

Reducing Negative Self-View with Bilateral Handwriting

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ABSTRACT

This study utilized bilateral writing techniques in a sample of 11 participants in order to examine its effectiveness in decreasing participants' negative beliefs about themselves. It was hypothesized that, through the use of both dominant and non-dominant handwriting, negative self-view would be reduced through access and release of unconscious emotion and resultant increased awareness and insight. The main study protocol consisted of one-time, 90-minute individual art therapy sessions, during which each participant was prompted to write spontaneous content, switching between their dominant and non-dominant hands. Writing prompts given during the progress of each interview included open-ended questions about thoughts, feelings, and beliefs about self, as well as emotional reactions and insights in response to the bilateral writing exercise. The researcher's personal experience with the bilateral handwriting activity was also included as a heuristic component to this study. Findings indicate that bilateral writing exercises may create possibilities for reducing negative self-view.

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CHAPTER I

Introduction

It is the polarity and the integration of these two modes of consciousness, the complementary workings of the intellect and the intuitive, which underlie our highest achievement (Ornstein, 1972, p. 51).

This study focuses on the use of bilateral handwriting to integrate cognitive and intuitive, or verbal and non-verbal, brain functions, which are viewed as expressions of the left and right brain hemispheres. The researcher builds on a number of different approaches and techniques that have been used to help people externalize dialogue between both brain hemispheres. Previous researchers have explored left-handed writing as a conduit of expression for dissociated parts of the self (Tinnin & Gantt, 2013). Left-handed writing and reverse writing have also been used to evoke conversations with the “inner child” and to access the visual, nonverbal right-brain hemisphere (Capacchione, 2001).

Art therapists often administer bilateral art activities that combine visual and kinesthetic experiences, and help clients resolve inner and outer conflicts (Hinz, 2009). Bilateral art activities include certain types of drawing and painting, playing with clay or Play-doh (Hinz, 2009; Howie, 2016; Moon, 1990), and mask-making, which has been found to assist individuals in discussing flawed and damaged beliefs about themselves (Campbell, Decker, Kruk, & Deaver, 2016; Tinnin & Gantt, 2013).

Art therapy has long been regarded as a method and process that consolidates both the left and right hemispheres of our brains through use of various expressive arts activities (Shapiro, 2001). Bilateral exercises combined with creative expression can open up a broader range of communication by exposing repressed, hidden, or forgotten trauma (Capacchione, 2001).

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Accessing both brain hemispheres connects thinking and feeling processes to increase resources needed for safer healing and self-regulation (Malchiodi, 2015). The process of bilateral stimulation has often been associated with the use of eye movements in response to a therapist fingers' movement or through use of other devices to simulate the same movement (Shapiro, 2001). Bilateral stimulation can stimulate left-right parts of the body through visuomotor, auditory, and tactile processes (Shapiro, 1994, 2001).

Problem Statement

This research study explored the effectiveness of non-dominant handwriting in the context of bilateral art therapy modalities, which are used specifically to decrease negative self-talk and beliefs (Hinz, 2009). Negativity towards one's self, such as in the form of shameful thoughts, has been associated with feelings of weakness, vulnerability, and fear of abandonment (Lansky, 2003). Since negativity itself is often considered shameful, negative thoughts are often repressed, hidden, or left unspoken by individuals who continue to suffer. Hidden negative self-worth comorbid with PTSD may commonly go untreated and/or be mistreated (Taylor, 2015). Feelings of negative self-worth increase vulnerability in all life domains, increasing risk of suicide, criminal charges, abuse, addictions, trauma, feelings of grief and loss, and other physical or psychological impairments (Simon, 2011). Traditional talk therapy and cognitive-behavioral therapy (CBT) are the typically recommended treatments for changing negative self-view, but don't always bring to light or address core issues related to shame (Malchiodi, 2012).

Narrative processing, used in conjunction with art directives, has been shown to help individuals who have suffered trauma to access preverbal experiences, decrease adrenaline levels in the body, and achieve a sense of relief and resolution (Tinnin & Gantt, 2013). There is, however, limited research on the effects of bilateral narrative expression. Research that has

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solely focused on the implementation of non-dominant versus dominant hand-written approaches in conjunction with creative therapies have found limited results (Aletraris, Paino, Edmond, Roman, & Bride, 2014). Further study is needed to explore externalized dialogue as a conversation between both brain hemispheres, and to explore the potential therapeutic uses of bilateral handwriting.

Research Questions

This study was guided by the following questions: (a) Can an art therapist assist a patient in uncovering, exposing, and releasing negativity in a safe, healthy, and productive way with use of dominant and non-dominant writing techniques? (b) Do participants say things differently about themselves when writing with the non-dominant hand versus the dominant hand? and (c) Can the process of continued dialogue between both hands and both hemispheres of the brain activate a compassionate part of one's self that results in acknowledging and normalizing the helplessness associated with negativity?

Basic Assumptions

This study assumed that bilateral handwriting would activate both the right and left hemispheres of the brain, and that unconscious material could be brought to consciousness through the non-dominant hand and integrated into conscious awareness through the dominant hand, fostering a "conversation" between dominant and non-dominant brain hemispheres (Tinnin & Gantt, 2013). During data collection, when participants alternated hands, the dominant hand was theorized to write for the voice of the "present day" participant, while the non-dominant hand wrote for the dissociated self or the part of the self that had been unheard (Tinnin & Gantt, 2013, p. 152). It was assumed that changes in affect and cognition resulting from the activity could be measured through behavioral observation and client self-report.

