding, and investing in underdeveloped neighborhoods. By "empowering youth to creatively express themselves" through photography, Graham et al.'s project took advantage of an aesthetic form of knowledge dissemination to facilitate a community dialog (Graham et al., 2013, p. 50). To create better mental and physical health and social climates for adolescents aids the community's adolescents with existing psychiatric conditions and contributes to preventing mental illness as well.

Fostering communication and social skills.

Impairment of verbal communication is characteristic of commonly occurring psychiatric disorders, such as autism spectrum disorder (American Psychiatric Association, 2013). Their psychiatric disorders can lead to adolescents' isolation and exclusion by peers without disabilities. Not all adolescents with psychiatric disorders

have the ability to adequately express feelings of isolation with language; these manifest in disruptive or dangerous classroom behavior. Photography can provide safe expression for these emotions. Photographs can uncover information that cannot be accessed by words alone (Smith et al., 2012).

By photographing social scenes, adolescents are helped to show their desire for belonging. Given cameras, youth will capture "moments they deem important" (Eskelinen, 2011, p. 175). Photographs taken by adolescents with self-awareness and perspective taking difficulties common in students with autism spectrum disorder can provide educators with the ability to take them back to the photographed social situations and process with them ways they could have appropriately engaged their peers (Lanou et al., 2012).

Photovoice incorporates dialog as it relates to adolescent photography, fostering discussion and socialization. Photo-elicitation was used by Smith et al. (2012) who noted that "the content of amateur photographs is usually social in nature" and, therefore, social norms relevant to camera use can make photography a useful method with which adolescents can analyze social situations (p. 377). As time progressed, the adolescent participants of the Harkness and Stallworth (2013) study took a more active role in leading photovoice focus group discussions that initially had to be teacher led to facilitate any dialogue.

Self-expression

Adolescents with psychiatric disorders are prone to withdraw or exhibit disruptive or dangerous behaviors in classes that are not stimulating or too challenging. Low self-

esteem resulting from academic failure, feelings of exclusion, and lack of motivation can also cause them to demonstrate dangerous and disruptive behaviors. Feelings of anger and frustration that lead to violence and concepts of violence itself find safe expression when adolescents have the opportunity to engage in photography, the process that motivated participants in Graham et al (2013).

Photographs taken by adolescents can generate self-expression and provide a means with which they can learn about themselves and their world. Photography is an artistic process, and artistic processes foster self-expression by serving as an outlet for positive, negative, and difficult to reach feelings (Sawyer & Willis, 2011). Photography provides adolescents with an effective means of addressing issues relevant to themselves (Eskelinen, 2011). As photographers, adolescents have interpretive control over their images' composition, production, and, subsequently, their message. Smith et al. (2012) considered it vital that their adolescent participants were in control of creating the photographs so that the images accurately reflected their experiences. The special education students in Eskelinen's (2011) study generated self-expression through photography. Employing digital storytelling provides adolescents an avenue for exploring and expressing their personal experiences (Sawyer and Willis, 2011).

Dealing with disruptive, destructive, self-injurious, and aggressive behaviors is a reality in many mainstream inclusion and self-contained special education classes such as those found in day treatment schools. A sizeable percentage of the inner-city youth participating in Graham et al. (2013) had been the victims of violence and some had at one point perpetrated a violent act against someone else. Many adolescents in foster care

have experienced traumatic events such as domestic violence, and trauma left untreated can result in negative coping behaviors such as destructive behavior (Rice et al., 2014). Exposure to a climate of violence and deprivation can lead to issues of anxiety, depression, PTSD, oppositional defiant disorder, and conduct disorder in adolescents (American Psychiatric Association, 2013). Aggression perpetrated against others is characteristic of conduct disorder and can factor into cases of PTSD (American Psychiatric Association, 2013). Oppositional defiant disorder can be a precursor to conduct disorder and anxiety and depression are frequently comorbid with conduct disorder and PTSD (American Psychiatric Association, 2013).

Techniques and Technical Aspects

In Mmari, Blum, Sonenstein, Marshall, Brahmbhatt, Venables, & Sangowawa's (2014) study that used photovoice to show the adolescent participants' views of health and well being through their photography trained the adolescents in the art of photography. Subjects included the basics of operating a camera, multiple photographic techniques, and how to adjust the settings to achieve different results (Mmari et al., 2014). However, if simplicity is desired as might be the case when teaching photography to adolescents with psychiatric disorders, it is easily achieved. Taking photographs in the age of digital cameras, camera phones and other handheld devices that produce images with the press of a physical button or touch screen avoids the skills and time-consuming instruction required by other forms of art creation to produce acceptable results. Drawing and painting might frustrate adolescents whose psychiatric disorders limit their frustration tolerance. Adolescents with low self-esteem may be unable to cope when their drawings

and paintings do not come out as they envision prompting disruptive or dangerous behaviors.

Traditional film photography, however, is still widely employed (Macdonald, 2012). It has its own positive effects on adolescent behavior and academic functioning. An adolescent participant in the Harkness and Stallworth (2013) study utilizing photovoice had a preference for black and white film photography. She enjoyed developing the photographs using traditional chemical processes in a dark room. The rolling of film onto spools and the mixing, measuring, and preparation of chemicals involved in traditional film photography offered hands-on, kinesthetically stimulating benefits like other forms of hands-on artwork. Digital picture-taking only goes so far.

Adolescent and young adult participants of Graham et al. (2013) learned traditional photography techniques with Holgas, widely available, simple to use, and inexpensive analog film cameras. The Holgas were loaded with black and white film and distributed to participating youth who were instructed to take 10 photographs over the course of a week with the opportunity to take more during the following week if they were dissatisfied with the first shoot. Their photographs captured what the participants saw as causes of violence in their community. Film cameras allowed the option of capturing multiple, overlaying images on the same frame and to improve their photography skills by focusing on the camera and setting to capture an initial good shot. This was done to prevent their reliance on immediately seeing the captured image, deleting if dissatisfied, shooting with the impunity allowed by digital devices, and to

discourage downloading images and sharing through social media, which the project prohibited.

The use of both black and white and color photographs for emotion and contrast can potentially be taken advantage of. Black and white film is versatile, adapting well to most lighting situations and suiting almost any form of photography (Graham et al., 2013). Black and white film contrasted between participant-photographs representing causes of violence and those that depicted ways of addressing it which were taken later with color film. Color's attention-grabbing and connotative qualities elicited views of hopefulness, vibrancy and possibility.

Conclusion: Addressing the Research Gap

Current research demonstrated how photography produced by adolescents facilitates their education and, in many cases, behavioral progress as well. By detailing theories that relate cognitive, perceptual, and social development and the relationship between art and language, the seminal literature builds a foundation for understanding photography's benefits to the developing adolescent.

Though some of the adolescent participants in the afore mentioned studies shared similar academic, behavioral, and emotional needs with adolescents attending day treatment schools, none of them were being educated in day treatment or similar settings, even those who had mental health issues. When the proposal for this completed study was finalized, recent research was not found that addressed the implementation of photography-based behavioral or academic interventions with youth of any age who were being educated in day treatment schools. When their classroom teachers provide

adolescents with psychiatric disorders evidence-based interventions in day treatment, these students achieve academic and behavioral success. Long-term benefits may include facilitating the transition of adolescents with psychiatric disorders from day treatment schools to less restrictive educational settings, informing the development of behavioral interventions to be implemented in their homes, and ultimately facilitating their integration into society when they reach adulthood (Clark and Jerott, 2012).

A feasible means of demonstrating the potential of engaging adolescents in photography in a day treatment school is to apply a group case study to adolescents who, as part of a photography elective, have already produced photographs while attending a day treatment school. The rationale and methodology for such a study will be described in the following chapter.

Chapter 3: Research Method

Introduction

The proposed project utilized a qualitative case study design. The purpose of this case study was to examine if photography could reveal the interests and perspectives of adolescents at a day treatment school so that their teachers can create and improve behavioral and academic supports intended to facilitate their students' academic and behavioral progress. The prominent theory behind this concept lay in the work of Barthes (1981) who used semiotic analysis with photographs to learn about the photographers, make social insights, and explore hidden meanings and subtexts. A similar process was employed in this project to analyze the photography created by adolescents who attended a day treatment program in New York State.

Research Design and Rationale

Research Questions

The central question was, "How does an analysis of photographs taken by adolescent day treatment school students who have psychiatric disorders provide insight into the students' interests and perspectives?"

Three subquestions were proposed to address this:

1. What themes emerge from the comparing and contrasting of subjects the students chose to photograph?
2. To what extent can the students' interests and perspectives be determined through an examination of the cameras they chose to use?

3. What can be assumed about the students' interests and perspectives through an analysis of the way they framed and photographed their subjects?

Conceptual Framework

Semiotics is a conceptual framework in which researchers analyze the signs and symbols society generates (Patton, 2015). Symbols and the related interpretive processes that underlie human interaction are essential for understanding behavior: "the study of the original meaning and influence of symbols and shared meanings can shed light on what is most important to people," (p. 113). Signs, visuals embedded in photographs and paintings that have social impact, and symbols can be analyzed through the relationships language has with images and behavior (Patton, 2015). When employing a semiotic lens, researchers explore how signs convey meaning in particular contexts, adolescent photography in this study.

Barthes examined works of fine-art photography in his study of signs and the language of imagery (1982-1985). He pioneered a modern conception of semiotics that he defined as the way signs behave within society. Aspects of semiotics can increase understanding of the communication systems within society and aid teachers in helping adolescents navigate these systems and build their capacity for self-expression.

Barthes' (1980-1981, 1982-1985) past analyses of photographs provided the theoretical basis for this case study. He recognized photography's value to the communication of concepts and emotions that words and text could not, contending that photographs often convey meanings that vary from the literal ones. When applied as art,

photography can transcend the mere recording of what is seen, portraying what the photographer desires (Barthes, 1980-1981, 1982-1985). A photograph's composition can communicate the perspectives of adolescents through its aesthetic qualities that, like signs, may represent painting, going to the museum, hunger, eating, satiation, and other experiences that youth innately organize and connect (Barthes, 1982-1985). By imbuing a photograph with signs representing expressions, attitudes, gestures, effects, or colors that are endowed with meaning and deemed culturally significant through a society's customs, photography creates images with a cultural code of connotation, (Barthes, 1980-1981).

When composing, photographers arrange the scenes they are to capture, allowing them to organize their thoughts and perceptions as they alter the camera's field of view and prepare their subjects (Barthes, 1980-1981). Through connoted messages embedded within the image as a whole, objects in photographs are imbued with meanings and composing is a form of communication of which the lexicon is made up of the objects shown in the image (Barthes, 1982-1985). A composition can therefore communicate both a plethora of information and emotion, emerging through the connotation of assembled objects and creating a language that includes meanings beyond what is communicated through exchanged utterances (Barthes, 1982-1985).

Role of the Researcher

This study necessitated that I, as the researcher and former photography elective teacher, interpret the in the participants' photographs. When the participants had engaged in the photography while taking part in the elective, I took notes for use by myself and

potential future photography instructors that I thought could be relevant to improving photography instruction. As the researcher of the current study, I was tasked with interpreting these data as well.

