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Final Project Letter of Intent:

The Relationship Between Art Therapy And Neuropsychology:

The Creative Process And The Brain

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Submitted to: Dr. Paul Jerry

This letter of intent proposes a research project that attempts to link or correlate the process of art therapy and its effects on the brain, relating this back to change in therapy. In addition, this study proposes to be an introduction to the possible impact that the creative process may have on the brain. Rationale and implications of the study provide a basis for its need. Current literature calls for more research about the benefits of the creative process to traumatized clients in therapy.

### Overview

#### *Problem Statement*

In spite of the intuitive sense that creative processes must have an impact on the brain, little research exists documenting brain-based changes as a result of the art therapeutic process. This study proposes an initial exploration regarding the impact of the creative process on the brain.

#### *Rationale*

Historically, art therapy has been used as a therapeutic modality that enables the therapist to enter and share the client's world (Case & Dalley, 1992). It has been used in neurological assessment, and as a therapeutic modality for emotional and brain-based traumas. This research project studies the synthesis of the creative process, psychotherapy, and the effects of these two processes on the brain.

Current neuropsychological research also has begun to study these effects. Bremner (1999) studied the effects of trauma on memory and the hippocampus; the part of the brain linked to memory, and found that there were "lasting effects on brain areas involved in memory and emotion" (p. 3). Teicher, Andersen, Polcari, Anderson, Navalta, and Kim (2003) also studied the effects of trauma or stress on the brain. Their results

concluded that trauma, or what they called 'stress', "interfered with the normal progression of brain development, yielding a somewhat altered and impaired brain" (p. 39). Studies such as these, along with Rossi's (2002) hypotheses regarding body-mind connections and their influence in a therapeutic context, suggest the continued need to explore this area.

Image making has long been a part of neuro psychology, mainly for assessment purposes (Lezak, 1995). However, recent research has attempted to find and understand the relationship between the creative process and the brain. Rossi (2002) challenges researchers "to identify measurable psychobiological correlates of gene expression and neurogenesis during such creative encounters of self-reflection and co-creation" (p. 455). Art therapy, as a process, can be seen as the 'creative encounter' and the 'reflective' practice, while change could be measured through dialogue with the client, analysis of the imagery, and utilizing established neurological measures.

The premise that therapy has a positive effect on brain function and on behavior (Kandel, as cited in Rossi, 2002) and that the use of art making activities may be beneficial to the diagnosis of problems in the brain (Garner, 1996), has been expanded through Rossi's (2002) hypotheses. Therefore, it follows that utilizing these creative activities within therapy will affect the brain. Because of this, it is important to explore further the change process in art therapy. Once it can be determined that change occurs, we may be able to look further and find out how the change transpires in the brain.

*Method*

Research of the creative arts has been supported by the work of McNiff (1993), Riley (1999) and others. McNiff encourages an artistic form of enquiry, that is “more sensitive to the transformative effects of its interpretations” (p. 166). He notes that the art therapy field must be “more systematic in its procedures and more attuned to the give and take between object and observer”. David (1999) described the full experience of an art therapy study as looking at “aspects of thinking, memory, perception and executive function” (p. 92). These domains, (memory, perception, etc) are common categorizations of neuropsychological functioning and are often used as foci for organizing assessments (Johnstone & Stonnington, 2001).

The method chosen for this study is a single case design. The single case design has been chosen because it has been used by past art therapy researchers as a way of developing an introductory understanding of a concept (Diamond as cited in Wadeson, 1992). The concept in question is from Rossi’s (2002) work, which hypothesizes that the use of creativity creates new pathways or neural connections in the brain, thus affecting and possibly overriding how the brain is impacted by trauma. Case study research has historically been seen as an exploratory manner of describing change throughout the therapeutic process (Aldridge, 1994). As Rossi’s ideas are new, an exploratory method fits for the parameters of this study. This particular single case study will take place over the 2004-2005 school year and will examine all of these aspects of brain function through the use of specific pre and posttests and the creative process of art therapy.