Methodology

Thirteen potential participants, all those formerly involved in the photography elective in the 2013-2014 or 2014-2015 school years, were contacted, males and females, 12 to 18-years-old at the time they participated in the elective. Seven participants were secured, one was 16 and the rest ranged from 18 to 21 years of age. Six of the seven participants were involved in the photography elective in the 2013-2014 and 2014-2015 school years. One was involved only in the 2014-2015 school year (see Table 1). The New York City Department of Education (DOE) designated the adolescents as emotionally disturbed (ED) and each was diagnosed with a psychiatric disorder typical of the school's population. Their participation in the day treatment school's photography elective from September 2013 to June 2014 or from September 2014 to June 2015 made this a retroactive case study.

Photographs and Notes

The photography elective took place once a week while school was in session. Led by myself, the photography instructor, adolescent students with cameras explored the neighborhood within a five-block radius of the school. On inclement weather days, the photographs were taken of subjects within the school building. Participants were given the freedom to photograph all subjects of interest except people. Photographs taken by the participants were converted to jpegs and saved on a password-protected, flash drive

and organized in folders by photographer and period they were taken. The day treatment school administration is aware of and has permitted my possession of the photographs. The flash drive is stored in a fireproof safe at a secure location where only I can access its contents.

Notes I had taken during the period the study participants were active in the photography club, were transferred into a Microsoft Excel spreadsheet organized by date and participant. Miles and Saldana (2014), in their text describing methods of qualitative data analysis, noted Excel's usefulness for qualitative data analysis. The notes included:

1. Date of the photography activity.
2. Where the photography took place, i.e. the park behind the nearby high school.
3. Which students were present.
4. What each took photographs of, i.e. an old building's fire escape, a bird's nest.
5. What type of camera each used, i.e. digital or film, point and shoot, or more complex camera.
6. Why that particular camera was chosen, i.e. the participant chose film so she or he would get to develop it later.
7. Miscellaneous observations pertaining to the day's activity, such as comments participants made, i.e. 'the fire escape made a zigzag pattern.'

Though not intended for a research project, these data informed the creation of the questions, was useful to selecting what photographs would accompany the individualized questionnaires, and would facilitate triangulation as a further source of data.

Instrumentation

An analysis of the adolescent's photography, archival data in the form of observations, and recorded technical data describing how the photographs were taken was to be done in tandem. These observations and photographs when coupled with individualized questionnaires provided data that addressed the research questions even though the observation and photographs were not intended to used for conducting research. The questionnaires were in part developed to respect the stringent privacy rules existing in day treatment schools that limit access to the students. The principal of the day treatment school the current study involved wanted me to avoid questions that would prompt the participants to identify persons who were currently attending or had attended the school.

A questionnaire was provided for each participant with five identical questions about five photographs. The questionnaires differed in that each included five photographs taken by the participant to whom a questionnaire was given. The photographs were taken when that adolescent was participating in the photography elective. Photographs without any identifiable place or person in their composition were chosen to ensure the adolescents' anonymity. A primary ethical concern associated with visual research methods arises from the creation of images that depict identifiable people (Smith et al., 2012).

Without access to day treatment school students to test this assessment tool, an alternative means with which to predict its effectiveness was called for. The assistance of five professionals who had extensive experience working with adolescent students with psychiatric disorders were enlisted: four clinicians, three with PhDs in psychology and one who has a PsyD, and a teacher with a master's degree and special education certification. At my behest, they reviewed the questionnaire to determine if the photographs and questions would elicit responses that would inform the research questions. They attempted to answer the questions in a manner typical of adolescents with psychiatric disorders typically found in a day treatment school's population.

The consensus of initial feedback prompted me to reduce the amount of questions and revise their wording to increase the likelihood of eliciting meaningful responses. The questions were phrased in a manner that the adolescents would have difficulty processing. Despite serving many years as a teacher with this population, my desire to create questions that would touch on all the facets of the research goals led to the use of unnecessarily complex language that was more appropriate to professionals in the field than students.

Though not a colleague in the field, a writer acquaintance cautioned me that authors are often too close to their own work to look at it objectively. This served as a reminder of the necessity to seek feedback regardless of my years of practice developing instructional material for use with day treatment adolescents. This need for feedback is as applicable to seasoned researchers as it is to the novice (Patton, 2015), suggesting that the challenges of the novice are not dissimilar from theirs, a heartening reality.

One of the reviewers noted that the questions appeared to be trying to force the needed data from the participants, rather than create questions that would allow them to naturally express their feeling about the photographs they took in their own language. The colleagues' responses to the questions while role-playing the students made this point. Responses included several, "I don't know" and "I don't remember," and responses that answered questions with less-than-useful simple phrases such as, "The camera worked," in response to questions about technique. "Funny" and "pigeon" were replies to requests to explain what compelled them to take particular photographs.

Data Collection

The five participants over the age of 18 and the parent of the 16-year-old participant who all still attended the day treatment school gave consent for participation and the use of their photographs. Questionnaires were then personalized for those participants using their photography. The questionnaires were sealed in 9x12" manila envelopes labeled with the names of the participants for whom they were personalized and hand delivered by me to the participants at the day treatment school during their lunchtime. I provided pizza while they completed the questionnaires in my presence. Afterwards I collected the questionnaires and presented the participants with $25 gift cards. Within 24 hours of receiving by mail the signed consent form from the participant who no longer attended the day treatment school, a questionnaire for that participant was prepared with his photography and sent to him in a 9x12" manila envelope along with

prepaid Priority Mail return envelopes addressed to me via USPS Priority Mail with delivery confirmation.

Twenty-five-dollar gift cards to the fast-food restaurant of their choice were given to the seven participants for completing their questionnaires. The current students were presented theirs in person. The former student was mailed his gift cards following my receipt of his questionnaire via USPS Priority Mail to his home addresses.

Data Analysis Plan

The participants' interests, needs, and desires were sought and analyzed so that these data can be used by educators seeking to improve pedagogy and behavioral interventions in day treatment schools and similar settings. The meaning and significance attributed to an image by the adolescent who captured it was of research interest (Smith et al., 2012). Smith et al. (2012) found that much of the content of the adolescents' photographs "appeared unremarkable if viewed on its own" but took on meaning when interpreted by the adolescent photographers (p. 375).

A case study is a qualitative approach that illustrates an issue by providing an in-depth description and analysis of a specific group (Creswell, 2013). The group of photography-elective participants was representative of adolescents with psychiatric disorders in day treatment, the case in this study. The photography elective participant group represented the characteristic use of an activity as a unit of analysis in case studies (Creswell, 2013). The data collection methods that were used were also typical of case studies. These included an analysis of archival data comprised of the participants'

photography and observation notes I made of the students as the former photography elective teacher.

Observations made of the participants as they sought out subjects to photograph and engaged in a picture-taking process were intended to improve teaching practice, not research. Therefore, the inherent limits of these archival data necessitated that it be supplemented by questionnaires. Utilizing adolescents' photographs to understand their experiences requires that they be given the opportunity to explain them because without their interpretations, the photographs' meanings cannot be completely understood (Smith et al., 2012).

The use of three different data sources facilitated triangulation by corroborating a conclusion made from one data source with the other two: i.e. if a photograph taken by a participant of trees in the park is assumed to represent a high degree of value the participant places on nature, a response on the questionnaire may also indicate this, and the participant's stated interest in going to the park because of the trees may have been observed and noted at the time the photograph was taken.

These data were made available to all the members of my Dissertation Supervisory Committee, who could support the study's dependability, confirmability, and credibility by reviewing all analyzed examples of the three forms of data, the employed methods of data analysis, and the conclusions drawn from it. An analysis of these data revealed ideas applicable to improving the academic and behavioral interventions implemented in day treatment school classrooms. The ideas corresponded with what

Creswell (2013) identified as *assertions*, interpretations "of the meaning of the case" within the general structure of a case study (p. 101).

The participating adolescents' photographs, though also not created for this research project, and the observations when coupled with the individualized questionnaires provided data relevant to answering each of the research questions. Like the photographs the participants took in Smith et al. (2012), there were no specific directives given as to the content of the photographs taken by adolescents in the photography elective save that photographed people be limited to peers who wished to be photographed. Smith et al. (2012) noted that an absence of "expectations as to what sort of photographs would be produced" ensured that their participants' photographs reflected the participants' own responses to the greatest extent possible (p. 372).

School policy, the volatile nature of some of the adolescents' behaviors, and one of the adolescents being below the age of consent limited my access to them. Previous experience working at the day treatment school where this took place, however, allowed the opportunity for positive a relationship with the school's principal to be forged.

Coding

Miles and Huberman (2014) noted that researchers do not get the same flavor for coding from a generic, prefabricated list of codes that they would get from coding data as it is collected. A priori code list was not fabricated for this study. Mmari et al. (2014) were not able to create a set of codes to apply to analysis of participants' photographs until the participants' statements were recorded, at which time an inductive content

analysis approach was employed to identify emerging themes. In the current study, a set of codes to facilitate data analysis was developed from completed questionnaires.

Discrepant cases

The issues noted through the questionnaire feedback showed the probability of discrepant cases emerging in the study in which the photographs taken by the participants do not present data relevant to answering the central research questions. Current research studies found relevant to the use of photography with youth as a means of garnering their perspectives did not identify discrepant cases among their participants. A possible reason that some of the presented current research studies did not have discrepant cases may have been the researchers' implementation of face-to-face interviews to allow participants to clarify what is communicated through their photographs. The principal of the day treatment school where the current study was conducted expressed discomfort with me conducting face-to-face interviews citing school policy.

Modifications to the questionnaire were made to minimize the probability of discrepant cases occurring. Following my receipt of colleague feedback, the questions were changed so that their format would help the participants remember the picture-taking experience, clarify the information sought, and encourage more substantive responses without sacrificing simplicity of language. The questionnaire in its entirety, including sample photographs, appears in Appendix A.

Due to the nature of the participants' behaviors and cognitive delays, scaffolding the adolescents' responses using sentence starters and fill-in-the-blanks as shown in the Appendix was deemed necessary. Five similarly semi-structured responses were used to

prompt useful statements from adolescents as to the meaning of their photographs in Smith et al. (2012). Though the questions facilitated a structured response, reducing the potentially useful diversity of purely open-ended questions, the guiding language reduced the potential for irrelevant responses or responses of such brevity as to be valueless.

The four lines given for the participants' response following each question risked the adolescents limiting details that they might otherwise provide. My prior experience, however, bolstered by that of colleagues, suggested that it is likely the presence of more than four lines would be associated with a perceived large volume of required writing. That would cause some adolescents anxiety and disinterest in the task, which would then not have been completed. Including directions indicating that all the lines need not be used does not guarantee this negative response would be avoided. Adolescents who exhibited rigid thinking may have felt it was vital that their writing take-up all the lines, leading to rambling responses and non-sequiturs. Adolescents who tended not to read directions or process them would have assumed that their responses needed to be lengthy and cast aside the questionnaire.

Ethical Procedures

The principal of the day treatment school was my community partner whose formal approval I sought for this study. The principal's approval was contingent on my ability to ensure anonymity for the participants. The participants' educational, psychological, or medical records were not needed for the study and I did not request them. The principal was not to be named, and the name and location of the school was

only to be released to the Walden University IRB. IRB approval to conduct this study was granted upon their receipt of the letter of cooperation signed by the principal.

The questionnaires the participants filled out by hand (see Appendix A) were carefully worded to only elicit responses related to the participants' photographs, including nothing that may endanger anonymity or reveal personal information. Instructions included with the questionnaires stressed the importance of answering the presented questions and for participants not to reply with information unrelated to the photographs. The probability of participants disclosing confidential information beyond what was called for in the questionnaires was further reduced by scaffolding their responses through sentence starters and fill-in-the-blanks in the written response sections. The photographs chosen for the questionnaire contained no identifiable persons or places, nor did they contain subject matter that the researcher considered to be stress-inducing for the participants, sensitive, or controversial.

The principal of the day treatment school and a representative of the agency which oversaw the school reviewed the questionnaires to ensure that the questions and photography avoided drawing attention to personal information that was irrelevant to the study such as medical information, sexual habits, substance abuse, or illegal behavior. The principal and agency representative further verified that participant photography containing sensitive subject matter was absent from the questionnaires. Though this did not occur, there was a possibility that a photograph may have represented something upsetting to a participant that was unforeseen by the principal, agency representative, or myself.

Photographs taken during the 2013-2014 and 2014-2015 school years by participants when they were active with the photography elective were in jpeg format. The notes made for the elective at the time the photographs were taken existed on a Microsoft Excel spreadsheet document. These data were located on my flash drive and personal computer. Only I had access to these devices, which were password protected. I already had access to the photographs because I taught the photography elective, and it was the day treatment school's practice for the photography elective teacher to manage and keep digital image files and related notes. The questionnaires were not personalized with the participants' photography until the appropriate consent forms were signed.

In the event a message had been communicated through a participant's questionnaire responses that were indicative of a threat to the physical and emotional wellbeing of the participant or another individual, I had planned to immediately stop data collection and contact that participant's treatment coordinator if he or she was still attending the day-treatment school. The treatment coordinators were in a position to assess the situation and inform parents or proper authorities if the need had arisen. In the case of the former attendee of the day-treatment school, I planned to immediately cease data collection and contact the appropriate authorities if the need had arisen.

Though I had not been employed at the day treatment school since August of 2015, I was still recognized by the participants as a teacher and authority figure. As past participants in the photography elective, the study participants had been former students of mine. Verbal and printed invitations to participate were worded to ensure the

participants that they were under no obligation to participate and that my respect for them would not be diminished if they chose not to participate.

Twenty-five dollar gift cards to the fast food restaurants the participants chose on the consent forms were offered as incentives for completing the questionnaires. Representatives of the Walden IRB agreed that these gifts were appropriate given the age of the participants and were not likely to be interpreted as coercive among the participant population if offered discreetly. Nothing was to be given to participants who did not complete their questionnaires, however, all seven participants completed their questionnaires and received gift cards.

Summary

A case study of a day treatment school's photography elective participants was justifiably the best means to address the primary research question and the three subquestions asking what the adolescent's photographs reveal of their perspectives. Semiotics, as studied by Barthes (1981, 1985), provided a theoretical framework for an informative analysis of the photographs the adolescents created. Three forms of data were analyzed to address the research questions: the adolescents' photographs, archival data in the form of written observation and anecdotal notes made at the time the photographs were taken, and the adolescents' responses on questionnaires through which they were presented with photographs they took and were asked questions about them. The following chapter will present the results generated from an analysis of these data sources.

Chapter 4: Results

Introduction

The purpose of this group case study was to establish the efficacy of examining photography created by adolescent day treatment school students with psychiatric disorders and the circumstances surrounding the photography's creation as informed by questionnaires and archival data to determine their interests and perspectives. This is because their interests and perspectives may help their teachers improve pedagogy and behavioral supports intended to benefit them. Useful data were produced by this study, providing cause to be optimistic that further research projects with greater resources and access to a larger sampling of the day treatment student population will be undertaken.

The central research question, "How does an analysis of photographs taken by adolescent day treatment school students who have psychiatric disorders provide insight into the students' interests and perspectives?" was informed by three subquestions, each prompting a discussion of a relevant theme resulting from the data. The subquestions were:

1. What themes emerge from the comparing and contrasting of subjects the students chose to photograph?
2. To what extent can the students' interests and perspectives be determined through an examination of the cameras they chose to use?
3. What can be assumed about the students' interests and perspectives through an analysis of the way they framed and photographed their subjects?

Results are presented following descriptions of the study's setting, demographics, methods of data collection and analysis, and evidence of the study's trustworthiness. A summary of findings and a preview of the following chapter conclude this chapter.

Setting

The New York school and day treatment was licensed by the New York State Office of Mental Health to provide an educational setting and therapeutic services for students, ages five through 21. The behaviors associated with the students' psychiatric disorders necessitated they receive a label of Emotionally Disturbed and be placed in a more restrictive setting than a mainstream classroom.

The only notable organizational change to the day treatment school since I last worked there as a teacher in 2015 was that a photography elective was no longer offered. The teaching and support personnel remained largely the same, and the administrative staff had not changed. The building's structure and interior remained the same. Also, no observable operational or budgetary differences were evident suggesting that funding had remained stable.

Demographics

Out of a potential participant pool of 13 former participants of the photography elective, seven young adults, five male and two female, ranging in age from 16 to 21-years-old, participated in this study. For the purpose of confidentiality, they were designated Participants 1 through 7 rather than by names or initials (see Table 1). Three of the study's participants were Caucasian, two were Hispanic, and two were African-

American. However, the race of the participants was not taken into account in an analysis of this study's findings.

Data Collection

The Questionnaire

Each participant provided data through the data collection tool, a questionnaire individualized by the inclusion of five photographs taken by the participant for whom the questionnaire is prepared when they were active in the photography elective (see Appendix A). The students were asked to respond by writing on lined spaces provided under each of five multi-part, short-answer questions per photograph for the five photographs they took that were reprinted in the questionnaire. This yielded 25 responses per participant.

Procedure

The procedure for data collection varied in minor details from the original plan presented in Chapter 3. I collected consent forms from five of the six participants still attending the day treatment school and a parent consent and child assent form for the participant who was still a minor. Following this, questionnaires were individualized for each of them with their photography.

Table 1

The Seven Participants

	Age	Sex	School Year(s) the Elective Was Attended.
Participant 1	19	Female	2013-2014, 2014-2015
Participant 2	16	Male	2013-2014, 2014-2015
Participant 3	20	Female	2013-2014, 2014-2015
Participant 4	18	Male	2013-2014, 2014-2015
Participant 5	18	Male	2013-2014, 2014-2015
Participant 6	18	Female	2014-2015
Participant 7	21	Male	2013-2014, 2014-2015

I hand delivered the questionnaires to the participants at the day treatment school during their lunch period. I provided pizza while they completed the questionnaires in my presence. Though the principal had expressed discomfort with face-to-face interviews, she felt it would not be a violation of policy for me to be present when the questionnaires were completed. Afterwards, I collected the questionnaires and presented the participants with $25 gift cards to the fast-food restaurants they selected on their consent or assent forms.

I used USPS Priority Mail with delivery confirmation to send a consent form along with a prepaid Priority Mail return envelope addressed to me to the former day treatment school student who participated in the study. Upon receiving his signed consent form, I mailed an individualized questionnaire along with a prepaid Priority Mail return envelope addressed to me to him using USPS Priority Mail with delivery confirmation. The gift card was sent out to him the day after I received his completed questionnaire.

Transcription

The participants' responses on the questionnaires, the photographs their responses pertained to, and relevant notes made by the photography instructor when the photographs were taken were transcribed through the qualitative data analysis software, QDA Miner™. QDA saves research studies as *projects,* therefore, a new QDA project was created for this study. The seven participants were sorted into individual *cases*, a feature of the software, and each case labeled as Participant number 1 through 7. The numbering was arbitrary. Opening a particular case provided all the assembled data on

that participant in one place: their questionnaire responses, their photography, and the relevant anecdotal notes made by the photography instructor at the time they were engaged in the photography.

Data Analysis

The results of this study were derived from three related sources: photographs taken by the participants when they were active in the photography elective, notes taken by the photography instructor at the time the photographs were produced, and individualized questionnaires relevant to five photographs taken by each individual participant. These data were organized and coded to derive thematic correlations from all three data sources and among the participants in order to answer this study's central research question: "How does an analysis of photographs taken by adolescent day treatment school students who have psychiatric disorders provide insight into the students' interests and perspectives?" The subquestions aided with identifying and categorizing the identified themes. The subquestions include:

1. What themes emerge from the comparing and contrasting of subjects the students chose to photograph?
2. To what extent can the students' interests and perspectives be determined through an examination of the cameras they chose to use?
3. What can be assumed about the students' interests and perspectives through an analysis of the way they framed and photographed their subjects?

Coding

Once the text data were transcribed, it was relatively easy to spot and code words in the participants' responses, photograph descriptors, and instructor anecdotes which indicated themes. This was done via the QDA "find" feature that functioned in the same manner as a find feature does in programs dealing with text files: a word is typed into a text box and the software locates every instance of that word throughout the text. The searches were not confined to single cases, so each word search needed to be conducted once and not repeated for every participant.

Each word was given two codes. The first code used a color and the word's name or synonym, i.e. the color yellow and the word flower was used for coding occurrence of the word "flower," or word referring to a flower, such as "rose" in a questionnaire response or anecdotal note. If the word appeared twice or more within a single response or dated anecdotal, further occurrences were not coded. This first pair of codes either placed the word under the heading of Thematic Vocabulary or Natural World, Thematic Vocabulary. Vocabulary related to nature was so prevalent as to warrant its own category.

"Digital" was the word most frequently recurring of the thematic vocabulary. There were 18 instances of it among four cases, and it represented 6.3 percent of all coding. Participants who were intrigued by analog photography mentioned digital in two cases in a negative connotation. The other mentions were in response to questionnaire question three in which type of camera used to take the relevant photograph was asked.

With 13 occurrences spread among all seven cases, ‘tree’ was the most frequently used of the Natural World: Thematic Vocabulary. It represented 4.6 percent of the coding.

The second set of color codes and text labels placed thematic vocabulary under one of the following headings which indicates a theme based on the response, photograph description, or anecdote to which the word belongs. Calm, excited, frustrated, happy, mad, proud, or sad were the emotions listed on the questionnaire as suggested responses to aid the participants in answering Question 5. Question 5 addressed how the participants felt when they created their photos. These were categorized under the broader heading of Emotions. Calm, excited, happy, and proud were the emotions from the list participants used to answer Question 5, which notably leaves out sad and frustrated. One participant replied with “funny.”

Excited was used to describe an emotion in four of the seven cases, though it only accounted for 1.4 percent of the coding. At 2.8 percent, proud accounted for the greatest percent of coding among the five given responses and appeared in three cases. Happy accounted for 2.5 percent of the coding and also appeared in three cases. Calm accounted for 1.4 percent of the coding and in each instance, was a response given by three of the participants to how they felt about photographs they took with subjects related to nature. Funny was mentioned only once by Participant 1, a 19-year-old female, in regard to a photograph that required a degree of stealth to capture.

Analog, art, history, and nature were categorized under the broader heading of Revealed Interests. Aesthetic awareness, composition, patience, and social awareness were categorized under the heading of Learned Skills. Revealed Interests and Learned

Skills were key to answering the study's central question and subquestions. Table 2 contains a list of themes and their indicative thematic vocabulary, the number of cases in which each word appears and the frequency they appear as both a number and a percentage. These data informed the results outlined later in the chapter.