### *Participants*

Given that this is a single-case design, only one subject will be studied. Because of the nature of this art therapist's work within a school system, the subject of this study will be an emotionally traumatized adolescent client. This client/participant will be treated in accordance with the Athabasca University Research Ethics Board guidelines (Athabasca, 2003). Therefore, the parents/guardians of the client will be given an explanation of the study (Appendix A), and sign a Letter of Consent form (Appendix B). As well, the Student Services Coordinator of the school division will sign a Consent form for the study (Appendix C).

The traumatic experience may include experiences such as loss of family members/friends, abuse, neglect, and traumatic events including accidents, fire, and violence. The focus, for the purpose of this study, will be on the specific trauma that the client brings to the therapeutic experience. Other art therapists have recently researched the use of art therapy with traumatized clients (Malchiodi, 1998, and Morgan and White, 2003). Malchiodi (1998) suggests, "for some, drawing is simply a way to gain symbolic control over overwhelming circumstances and to establish an inner sense of security and safety in the wake of a catastrophic event" (1998, p. 153).

### *Data Collection and Analysis*

Measurement of the change process will become an integral part of this study. In fact, this study will focus on change and illustrate the change through the use of pre and post tests using neurological assessment tools, art therapy tools, and the process of art therapy itself. A psychologist will administer the pre and posttests and the art therapist researcher will work with the client in sessions. Assessments tools will include those that best

measure specific areas of the brain affected by trauma. Tools currently being considered (these may change given the traumatic experiences of the client, age of the client, cognitive level of the client) include the Rey Complex Figure test, which taps the visual-motor and memory domains; the Systems Checklist-90, which is a general psychological measure of change; the Repeatable Battery for the Assessment of Neuropsychological Status, which will measure “aspects of thinking, memory, perception and executive function” (David, 1999, p. 92), and the Kramer Art Therapy Evaluation (KATE) Scale (Kramer & Schehr, 1983), that measures change in art therapy.

Initial information that will be collected in the pre-test includes IQ, and academic achievement information, and social functioning. The pre-test will include the SCL-90, the RBANS, and the SDT (Silver Drawing Test of Cognition and Emotion).

During the art therapy process, the beginning, middle and end of the sessions will be noted and documented. The post-test will include the SCL-90, the RBANS, the SDT, form B, and the KATE.

David pointed out that “[t]he usefulness of single-case and small sample research has been demonstrated for developing new psychotherapeutic treatments based on preliminary data” (1999, p. 94). This research approach is beneficial because it provides “initial outcome data to support the efficacy of a newly developed model of intervention” (Jones, 1993, p. 372).

### *Design*

The client will be referred to the art therapist within the school setting, the parents/guardian will then be informed about the study and will complete the Informed Consent form (Appendix B). The art therapist will introduce the client to the psychologist

for the pre-tests and after completion of the tests, the art therapy will commence (for approximately six months, once a week). During the therapeutic process, the art therapist will keep a record of the art and maintain detailed process notes. At the end of therapy, the client will complete the post-tests with the psychologist.

### *Implications*

This single case study will provide data about the change that occurs in the art therapy process. With the data that is generated by this study, art therapists, neurologists, and psychotherapists may be able to expand this work and understand more deeply what the creative process does for clients who have experienced emotional trauma and continue the research of Rossi (2002), David (1999) and others with the goal of learning more about this relationship between the creative process and the brain.

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Appendix A

Dear Parent/Guardian:

May 25, 2004

I am currently a graduate student in the Master's in Counseling: Art Therapy Specialization of Athabasca University and the Universities of Lethbridge and Calgary. In order to fulfill the Final Project requirements of this program, I am beginning an art therapy study. I would like to invite your son/daughter to work with me on a voluntary basis in the following study:

*Neuropsychological measurement of the art therapeutic process: A single case exploration.*

As a voluntary participant, you may leave therapy at any time, although this is best accomplished in consultation with the therapist.

The purpose of this art therapy study is to provide art therapy service to a student who has been traumatized. The traumatic experience may include loss of family members/friends, abuse, neglect, and traumatic events including accidents, fire, and violence. This study will focus on the change process and will illustrate the change through the use of neurological assessment tools, art therapy tools, and the process of art therapy itself.