Discrepant Cases

Discrepant cases, had any manifested, would have been characterized by irrelevant responses to questionnaire questions. This danger was effectively countered through scaffolding the adolescents' responses to questionnaire questions using sentence starters and fill-in-the-blanks that facilitated the participants' memory of the picture-taking experience, clarified the information sought, and encouraged more substantive responses without sacrificing simplicity of language.

Evidence of Trustworthiness

Safeguards to maintain validity in this study mirrored those presented in Chapter 3. Credibility, dependability, and confirmability were reinforced by the use of triangulation; the use of three different data sources corroborated conclusions made from one data source with the other two: i.e. the participants' interest in nature subjects were demonstrated by the subjects they chose for many of their photographs, the rationale for choosing the subjects identified in questionnaire responses as an interest in such subjects, and anecdotal notes taken at the time recording observations of the participants' inclination to seek out nature subjects represent a high degree of value the participants' placed on nature.

This study's transferability to other special education settings was established through the review of current research. This noted similarities between day treatment school student populations and the student populations of residential treatment centers, pediatric hospital wards, and other schools types that included the education of adolescent students with psychiatric disorders in self-contained classrooms.

To further enhance the study's validity, it was made available before finalization to all the members of my Dissertation Supervisory Committee. They were in a position to evaluate the study's credibility, transferability, dependability, and confirmability by reviewing all analyzed examples of the three forms of data, the employed methods of data analysis, and the conclusions drawn from it.

Results

Revealed Interests

The Revealed Interests theme addressed what was at the heart of the study, providing insight into adolescent day treatment students' interests and perspectives. Though not the sole means of informing day treatment school curricula and behavioral interventions for adolescent students, it was the most pertinent.

Connecting with nature.

An analysis of the data shows that connecting with nature was a subtheme of Revealed Interests that manifested itself in all seven cases and represented 16.3 percent of all coded words with 46 related instances coded (see Table 2). Table 2 shows that the word 'tree' or its synonym was mentioned a total of 12 times and appeared in six, or 85.7

percent, of the cases. An animal, bird, or plant of some kind were each mentioned in four or 57.1 percent of cases and appeared five, six, and six times respectively.

- Participant 1's photograph. She is a 19-year-old female who was 17 at the time her photograph of a flower about to bloom was taken which she described as a manifestation of her fondness for nature.
- A bird's nest caught the eye and enthusiasm of Participant 2, now 17-years-old, who was 14 when he took a picture of it.
- Participant 3, a 20-year-old female, referred to nature as a "goddess" when she described a picture of trees bare of leaves she took as a 17-year-old.
- Participant 4, an 18-year-old male who was 16 at the time he captured an image of trees, wrote that he enjoyed "taking pictures of the Earth."
- Participant 5 similarly stated that he liked photographing trees because "trees were a part of the Earth."
- Participant 7, a 21-year-old male, was 18 when he photographed leaves dropping from his hand in the schoolyard because, "I wanted to show myself interacting with nature."

Table 2

Coding Frequency

	Count	% Codes	Cases	% Cases
I. Thematic Vocabulary				
angle	5	1.8%	3	42.9%
capture	1	0.4%	1	14.3%
digital	18	6.3%	4	57.1%
flash	3	1.1%	1	14.3%
graffiti	3	1.1%	2	28.6%
kneel	1	0.4%	1	14.3%
look	1	0.4%	1	14.3%
pose	1	0.4%	1	14.3%
statue	3	1.1%	3	42.9%
view	3	1.1%	2	28.6%
zoom	2	0.7%	2	28.6%
II. Natural World: Thematic Vocabulary				
acorn	2	0.7%	2	28.6%
animal	5	1.8%	4	57.1%
bird	6	2.1%	4	57.1%
earth	1	0.4%	1	14.3%
flower	7	2.5%	3	42.9%
garden	2	0.7%	2	28.6%
lawn	1	0.4%	1	14.3%
leaf	4	1.4%	3	42.9%
plant	6	2.1%	4	57.1%
tree	12	4.2%	6	85.7%
III. Emotions				
calm	4	1.4%	3	42.9%
excited	4	1.4%	4	57.1%
funny	1	0.4%	1	14.3%
happy	7	2.5%	3	42.9%
proud	8	2.8%	3	42.9%
IV. Revealed Interests				
analog	38	13.4%	5	71.4%
art	10	3.5%	5	71.4%
history	5	1.8%	2	28.6%
nature	46	16.2%	7	100.0%
V. Learned Skills				
aesthetic awareness	32	11.3%	6	85.7%
composition	27	9.5%	5	71.4%
patience	4	1.4%	2	28.6%
social awareness	11	3.9%	4	57.1%

Analog photography.

Analog photography was the second most prevalent of the revealed interests. It involved using non-digital technology such as film cameras. Film photography was made available to the participants by having offered them the use of 35mm single lens reflex cameras, dating from the 1970s, 80s and 90s before the dominance of digital technology in photography. Two 1940s Mercury 35mm cameras were also made available to the participants. Five of the seven participants expressed an interest in analog photography with 38 references made to analog photography in the text, which represented 13.4 percent of all coded terms.

Participants 1 and 3, the two females of the group, both shared a strong preference for using the 1940s Mercury II 35mm camera. They both originally thought it was from the 1920s. When they discovered that the Mercury II wasn't quite as old, it remained their preferred camera, but they requested the instructor bring them older cameras to use which he was unable to do at the time. Participant 1 wrote, "I liked to use the early 1920s camera with real film, instead of the digital cameras."

Figure 1. Participant 7's photograph of him releasing the remains of a crumpled leaf into the air.

Figure 2. Participant 1 demonstrated a preference for analog photography. She captured this image with a 1940s, Mercury II 35mm camera and Kodak™ Tri-X black and white film.

Art.

An interest in art was noted beyond the participants' involvement with photography. Participants photographed murals, statuary, peers' artwork, and graffiti, which they perceived as art. Five participants made references to artwork in their questionnaire responses, and it represented 3.5 percent of the coding. Participant 2 took the time to photograph graffiti-painted bench planks close-up. Participants 2 and 5 both spent significant time photographing a dolphin sculpture at a local park. Participant 7 wrote that a mural consisting of spots of various sizes and colors painted inside the school by his peers would "make an awesome picture." Participant 6 photographed the same mural on a different date and noted in his questionnaire responses that it represented "colorful emotion." Anecdotal notes indicated Participant 6 and 7's eagerness to photograph in the day treatment school hallway where their peers' art was displayed. According to Participant 6, "a lot of pictures looked fine, but some caught my attention that I want to take a picture of."

Figure 3. The mural of painted dots photographed by Participants 6 and 7.

History.

The neighborhood around the day treatment school is one with a long and rich history. Venerable architecture and stone masonry echoed this history for the participants who noticed it. In this study, historical references represented 1.8 percent of the coding and were acknowledged by Participants 1 and 3, the two female participants. Participant 3, who endeavored to respond to questions with flowery language, found and photographed a vintage fire and police department emergency call box (See Figure 4) because it was "a simple yet endearing visit from the past." Participant 1 photographed the entrance to a 1940s brownstone because she was interested in its "old" design. According to the anecdotal notes, she enthusiastically pointed out that the house was "in the neighborhood where the older houses are," which are aligned next to one another.

Figure 4. The vintage fire and police department emergency call box that was photographed by Participant 3 because its historical nature and obsolescence interested her.

Learned Skills

Learned Skills were new skills that the data indicated were fostered by the photography club. These were aesthetic awareness, composition, patience, and social awareness. The Learned Skills speak to the benefits of photography for adolescents with psychiatric disorders.

Aesthetic awareness.

Indicators of aesthetic awareness included any words and phrases that demonstrated the participants were noting the beauty in the subjects of their photography. Coding relevant to aesthetic awareness represented 11 percent of all coding and appeared in six of the seven cases. Words that commonly appeared in questionnaire responses and incidental notes that showed a participant was demonstrating aesthetic awareness included: beautiful, movement, and shadow. Trees were silhouetted by a deep blue sky in a photograph by Participant 7 who captured the scene because it was a "beautiful sight." Participant 3 noted the attractiveness movement lent a flag blowing in the breeze and according to the anecdotal notes she saw trees and branches as bodies and arms reaching for the sky in another photograph she took. Exemplifying how shadow indicated aesthetic awareness, Participant 1 wrote, "I captured the fence in a shadow, and I like the shadow effects," when responding as to why taking a particular photograph made her feel happy. Participant 2 described his interest in photographing a rock by writing, "I like how the sun played a role and gave this stone a tiny shadow."

Composition.

Coding relevant to the composition of a photograph, deliberate positioning of the photographer, camera, or objects in the viewfinder field to match the photographer's creative vision, represented 9.5 percent of all coding. References to composition appeared in five of the participants' questionnaire responses. Words indicative of a participant employing tenets of composition included: angle, capture, flash, focus, kneel, look, pose, view, and zoom.

Participant 3 described a prime example of composition. She wrote that to photograph the U.S. flag flying center foreground with buildings in the background she had to "zoom in and focus onto 3.5 to get the perfect angle." She also used careful focus and a wide-angle lens when composing the shot of a vintage police and fire department emergency call box. Participant 2's sidewalk-tree image was composed by "zooming out to get the right angle."

Patience.

Patience, often indicated by the use of the word, wait, represented 1.8 percent of the coding and instances of its exercise appeared in Participant 2, Participant 6, and Participant 7's questionnaire responses. To capture sunlight filtering through treetops in a particular way, Participant 2 realized that he just had to wait quietly because "there was no rush." Participants 6 and 7 also wrote of the need for "waiting quietly:" Participant 6 to capture a nature scene and Participant 7 so as not to frighten a squirrel he wished to photograph.

Figure 5. Participant 6's photograph of a peer in the process of composing a shot.

Social awareness.

For the purposes of this study, social awareness was defined by participants demonstrating an understanding of others' actions and showing an awareness of their needs, which affected how they proceeded with their photography and what they took pictures of. Deficits in social functioning are a common characteristic of psychiatric disorders manifest in adolescent day treatment school students (Lowenfeld and Brittain, 1987), which the participants were at the time they were involved in the photography program. Evidence of social awareness manifested in four of the cases and represented 3.9 percent of the coding.

The anecdotal notes relevant to Participant 2 stated that he wanted to photograph a cat but demonstrated concern that he would accidently photograph a woman petting it. He recognized she may be uncomfortable with having her picture taken. Participant 6 felt an image he captured inside the school of a student-created mural depicting trees, multicolor leaves, and the word, thankful, was "appropriate," because Thanksgiving was approaching, a level of awareness this student wasn't known previously for manifesting. Participant 6 captured an image of artwork created by a peer and noted that the student had "put a lot of effort into it" and therefor "should get some recognition."

Summary

The results answered the research subquestions as follows: (1) Revealed Interests and Learned Skills were themes that emerged from the comparing and contrasting of subjects the students chose to photograph, (2) an interest in analog photography and

learning increased patience was evidenced through an examination of the cameras the participants chose to use, and (3) the participants' increased aesthetic awareness, composition skill, and social awareness was assumed through an analysis of the way they framed and photographed their subjects.

The following chapter will discuss how these results are relevant to the study's central question and subquestions. Each notable result will be organized by the study subquestion it most directly addresses. The themes that were anticipated and those that were unexpected will be identified, then discussed. I will suggest how his personal biases may have affected the results and review the means employed to temper those biases.

I will offer my conclusions as to the effectiveness of the study in determining how the photography of adolescent day treatment students can affect day treatment school curricula and behavioral interventions. This will be followed by recommendations for the practical application of photography in day treatment schools and beyond. There may be situations in which educators are seeking to understand the perspectives of their students to provide more effective curricula and the means to bring about positive behavioral changes in students. Additional recommendations will address means of modifying and expanding the current study to increase the scope and effectiveness of exploring similar research topics.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this qualitative case study was to discover if the interests and perspectives of adolescent day treatment school students with psychiatric disorders could be determined through an examination of their photography, their responses to questions relevant to individual photographs they took, and archival notes about the circumstances surrounding the photographs' creation. Their interests and perspectives may facilitate the improvement and creation of academic curriculum and behavioral interventions purposed to their benefit.

These students manifest cognitive limitations, maladaptive behaviors, and social functioning deficits that place them at risk of academic failure. Academic failure impedes their ability to become productive adults and can cause them to engage in behaviors putting them at odds with the criminal justice system.

The purpose of this chapter is to review the study's results in greater depth and begin to assess directions for future research. The chapter will demonstrate that their adolescent students' photography can bestow day treatment teachers insight into these students' interests and perspectives. With these data, day treatment teachers can individualize existing or develop new curricula and behavioral interventions with the potential to decrease the undesirable classroom behaviors of their students while increasing their academic performance. These results would benefit the families of adolescents with psychiatric disorders who must cope with their children's special needs

and facilitate society's efforts to find productive placements for them when they reach adulthood.

Interpretation of Findings

The current study's findings suggested that recent research showing the use of adolescent student photography as an effective means of gaining insight into the students' interests and perspectives applied to adolescent day treatment school students and similar populations. The current study's findings were garnered through an examination of a day treatment school photography elective and the photography of day treatment school students who formerly participated in the elective. No recent studies involving photography employed to the same end with day treatment school populations had been undertaken at the time of this study's conception.

Analog photography, art, history, and nature were revealed as participant interests that could potentially be used to benefit the design of day treatment school curricula and behavioral interventions. Furthermore, their involvement in the elective appeared to build the participants' aesthetic awareness, ability to compose photographs, patience, and social awareness.

Interpretation of the Findings

Revealed Interests

The Revealed Interests theme addressed what was at the heart of the study, providing insight into adolescent day treatment students' interests and perspectives. Though not the sole means of informing day treatment school curricula and behavioral interventions for adolescent students, it was the most pertinent.

Connecting with nature and seeking calm.

The study results demonstrated a strong interest among all seven participants to connect with nature, i.e. spend more time outdoors among flora and fauna. All the participants took photographs with trees, plants, and animals, the most prevalent of the subjects photographed. With all the photographs taken in a low-income, urban neighborhood with limited spaces dedicated to parks, it was notable that they found so many nature-related subjects to photograph which took precedence over the myriad of other subjects available to them such as diverse architecture, uncommon street signs, and motor vehicles.

The participants went out of their way to find nature-related subjects as mentioned in the anecdotes. I noted that in the fall of 2013 that Participant 1, a 19-year-old female, "showed a particular interest in flowers, plants, and trees." Later in the year, Participant 1 photographed "a large tree and the snow-covered garden on her own initiative." The anecdotes mention that Participant 2, a male who was 14-years–old in the fall of 2013, was very eager to show me and two teacher-aides accompanying the group his photos "which were predominately of plants, flowers, and trees." He later "suggested we photograph a greenhouse on the yard of the nearby high school... blackening sunflowers caught [the photography club's] attention and they concentrated on photographing these." Leaves and pigeons were among his preferred subjects in 2014. Participant 3, a 20-year-old female who was 17-years old when she photographed it, found a bird's nest in a park tree which according to the anecdotal notes was also photographed by Participants 1, 2, and 7 who asked her help to locate it.

A desire for calm appeared to propel three of the participants to photograph nature subjects. Participant 5, an 18-year-old male who was 16 at the time he captured the images, explained how the calm induced by photographing plants helped him to avoid stress, an apparent desire of his. This corroborated what was found in the Sawyer and Willis (2011) study: stress in adolescents can be managed by creative photography activities. Participant 5 also used calm to describe his feelings at the time when he photographed a tree trunk.

Participant 1, a 19-year-old female who was 17 at the time her photograph of a flower near blooming was taken, described it as making her, according to her questionnaire responses, "feel calm because flowers are calm. Plants and trees are calm." Participant 2 took photographs of sunlight through the treetops and later a tree with all its leaves which he noted as calming. He wrote that to get the picture he only had to wait patiently for there was no rush. Photographing trees bare of leaves calmed Participant 3 because they enabled her to see "mother goddess" in her "mind's eye."

Analog photography.

Subquestion 2 of this study was aimed at determining the extent to which choice of camera type, digital or analog, was indicative of participants' interests and perspectives. Results relevant to camera choice addressed this question. Using non-digital technology such as film cameras was almost as prevalent an interest as connecting with nature.

Figure 6. Participant 1's 'calming' photograph of a flower on the cusp of blooming.

Five of the seven participants expressed an interest in using 35mm single lens reflex cameras that dated from the 1970s to the 1990s. Participants 1 and 3, the two females of the group, shared a strong preference for using the two oldest cameras which were both 1940s Mercury II 35mms. They were even more excited about the cameras originally when they thought they were produced in the 1920s and expressed interest in the instructor bringing them even older cameras to use.

To prevent a reliance on immediately seeing a captured image, deleting it if dissatisfied, and shooting with the impunity that digital cameras allow, Graham et al.'s (2013) study involved adolescent participants using 35mm film cameras. This also made it difficult for the participants to download images and share them through social media, which the researchers sought to prevent. Though Graham et al. did not give its participants a choice between conducting digital or analog photography, the enthusiasm of the participants to photograph subjects was high, suggesting a parallel interest between the participants of that study and the current study.

Figure 7. The 1940s Mercury II camera coveted by Participants 1 and 3.

The interest adolescents demonstrated for analog photography appears to be part of a larger trend towards the anachronistic that may be seized upon by special educators looking to create or modify day treatment school curricula and behavioral interventions. Macdonald (2012) wrote of how film photography perseveres into the digital age propelled by the interest of young people. In a NPR (2013) radio broadcast, the appeal of analog photography to youth is described as exciting, the wait for their photographs to be processed increasing their enthusiasm; they, approach the photographs in a brand-new way when they are finished. The broadcast further noted that some youth "like the surprise of not knowing until sometime after the pictures are snapped to discover what's on the roll (NPR, 2013, p. 1)." The broadness of vintage technology is further bolstered by young people's interest in playing records. Rushing (2013) writes of the renewed interest in record turntables by teenagers who think they are "retro-cool" (p. 1).

Art objects.

Outside of engaging in photography, the results demonstrated the participants' interest in subjects that in themselves are considered art. They photographed graffiti, murals, decorative statuary, and artwork created by their peers. The participants' views of graffiti and decorative statuary as art shows their perceptions of what constituted art were fairly broad. This is exemplified by Participant 2 photographed two distant smoke stacks rising from foreground treetops. According to him, this made him happy because "to me it was a type of art." Participant 2 also took the time to take close-ups of graffiti he found in the park. Along with Participant 5, Participant 2 took several photographs of a common type of decorative statuary at a park.

Participants 6 and 7 showed a particular interest in peer artwork. Peer artwork consisted of drawings, paintings, collages, and decorations created by other students of the day treatment school. Participant 6 noted that his peers had displayed their art in a hallway of the school, and he deemed it important to photograph. He claimed that an image of one student's displayed paintings was important to capture because, "a kid made this [art] and put a lot of effort into it." He further noted feeling proud for using his photograph to bring the student some deserved recognition. Participant 6's belief that a peer should be recognized for his artwork likely reflected an interest in himself being recognized for his artwork, be it photography or otherwise.

Participant 7 gave priority to photographing the peer artwork in the same hallway, mentioning that it had caught his eye prior to the day he photographed it. Participants 6 and 7 both photographed the mural of colored dots on the wall of the hallway. Photographing peer artwork was also chosen by adolescent participants of Eskelinen's (2011) study, suggesting that an interest in their peers' artwork was evident with them as well.

History.

An interest in history was demonstrated though not to the extent of the other themes. The urban neighborhood in which the day treatment school is located exhibits visual reminders of the many generations it has stood there. Participants 1 and 3 noted architecture and stone masonry that dated back to second world war and earlier. Anecdotal notes confirm that several of the photographs they took were taken due to their

interest in the venerability of their subjects, i.e. Participant's 3 capture of a vintage fire and police department emergency call box.

Their responses on the questionnaires confirmed interest in history. Participant 3 described excitement at what she termed a "visit from the past." Participant 1 took most of her photographs on streets, which she noted were occupied by classic brownstones.

Learned Skills

Aesthetic awareness, composition, patience, and social awareness were skills indicated by data analysis to have been fostered in the participants through their participation in the photography elective. The skills the participants developed can further enlighten educators as to the perspectives of adolescents and inform the design of effective curricular and behavioral interventions in day treatment schools.

Aesthetic awareness.

Aesthetic awareness, for purposes of the current study, was considered the noting of subjects of photography that are either pleasing to the eye or emotionally evocative or subjects that can be made so by the photographer. Graham et al. (2013) used a form of aesthetic awareness possessed by participating youth and expressed in their photography to facilitate a community dialog. Aesthetic awareness imparted to adolescent students of day treatment schools could facilitate as dialog between them and their teachers that further reveals the students' interests and perspectives. The results of the current study show the fostering of aesthetic awareness in participants through their involvement with the day treatment school's photography elective. Aesthetic awareness holds the potential to enhance day treatment students' ability to communicate their interests and perspectives

through photography, heralding improved day treatment school curricula and behavioral interventions.

Examples of the participants demonstrating aesthetic awareness included Participants 1 and 2 recognizing the role shadow played in the aesthetic appeal of a photograph when they captured images of fences and rocks. Use of contrast was demonstrated by Participant 3 who deliberately captured dark tree branches against a light blue sky. Participant 5 photographed one nature scene because of what he interpreted as its appeal through its simplicity. Light and perspective was recognized by Participant 6 when he photographed the open school door from inside the lobby because the sunlight flooding in and the view of the front yard were aesthetically pleasing together. Participant 7 showed he was aware of the aesthetic value of movement and symbolism when he took several photographs of an American flag fluttering in the wind.

Composition.

Composition was demonstrated by five participants. It is the purposeful positioning of the photographer, camera, or objects in the viewfinder field to match the photographer's creative vision. Composition, should adolescents with psychiatric disorders be taught it, is a further means with which adolescents may communicate via photographs. Some assumptions as to the adolescents' interests and perspectives can be made through an analysis of the way they frame and photograph their subjects. Though examples of composition and aesthetic awareness overlap, composition represents a distinct skill.

In a rare instance of using a digital camera due to running out of film, Participant 3 photographed a U.S. flag flying center foreground with buildings in the background. She had to utilize the camera's zoom feature and move around until she captured the "perfect angle." Participant 2's sidewalk-tree image was composed using a relatively modern 35mm SLR also with a zoom lens and positioning herself to get the correct angle. Participant's 7 afore mentioned photograph of him crumbling a leaf in his hand and photographing the pieces as they fall to the ground (See Figure 1) is another example of composition through the manipulation of objects in the photographer's field of view to communicate a concept; in this case, a desire for himself and others his age to further interact with nature.

Patience.