*Method:*

This study will use a single-case design, meaning that one client will participate in the study. It will begin with a pre-test, given by the local psychologist, Candace Bergenson, (tests include IQ, academic achievement (the WISC-IV), social functioning and nature of

trauma, the SCL-90, the RBANS A, and the SDT). A description of these tests will be available to you as parents/guardians.

The second part of the study is the actual therapy, which will take place weekly over a six-month period at your child's school. The art therapist will take comprehensive notes regarding the process and keep a record of the imagery.

The last part of the study is the post-test, where the psychologist will administer the SCL-90, the RBANS B, the SDT form B, and the KATE.

You are encouraged to meet with the art therapist to discuss the study results and the therapeutic recommendations.

If you have questions regarding this study and/or concerns about the participation of your child, please contact me at 204 842 2129 and/or my supervisor, Dr. Paul Jerry at 403 528 1451.

Sincerely,

Lori Boyko, Registered Canadian Art Therapist

Art therapist/Student Support Consultant, Park West School Division.

Graduate Student, Campus Alberta Applied Psychology

Appendix B

Letter of Informed Consent

***CONSENT FORM FOR PARTICIPATION IN AN ART THERAPY RESEARCH PROJECT***

**Invitation to participate:** You are invited to participate in this research project because you are a student in ParkWest School Division and have been referred for art therapy.

**Purpose of the study:** The purpose of this study is to link the process of Art Therapy and it's effect on the brain. It is an initial exploration regarding the impact of the creative process on the brain. This study is being undertaken to fulfill the Final Project requirements of the Master's in Counseling: Art Therapy Specialization of Athabasca University and the Universities of Lethbridge and Calgary.

**Explanation of procedures:** You will participate in weekly, one hour, Art Therapy sessions from May 25-Sept. 30/2004. There will be pre and post tests as well as outlined in the Invitation Letter.

**Potential benefits, risks, and discomforts:** The therapeutic process may involve discussing relationship, psychological, and/or emotional issues that may at times be distressing. This art therapeutic experience is intended to help you personally and with your distressing issues. There are alternative treatment facilities/alternative therapists available to you if you choose.

**Confidentiality of the data:** Your name will not be associated in any way with your data. Your consent form will be stored separately from the data and the data collected from the pre and posttests will be stored in a locked file cabinet. As well, the imagery created during the therapy process will be stored in a locked cabinet. The imagery is the property of the client and will be returned to the client at termination of therapy.

**Withdrawal from the study:** Participation is voluntary. You may leave therapy at any time, although this is best accomplished in consultation with the therapist. If you choose to leave the art therapy project, provision will be made for you to access therapeutic service other than through the research project.

**Offer to answer questions:** If you have any questions throughout the study or after completion of the study, please do not hesitate to contact the Art Therapist/Researcher.

If you have any additional questions concerning the rights of research subjects, you may contact the Research Supervisor Dr. Paul Jerry, 403 528 1451.

**Parental Consent for minors:** I \_\_\_\_\_ give permission for \_\_\_\_\_ to participate in the art therapy research project explained above.

It will be facilitated by art therapist/researcher \_\_\_\_\_ .

I agree that the art therapist may access any/all school/resource/psychological files  
\_\_\_\_\_ yes; \_\_\_\_\_no.

If my child requires therapeutic service at completion of the research project, this will be provided.

**Participant Consent:**

I \_\_\_\_\_ consent to participate in the research project explained above. I have read and understand the attached information letter and I understand that my participation is completely voluntary and that I may withdraw at any time. As a participant of this study, I will have a chance to ask any questions concerning this study. These questions will be answered to my satisfaction prior to beginning and throughout my involvement in this study.

\_\_\_\_\_  
Participant Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

*Participant signature:* \_\_\_\_\_

**Date:** \_\_\_\_\_

**Parent/Guardian signature:** \_\_\_\_\_

**Art Therapist/Researcher:** Lori Boyko: (204) 842 2129 \_\_\_\_\_

**Supervisor:** Dr. Paul Jerry: (403) 528-1451 \_\_\_\_\_