The results suggested that patience had been fostered in Participants 2, 6, and 7, three of the five male participants, based on selected thematic vocabulary indicators. Participants 2 and 6 demonstrated the realization that objects such as trees are not going anywhere and therefor they needn't rush the composition and capture, hurrying something they had done unnecessarily when taking other photographs. Participant 7 noted the need for waiting quietly lest he send running the unmoving squirrel that he was photographing.

Though the thematic vocabulary indicative of patience was not present in Participant 1 and 3's questionnaires nor the anecdotal notes relevant to them, they frequently made use of the 1940s Mercury II 35mm film cameras. The loading, unloading, and rewinding of 35mm film makes it more difficult to use than digital

cameras and more modern 35mm cameras with auto-load and auto-wind features. The primitive properties of the Mercury IIs required the photographers using them to develop a significant degree of patience. Further fostering patience, the users of 35mm cameras do not have the instant gratification of seeing an image as soon as it is captured that digital cameras provide, understanding that they will have to wait for their film rolls to be developed.

Social awareness.

Social functioning deficits are prevalent among adolescents educated in day treatment schools due to the nature of their psychiatric disorders. Lowenfeld and Brittain (1987) contended that involving adolescents in art creation facilitated the development of social awareness. Therefor signs of a social awareness perspective manifested by the study's participants and tied to their participation in the photography elective were of particular note. I determined that social awareness relevant to the study would be recognized in participants who demonstrated an empathy for the wants, needs, and perspectives of others as shown by the way in which participants approached photography and the subjects they chose for their photographs. Considered further examples of social awareness were statements and actions relevant to photography that indicated that the participant had a sense of being part of a greater community.

Evidence of improved social awareness manifested in four of the cases thus lending support to Rice, Girvin, and Primak's (2014) study, which concluded that opportunities for adolescents with psychiatric disorders to engage in photography facilitates their social awareness. The current study also in part corroborated Sawyer and

Willis's (2011) study, a facet of which showed that adolescents demonstrated increase social awareness when engaged in photography.

Participant 2 recognized that some people do not wish to be photographed and that he should wait until they are out of the frame before taking the shot. Participant 6 recognized the social appropriateness of a student created scene of trees with their leaves changing color with "Thankful" posted above it (See Figure 8) because Thanksgiving was approaching. He took a photograph of it with the intention of displaying it as a means of contributing to the school's holiday preparations. He was also the participant described prior as taking a photograph of peer artwork because peer artists deserve and seek recognition for their work.

Figure 8. The Thanksgiving display photographed by Participant 6.

Participants 3 and 7 demonstrated social awareness through statements that indicated belonging to a larger community. Participant 3 saw herself as an American, noting a feeling of pride from photographing the American flag, "the symbol of America and freedom." When Participant 7 stated that he believed that not enough people of his generation "interact with nature," he was demonstrating a sense of being a part of a far larger group, others of his age.

Limitations of the Study

The anecdotal notes utilized in the current study were intended to provide methods of improving teaching practice, not to inform research, limiting the value of these data and necessitating that it be supplemented by participant questionnaire responses and my further interpretation of the imagery in the participants' photographs. This leads to a further limitation: two of the three sources of data necessitate a degree of interpretation on my part as the researcher and photography club teacher.

The access the day treatment school granted me for the current study barred interviewing former participants of the photography elective by phone, Skype, or in person. The photography elective was defunct at the time this study was conducted, necessitating the use of questionnaires. The questionnaires employed the scaffolding of participant responses through the use of sentence starters and fill-in-the-blanks and limited the study to five, predetermined questions per photograph. Structured responses, created as a barrier to irrelevant or too brief responses, negated the diversity provided by

open-ended questions. Face-to-face interviews would have best allowed for participants to clarify the meanings they saw in their photographs.

The study participants were formerly students of mine because I was the teacher for the photography elective. Printed and verbally stated requests to participate in the study were carefully worded so that the participants would not feel obligated to participate, but their desire to please me was an inherent limitation of the study that could not be proven completely extinguished. Though entreated not to do so, one or more participants may have attempted to write questionnaire responses they believed I wanted.

In an attempt to counter any personal bias I was harboring as the photography elective instructor and sole researcher in this study, analyzed data were also made available to all the members of the Dissertation Supervisory Committee, so that they could evaluate the study's validity by reviewing the data, the employed methods of analysis, and the conclusions drawn from it. However, this action could not be proven to root out potential bias thoroughly.

The generalizability of the current study was weakened by participant group of seven. I did not have access a group that represented more of a diversity of age, sex, race, ethnicity, and psychiatric disorders.

Recommendations

There are several ways future projects can be made more effective than the current study. These include improved observational data, a more effective means to garner the participants' reflections on their photography, emotional distance between the researcher and the participants, more data sources, and a larger, more diverse group of

participants. Furthermore, my attempt to identify my own personal biases prior to engaging in the research and during analysis of the data was fallible. A future study could incorporate a team of researchers allowing them to work with one another in a combined effort to ensure credibility and counter bias as well as seeking peer review from outside the group.

Observations

The anecdotal notes utilized in the current study represented observations made of the participants as they sought out subjects to photograph and engaged in the picture-taking process. These archival data were intended to provide guidance to improve teaching practice, not research, limiting its value and necessitating that it be supplemented by questionnaires and my interpretations of the participants' photographs.

The effectiveness of anecdotal observations can be improved in future studies if they are specifically intended to facilitate an examination of photography composed by adolescents with psychiatric disorders and the circumstances surrounding the photography's creation. To study adolescent student photography relevant to informing day treatment school curricula and behavioral interventions, the artistic and cognitive processes the students employed must be observed and noted. This is most effective when the individual or individuals taking the notes is observing for evidence of these processes.

Interviews

Utilizing adolescents' photographs to understand their experiences requires that they be given the opportunity to explain the subjects of their photographs and the thought processes behind their creation. As explained by Smith et al. (2012), this is due to the

issue that without the photographers' interpretations, the ideas expressed in the photographs will not be completely understood. The access to the day treatment school granted me for the current study precluded interviewing former participants in person, and the photography elective was no longer being held. These circumstances and others related to the participants themselves and their environment necessitated the use of questionnaires.

To elicit written responses from participants of the current study with behavioral control deficits and cognitive delays, scaffolding their responses using sentence starters and fill-in-the-blanks was deemed necessary for the five-questions per photograph structure of the questionnaires. This was not without precedent, however. Five similarly semi-structured responses were used to prompt useable answers from adolescent participants as to the meaning of their photographs in Smith et al. (2012). The questions in the questionnaires used for the current study facilitated a structured response, thus reducing the potentially useful diversity of purely open-ended questions, though the guiding language reduced the potential for irrelevant responses or responses of such brevity as to be valueless.

Several recent research studies had few if any discrepant cases in part due to the researchers' implementation of face-to-face interviews that allowed participants to clarify what they were communicating through their photographs. Rice, Girvin, and Primak (2014) effectively implemented *photo-elicitation*, a qualitative research methodology that used participant photography to facilitate discussion in interviews, as a means of engaging adolescents in the creation of interventions to facilitate their psychiatric and

social wellbeing. Future research studies attempting to divulge meaning from their adolescent participants' photography should do so with face-to-face interviews, seeking out day treatment schools or similar settings that allow such access to the students.

Researcher-Participant Connections

As the photography elective's instructor, the participants were former students of mine. Participating with the desire to please me was a potential threat to the current study's credibility that could not be proven completely extinguished. The participants may not have been truly invested in filling out the questionnaires or tried responding in a manner that they believed I wanted to see despite all the instructions not to do so. Future studies should avoid having the research conducted by someone with past connections to the participants.

Further Data Sources

The current study's incorporation of three different data sources, including the participants' photography, their questionnaire responses, and my relevant notes, facilitated triangulation by corroborating a conclusion made from one data source with the other two. In addition to utilizing participant interviews in place of questionnaires, future studies can provide enhanced credibility by offering additional sources of data, i.e. the use of modern DSLRs that record technical data when a photograph is taken which can be analyzed via software. Such data can demonstrate the care and compositional strategies a participant put into capturing an image or lack thereof.

Effective Sample Size

Access to only seven students reduced the generalizability of the current study, though the weakness of the sample size was viewed as less pertinent due to the absence of similar studies on even a small scale. The small sample did not provide me with a maximally diverse group of participants in terms of age, sex and other factors future researchers may wish to note such as race, ethnicity, or particular psychiatric disorders.

Implications

The promising data and the potential for positive social change inherent in this study warrants similar research be conducted. Further research projects should attempt to gain access to a larger sample of students and provide more detail for categorization and analysis. Should school-wide photography programs be implemented nationwide in day treatment and other schools tasked with educating adolescents with psychiatric disorders, those programs could implement more effective curricula and behavioral interventions informed by their students' interests and perspectives as noted through an examination of the students' photography. This could lead to positive social change should a larger percentage of the school's graduates become productive members of society. Successful behavior modification of day treatment students allows for a safer working environment for day treatment school classroom staff, benefits families coping with the behaviors of these adolescents at home, and facilitates society's efforts to find productive placements for them when they reach adulthood.

The current study demonstrated photography's promise to determine the interests and perspectives of adolescents with psychiatric disorders in day treatment for

application to informing curricula and behavioral interventions purposed to their benefit. This paralleled Rice, Girvin, and Primak's (2014) use of their adolescent participants' photography to facilitate the creation of mental, physical, and social wellbeing interactions. Harkness and Stallworth (2013) utilized photography created by four of their adolescent students to understand their perspectives that were applied to teaching strategies implemented with them. Lanou, Hough, and Powell (2012) addressed classroom interventions specific to early-stage adolescents with autism spectrum disorder, describing significant cognitive and behavioral benefits they gained when their strengths, talents, and interests were identified through photography, as done with the participants of the current study, and incorporated into their education as postulated by the current study.

All the current study's participants exhibited an interest in photographing nature subjects. Three of the participants stated a desire for calm as compelling them to photograph such subjects, suggesting that stress in adolescents could be managed by creative photography activities as evidenced in Sawyer and Willis's (2011) study. As with Smith, Gidlow and Steel's (2012) study of adolescents' perspectives on an outdoor education program, the interest the participants of the current study expressed in nature led to even further insights as to their other interests and perspectives such as the interest in calming scenes and activities and the belief that nature settings offered them more opportunities to express themselves. Along with the current study, Kim, Hong, Ra, and Kim (2015), Thupayagale-Tshweneagae and Benedict (2011), and Rice, Girvin, and

Primak (2014), further evidenced nature subjects as a means for adolescents with mental health issues to communicate their perspectives.

The current study supported young people's predilection for analog photography as described by McDonald (2012) and NPR (2013). Adolescent participants of Graham, Reyes, Lopez, Gracey, Snow, and Padilla (2013) also evidenced an interest analog photography, which was used to instill thought and care into capturing their photographs. The current study noted the use of complex cameras connected with observations of increased patience in participants. In Mmari, Blum, Sonenstein, Marshall, Brahmbhatt, Venables, and Sangowawa's (2014) study the interest of the adolescent participants was drawn in by the art of photography, as were the participants of the current study, through learning the basics of operating more complex cameras, multiple photographic techniques, and how to adjust the settings to achieve different results.

Evidence of improved social awareness manifested in four of the current study's participants, if due to the photography elective, lent support to Rice, Girvin, and Primak's (2014) conclusion that engaging in photography facilitates social awareness in adolescents with psychiatric disorders. An interest in photographing peer artwork indicated improved social awareness in two of the current study's participants. The interest in photographing the work of their peers was also evidenced by the adolescents with special needs participating in Eskelinen's (2011) study. Sawyer and Willis' (2011) adolescent participants also evidenced improved social awareness through their engagement in photography. However, it is important to note the difficulty of directly drawing the connection between improved social awareness in the participants of the

current study and their involvement in the photography elective. The three-year time difference between their involvement in the elective and the current study might have been sufficient for them mature into more socially more aware individuals.

Capitalizing on Adolescents' Interest in Connecting with Nature

The strong interest in subjects relevant to the outdoors and nature shown by all the participants of the current study lent support to Thupayagale-Tshweneagae and Benedict's (2011) photo-elicitation study of South African adolescents orphaned by HIV and AIDS. They found nature and flowers to be common themes in the adolescent participants' photographs (2011). Flowers, though not considered a theme to itself in the current study, was one of the ubiquitous thematic vocabulary words used to determine the participants' interest in nature.

Allowing opportunities for adolescents in day treatment schools to visit parks and gardens could be a motivating aspect of an effective curriculum that also reduces student stress and, therefore, episodes of disruptive or dangerous behavior. Eisner's (1979) work suggested that adolescents' experience traditional academic subjects in a manner transcending confinement to a classroom, going outside to photograph instead, a potentially more motivating activity. Maslow (1970) noted that natural phenomena such as sunsets, flowers, and trees inspire art creation, which invokes interest, excitement, and strong emotional responses.

Barthes (1985) demonstrated the potential usefulness of photographs as diagnostic tools for helping to determine the existence and nature of psychiatric disorders in adolescents when he suggested that difficulty verbalizing what is visually perceived can

indicate stress and anxiety. He further believed that the composition of photographs can give voice to these feelings (1982-1985). Photographic composition the desire for calm and escape from stress expressed by three of the participants of the current study was exemplified through their photographs of nature subjects.

When expressing their interest in nature, the current study's participants' indicated other interests and perspectives such as afore mentioned tendency to seek out calming scenes and activities. Precedence for this was provided by Smith, Gidlow, and Steel, (2012), who conducted a photo-elicitation study of adolescents' perspectives on an outdoor education program. The adolescent participants confirmed that the freedom to choose objectives, places, and motives for their photography afforded by being in a nature setting allowed them more opportunities to exhibit their perspectives (2012). One participant revealed to researchers the importance meeting friendship obligations had to him through the nature subjects in his photography (2012). An adolescent participant of Kim, Hong, Ra, M, Kim (2015) communicated his emotional state through a photograph he took of the sky. Photographing trees aided an adolescent participant of Thupayagale-Tshweneagae and Benedict (2011) with indicating his emotional state. An adolescent participating in Rice, Girvin, and Primak, (2014) used a natural landscape to communicate his desire to move on from trauma suffered in the past and to start making positive changes in his life.

Incorporating Analog Photography

The work of Lowenfeld and Brittain (1987) shed light into the popularity of analog photography with the current study's participants. Lowenfeld and Brittain were

referring to analog photography when they described it as a medium in which adolescents can convey ideas artistically and interpret subjects through the manipulation of film and the darkroom printing process. Before digital photography was conceived, analog photography earned a its place in the arts (1987). Lowenfeld and Brittain considered processing, making enlargements, and editing film as activities which share the same decision-making practice with painting. Artistic expression entails that a high degree of intelligence and intuition be applied and practiced when photographic film is the artistic medium (Eisner, 1979).

Approximately one in four students possess an inclination towards kinesthesia and touch that can be exploited through a curriculum incorporating art creation (Eisner and Ecker, 1966). Analog photography can be the motivating agent in a day treatment curriculum because of its hands-on aspects; manipulating camera settings, agitating of chemical containers during film development, and manipulating the photographic paper during darkroom printing. Analog photography thrives today due to youth interest despite the ease of use offered through digital technology (Macdonald, 2012). Adolescent participants of Graham, Reyes, Lopez, Gracey, Snow, and Padilla (2013) learned analog photography. The researchers noted that film cameras allowed for multiple exposures, overlaying images on the same frame to expressive and artistic effect (2013). The participants were prevented from relying on digital practice, prompting careful thought going into each exposure (2013). Mmari, Blum, Sonenstein, Marshall, Brahmbhatt, Venables, & Sangowawa (2014) trained their adolescent participants in the art of photography, including the basics of operating a camera, multiple photographic

techniques, and how to adjust the settings to achieve different results through which they demonstrated patience for that aspect of photography as did the use of analog cameras for participants of the current study.

Using Art for a Hands-on History Curriculum

The participants' interest in vintage analog photography and history in the current study suggested that photography can provide engaging learning alternatives to presenting academic subjects such as history within the day treatment school classroom. The relationship between adolescents' interest in history and an interest in analog photography was discussed in the NPR (2013) radio broadcast, "Film Cameras Help Young People Act on Nostalgia For A Time They Never Knew".

Lowenfeld and Brittain (1987) believed that academic knowledge can be gained as effectively by having students prepare their photography for presentation as a teacher using direct instruction. Christensen and Kirkland (2009) demonstrated through an extensive review of literature how art creation resulted in a greater understanding of history. Though they were focused on young children, the same can be said of adolescents (2009). The participants of the current study exhibited their interest in analog photography and history through photography as a specific mode of art creation. Christensen and Kirkland (2009) noted that an artist, such as a photographer, at work could make emotional and historical connections when their subjects are historical in nature. The participants of the current study who revealed an interest in historical subjects were also fostering that interest, suggesting the value of student photography to a day treatment school history curriculum.

Conclusion

This study demonstrated that an analysis of photographs taken by adolescent day treatment school students who have psychiatric disorders could provide insight into the students' interests and perspectives. The interests and perspectives the participants were determined to have were not exhaustive and lacked specificity. However, this information was sufficient to inform day treatment school curricula and behavioral interventions to a partial degree. The participants' photographs, their questionnaire responses pertaining to the photographs, and anecdotal observations made at the time the photographs were captured corroborated the participants' interests in and perspectives on connecting with nature, seeking relief from stress, analog photography, art, and history.

Photography activities for the adolescent student are in themselves motivating and effective academic and behavioral interventions regardless of the educational setting (Michael, 1981). Photography has a long history of expressing the photographers' desires, interests, intuitions, points of view, and the social conditions they strive to attain (Eisner & Ecker, 1966). Adolescents with and without psychiatric disorders can bridge gaps in their interpersonal skills, communicating their feelings of concern and balancing them with hopeful visions of the future through the photographs they take (Rice, Girvin, & Primak, 2014).

Perceptual development, aesthetic growth, and intuitive knowledge are fostered in the adolescent who engages in photography, the traits combining to facilitate cognitive development (Eisner, 1979, 2005; Eisner & Ecker, 1966; Lowenfeld & Brittain, 1987; Michael, 1981). The visual arts play a significant role in learning for they are more basic

to thought processes than traditional academic subjects (Lowenfeld & Brittain, 1987). On its surface, art creation activities for adolescent students may appear more recreational than educational but can prove essential to their growth (Maslow, 1970). Artists exercise thought processes that allow them insight into their environment unavailable to those who rely exclusively on intellectual thinking (Maslow, 1970).

This study has shown how a camera can encourage adolescents with psychiatric disorders to view familiar surroundings with a critical eye, focusing on the aesthetic while suggesting to their teachers needs and interests exploitable in school curricula. Following this study, Eisner's (1979) belief in photography's potential to reveal aspects of students' lives, allowing them to more easily access the microcosm of life provided by schools, appears closer to reality for day treatment school students and other adolescents. By sharing photographs of their environment with teachers and peers, adolescents with psychiatric disorders foster an understanding between themselves and others, bridging differences and facilitating their integration into families, schools, and communities.

References

American Academy of Pediatrics (2014) Autism: Recent information. Retrieved from http://www.aap.org/en-us/about-the-aap/Committees-Councils-Sections/Council-on-Children-with-Disabilities/Pages/Recent-Information.aspx

American Academy of Pediatrics (n.d.) Bright futures guidelines for health supervision of infants, children, and adolescents: Adolescence 11 to 21 Years. Retrieved from https://brightfutures.aap.org/Bright percent20Futures percent20Documents/18-Adolescence.pdf

American Art Therapy Association (2014). History and Background. Retrieved from http://www.americanarttherapyassociation.org/aata-history-background.html

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders: DSM-5* (5th ed.). Washington, DC: American Psychiatric Association.

American Speech-Language-Hearing Association (ASHA). (n.d). *What is selective mutism?* Retrieved from http://www.asha.org/public/speech/disorders/selectivemutism.html

Arnheim, R. (1974). *Art and visual expression.* Los Angeles: University of California Press.

Arnheim, R. (1986). *New essays on the psychology of art.* Los Angeles: University of California Press.

Arnheim, R. (1997). *Visual Thinking*. Los Angeles: University of California Press.

Barthes, R. (1981). *Camera lucida: reflections on photography* (1st American ed.). New York: Hill and Wang. (Original work published in 1980)

Barthes, R. (1985). *The responsibility of forms: critical essays on music, art, and representation* (1st ed.). New York: Hill and Wang.

Berger, K. S. (2015). *The developing person: Through childhood* (7th ed.). New York: Worth Publishers.

Christensen, L., & Kirkland, L. (December, 2009). Early childhood visual arts curriculum: Freeing spaces to express developmental and cultural palettes of mind. *Childhood Education, 86*(2), 87-91.

Clark, S. E., & Jerrott, S. (2012). Effectiveness of Day Treatment for Disruptive Behaviour Disorders: What is the Long-term Clinical Outcome for Children? *Journal of the Canadian Academy of Child & Adolescent Psychiatry*, *21*(3), 204–212.

Creswell, J. W. (2013). *Qualitative inquiry & research design: Choosing among five approaches* (3rd ed.). Thousand Oaks, CA: Sage Publications.

DeCoster, V. A., & Dickerson, J. (2014). The Therapeutic Use of Photography in Clinical Social Work: Evidence-Based Best Practices. *Social Work in Mental Health*, *12*, 1–19.

Dewey, J. (1959). *Dewey on education*. M.S. Dworkin (Ed.). New York: Teacher's College Press.

Dewey, J. (1980). *Art as experience*. New York: Perigee Books.

Dewey, J. (1997). *Experience & Education*. New York: Simon & Schuster.

Durand, M., & Barlow, D. (2015). *Essentials of Abnormal Psychology,* (7th ed.). Pacific Grove, CA: Wadsworth-Thompson Learning

Eisner, E. W. (1979). *The educational imagination: on the design and evaluation of school programs*. New York: Macmillan.

Eisner, E. W., & Ecker, D. W. (1966). *Readings in art education*. Waltham Massachusetts: Blaisdell Publishing Company.

Eisner, E. W. (2002). *The Arts and the Creation of Mind*. Yale University Press.

Eisner, E. W. (2005). *Reimagining schools: The selected works of Elliot W. Eisner.* New York: Routledge.

Eskelinen, E. (2012). Children's visual art and creating through photographs. *Procedia - Social and Behavioral Sciences*, *45*, 168–177.

Ginicola, M., Smith, C., & Trzaska, J. (2012). Counseling through images: Using photography to guide the counseling process and achieve treatment goals. *Journal of Creativity in Mental Health, 7*, 310-329.

Graham, L. F., Reyes, A. M., Lopez, W., Gracey, A., Snow, R. C., & Padilla, M. B. (2013). Addressing economic devastation and built environment degradation to prevent violence: A photovoice project of Detroit Youth Passages. *Community Literacy Journal*, *8*(1), 41–52.

Greene, M. (1988). *The dialectics of freedom*. New York: Teachers College Press.

Harkness, S., & Stallworth, J. (2013). Photovoice: understanding high school females' conceptions of mathematics and learning mathematics. *Educational Studies in Mathematics*, *84*(3), 329–347. doi:10.1007/s10649-013-9485-3

Hope, S. (2010). Creativity, Content, and Policy. *Arts Education Policy Review*, *111*(2), 39-47. doi:10.1080/10632910903455736.

Kennedy, H., Reed, K., & Wamboldt, M. Z. (2014a). Art for life: A community arts mentorship program for chronically ill children. *Art & Health: An International Journal for Research Policy and Practice*, *7(1)*, 14–26.

Kennedy, H., Reed, K. & Wamboldt, M. Z. (2014b). Staff perceptions of complementary and alternative therapy integration into a child and adolescent psychiatry program. *The Arts in Psychotherapy*, *41*, 21–26.

Kim, M. A., Hong, J. S., Ra, M., & Kim, K. (2015). Understanding social exclusion and psychosocial adjustment of North Korean adolescents and young adult refugees in South Korea through Photovoice. *Qualitative Social Work*, *14*(6), 820-841. doi:10.1177/1473325015572940

Lanou, A., Hough, L., & Powell, E. (2011). Case studies on using strengths and interests to address the needs of students with autism spectrum disorders. *Intervention in School & Clinic*, *47*(3), 175–182.

Lowenfeld, V., & Brittain, L. (1987) *Creative and Mental Growth*. New York: Macmillan Publishing.

Macdonald, I. (2012). Why throw the negatives out with the bathwater? A study of students' attitudes to digital and film photographic media. *International Journal Of Art & Design Education, 31*(2), 191-211.

Maslow, A. (1970). *Motivation and personality*. New York: Harper.

Maslow, A. (1973). *The farther reaches of human nature.* New York, NY: Penguin Books.

Michael, J. A. R. (1981). *The Lowenfeld lectures: Viktor Lowenfeld on art education*

and therapy. University Park, Pennsylvania: Pennsylvania State University Press

Miles, M. B., Huberman, A. M., & Saldana, J. (2014). *Qualitative data analysis: A Methods sourcebook* (3rd ed.). Thousand Oaks, CA: Sage Publications.

Mmari, K., Blum, R., Sonenstein, F., Marshall, B., Brahmbhatt, H., Venables, E., & Sangowawa, A. et al. (2014). Adolescents' perceptions of health from disadvantaged urban communities: Findings from the WAVE study. *Social Science & Medicine*, *104,* 124-132. doi:10.1016/j.socscimed.2013.12.012

NPR (Producer). (2013). Film cameras help young people act on nostalgia for a time they never knew [Radio broadcast]. *All Things Considered.* Retrieved from http://www.npr.org/2013/03/11/174043507/film-cameras-help-young-people-act-on-nostalgia-for-a-time-they-never-knew

Patton, M. Q. (2015). *Qualitative inquiry & research design: Choosing among five approaches* (4th ed.). Thousand Oaks, CA: Sage Publications.

Piaget, J. (1971). *The construction of reality in the child*. New York: Basic Books.

Rice, K., Girvin, H., & Primak, S. (2014). Engaging adolescent youth in foster care through photography. *Child Care in Practice* 20 (1) 37-47. *Academic Search Complete*, EBSCO*host* (accessed May 23, 2016).

Rushing, K. (2013). Teens love turntables. *Technology Tell.* Retrieved from http://www.technologytell.com/hometech/102410/teens-love-turntables/

Shelley, J. (2013). The Concept of the Aesthetic. In E. N. Zalta (Ed.), *The Stanford Encyclopedia of Philosophy* (Fall 2013). Retrieved from http://plato.stanford.edu/archives/fall2013/entries/aesthetic-concept/

Sawyer, C. B., & Willis, J. M. (2011). Introducing digital storytelling to influence the behavior of children and adolescents. *Journal of Creativity in Mental Health*, *6*(4), 274–283.

Smith, E. F., Gidlow, B., & Steel, G. (2012). Engaging adolescent participants in academic research: the use of photo-elicitation interviews to evaluate school-based outdoor education programmes. *Qualitative Research*, *12*(4), 367-387. doi:10.1177/1468794112443473

Thupayagale-Tshweneagae, G., & Benedict, S. (2011). The burden of secrecy among South African adolescents orphaned by HIV and AIDS. *Issues In Mental Health Nursing*, *32*(6), 355-358. doi:10.3109/01612840.2011.576128

U.S. Department of Education. (2015). *Thirty-sixth annual report to Congress on the implementation of the Individuals with Disabilities Act.* Washington, DC: Author.

U.S. Department of Education. (n.d.). Regulations: Part 300 / D / 300.320 § 300.320 Definition of individualized education program. *In building the legacy: IDEA 2004.* Part 300 / D / 300.320 § 300.320 Definition of individualized education program. Retrieved from http://idea.ed.gov/explore/view/ p/ percent2Croot percent2Cregs percent2C300 percent2CD percent2C300 percent252E320 percent2C

Vygotsky, L. S. (1962). *Thought and language.* Cambridge, MA: The MIT Press. (Original work published in 1934).

Vygotsky, L. S. (1971) *The Psychology of Art.* Cambridge, MA: MIT Press. (Original

work published in 1925). Transcribed by Nate Schmolze for the Lev Vygotsky Archive1896-1934. Retrieved March 6, 2012 from http://www.marxists.org/archive/vygotsky/works/1925/index.htm

Vygotsky, L. S. (1978) *Mind in Society: The development of higher psychological processes.* Cambridge, MA: MIT Press.

Vygotsky, L. S. (1994). Principles of social education for deaf and dumb children in Russia. In Rene van der Veer *&* Jaan Valsiner (Eds.), *The Vygotsky Reader* (pp. 19-26). Cambridge, MA: Blackwell Publishers. (Original work published in 1925).

Vygotsky, L. S. (1994). The problem of the cultural development of the child. In Rene van der Veer *&* Jaan Valsiner (Eds.), *The Vygotsky Reader* (pp. 57-72). Cambridge, MA: Blackwell Publishers. (Original work published in 1929).

Vygotsky, L. S. & Luria, A. (1994). Tool and symbol in child development. In Rene van der Veer *&* Jaan Valsiner (Eds.), *The Vygotsky Reader* (pp. 99-174). Cambridge, MA: Blackwell Publishers. (Original work published in 1930) Transcribed by Nate Schmolze for the Lev Vygotsky Archive 1896-1934. Retrieved from http://www.marxists.org/archive/vygotsky/works/reader/p019.pdf

Wilkerson, K. L., Gagnon, J. C., Melekoglu, M. A., & Cakiroglu, O. (2012). Reading instruction in secondary day treatment and residential schools for youth with emotional or behavioral disorders. *Remedial and Special Education*, *33*(2), 78–88. http://doi.org/10.1177/0741932510364546

Zenkov, K., Pellegrino, A, Harmon, J., Ewaida, M., Bell, A., Lynch, M., & Sell, C.

(2013). Picturing culturally relevant literacy practices: Using photography to see how literacy curricula and pedagogies matter to urban youth. *International Journal of Multicultural Education, 15*(2).

Appendix A: Data-collection Tool

PICTURE 1 

1. Why did you take this picture? This picture interested me because

_____

_____

_____

_____

2. Where did you go to get the picture? I went to _____ to get my

picture because _____

_____

_____

_____

3. What type of camera and what camera features did you use to get this photograph? I used a *digital / film* camera with _____ (Circle one) ~~flash~~, zoom, wide-angle lens, telephoto lens, standard

because _____

_____

_____

_____

4. What did you do to get the picture? I had to _____

Climb monkey bars, shake a tree branch, run, wait quietly, do something else (tell me what)

because _____

_____

_____

_____

5. How did your action make you feel? It was *worth it / NOT worth it.*

(circle one)

It made me feel _____ because _____

Calm, excited, mad, happy, frustrated, happy, sad, proud

_____

_____

_____

PICTURE 2 

1. Why did you take this picture? This picture interested me because

_____

_____

_____

_____

2. Where did you go to get the picture? I went to _____ to get my

picture because _____

_____

_____

_____

3. What type of camera and what camera features did you use to get this photograph? I used a *digital / film* camera (Circle one) with _____ ~~flash~~, zoom, wide-angle lens, telephoto lens, standard

because _____

_____

_____

_____

4. What did you do to get the picture? I had to _____

Climb monkey bars, shake a tree branch, run, wait quietly, do something else (tell me what)

because _____

_____

_____

_____

5. How did your action make you feel? It was *worth it / NOT worth it.* (circle one)

It made me feel _____ because _____
calm, excited, mad, happy,
frustrated, happy, sad, proud

_____

_____

_____

PICTURE 3 

1. Why did you take this picture? This picture interested me because

_____

_____

_____

_____

2. Where did you go to get the picture? I went to _____ to get my

picture because _____

_____

_____

_____

3. What type of camera and what camera features did you use to get this photograph? I used a *digital / film* camera with _____
(Circle one)
~~flash~~, zoom, wide-angle lens, telephoto lens, standard

because _____

_____

_____

_____

4. What did you do to get the picture? I had to _____
Climb monkey bars, shake a tree branch, run, wait quietly, do something else (tell me what)

because _____

_____

_____

_____

5. How did your action make you feel? It was *worth it / NOT worth it.* (circle one)

It made me feel _____ because _____
calm, excited, mad, happy,
frustrated, happy, sad, proud

_____

_____

_____

PICTURE 4 

1. Why did you take this picture? This picture interested me because

_____

_____

_____

_____

2. Where did you go to get the picture? I went to _____ to get my picture because _____

_____

_____

_____

3. What type of camera and what camera features did you use to get this photograph? I used a *digital / film* camera (Circle one) with _____ ~~flash~~, zoom, wide-angle lens, telephoto lens, standard

because _____

_____

_____

_____

4. What did you do to get the picture? I had to _____ Climb monkey bars, shake a tree branch, run, wait quietly, do something else (tell me what)

because _____

_____

_____

_____

5. How did your action make you feel? It was *worth it / NOT worth it.*
(circle one)

It made me feel _____ because _____
calm, excited, mad, happy,
frustrated, happy, sad, proud

_____

_____

_____

PICTURE 5 

1. Why did you take this picture? This picture interested me because

_____

_____

_____

_____

2. Where did you go to get the picture? I went to _____ to get my picture because _____

_____

_____

_____

3. What type of camera and what camera features did you use to get this photograph? I used a *digital / film* camera (Circle one) with _____ ~~flash~~, zoom, wide-angle lens, telephoto lens, standard because _____

_____

_____

_____

_____

4. What did you do to get the picture? I had to _____ Climb monkey bars, shake a tree branch, run, wait quietly, do something else (tell me what) because _____

_____

_____

_____

5. How did your action make you feel? It was *worth it / NOT worth it.* (circle one)

It made me feel _____ because _____
calm, excited, mad, happy,
frustrated, happy, sad, proud

_____

_____

_____