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Statement of Purpose

This study explored whether the use of bilateral handwriting to activate both right and left hemispheres of the brain could reduce negative self-view. The study attempted to identify change in affect through observational report and identification of words, phrases, and repeated themes communicating positivity or negativity in the content of participant writing samples. The researcher was also interested in gathering participant self-report of gains in cognitive insight or decrease in negative affect after bilateral handwriting.

The humanitarian purpose of the study was ultimately to help individuals in therapy to externalize dialogue from secretive and unspoken parts of their inner self and nonverbal parts of their brain, so he or she may start to feel more heard, understood, and validated. Once these feelings start to emerge, an individual may be better apt to deal with a wide array of life experiences in a proactive and healthy manner while accompanied by the presence of a safe observer (Tinnin & Gantt, 2013).

Hypothesis

The research hypothesis was that adult participants who used both brain hemispheres through use of non-dominant and dominant bilateral handwriting would be able to access and release unconsciously held negative beliefs and emotions, and thereby decrease negative sense of self.

Definition of Terms

Ambidextrous. This term has been defined as “using both hands with equal ease or dexterity” and is typically used to refer to individuals who can perform tasks equally with both their left-hand and right-hand (Ambidextrous, n. d.).

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Bilateral art. This refers to neurologically-based healing activity that employs the use of both dominant and non-dominant hands in the creation drawings of writings in response to contradicting beliefs, awareness, or emotions (McNamee, 2005).

Corpus callosum. This refers to a part of the brain that connects the right and left hemispheres of the brain and that helps carry and exchange information between the two brain hemispheres (Tinnin & Gantt, 2013). At birth, the nerve fibers of the corpus callosum have not fully matured, therefore, information between the brain hemispheres are not yet fully communicating (2013). The two brain hemispheres of an infant will not communicate with each other until after the age of three, when the corpus callosum starts to transmit information between the right and left-brain hemispheres (Salamy, 1978).

Cognitive-behavioral therapy (CBT). CBT refers to a type of therapy that focuses on logical (left brain hemisphere) cognition, such as problem-solving, and challenges patients to change their conscious cognitions in order to affect negative or destructive patterns of behavior (Cognitive Behavioral Therapy, n. d.).

Dissociative selves. This may result when people are victims of trauma or multiple traumas. Dissociation refers to separation (from the rest of the self) of parts of a personality or separation of various mental health processes with their attending thoughts or behaviors (Webster Dictionary, 1958). As it relates to brain functioning, dissociation may involve a possible boundary diffusion between the brain hemispheres, resulting in multiple personalities, hallucinations, or fragmented parts of the self (Tinnin & Gantt, 2013).

Dual-brain theory. This theory suggests that humans are “double-minded” and that the right and left hemispheres of the brain engage in different forms of thought (Tinnin & Gantt, 2013, p. 9). In this theoretical model, the right hemisphere is considered the “nonverbal” side,

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which does not engage in logical reasoning, so experiences trauma through feelings of fear, “the thwarted impulse to escape, the near-death experience of the freeze, the altered state of consciousness, the automatic obedience, and finally self-repair” (2013, p. 9). The dominant hemisphere, which is usually the left, is the verbal side that operates by “logic of language and imposes a sense of self as unitary agent with willed action in linear time” in past, present, and future (p. 9).

Posttraumatic Stress Disorder (PTSD). According to the *Diagnostic and Statistical Manual of the American Psychiatric Association—5th Edition* (DSM-5; American Psychiatric Association [APA], 2013), PTSD is characterized by a persistent, negative emotional state of fear, horror, anger, guilt, or shame. PTSD is a mental health condition that is triggered by persistent behaviors or events in relation to the consequence of exposure to a terrifying experience or event (Schiffer, 1999). Symptoms may include nightmares, severe anxiety or depression, and impulsive thoughts about the experiences or events.

Multi-dimensional. This means that treatment may be focused not only on the health of the physical body, but also on the mind, heart, and spirit (Rosen, 2014).

Negativity. This is a noun form of the word negative, referring to a mental state characterized by adverse or unfavorable thoughts. A negative sense of self could be “marked by features of hostility, withdrawal, or pessimism, that hinder or oppose constructive treatment or development (Negative, n. d.)”

Shame. Shame has been defined as a negative and secondary emotion that is often an invisible and pervasive part of our lives associated with core feelings such as weakness, inadequacy, rejection, and worthlessness (Scheff, 2014). It has been speculated that, whereas

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shame focuses on self, guilt focuses on behavior (Guasel & Brown, 2012). The difference can be illustrated by the statements “I am...” versus “I did...”

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CHAPTER II

Literature Review

The following literature review encompasses research on the subject of negative self-talk and thoughts associated with uncomfortable feelings, as well as the importance of conveying and deconstructing those feelings. Explanations of the successful use of art therapy interventions to release negativity are also included. The importance of externalizing dialogue to access both the left and right-brain hemispheres is also discussed, as well as literature that focuses on bilateral processing of negative thoughts and emotions. In order to support the effectiveness of using expressive approaches to reduce and release negativity, previous research utilizing art therapy interventions with traumatized clients was also reviewed. Finally, the review concludes with a summary that makes clear the relevance of the discussed literature for the purposes of the bilateral protocol used in the present study.

Dual-Brain Hemisphere Treatment Modalities

Evidence has shown that the left and right brain are not identical in their capabilities to function and communicate on a conscious level (Springer & Deutsch, 1998). Furthermore, few people are truly ambidextrous, as most tend to write, draw, and creatively express themselves with one dominant hand (Capacchione, 2001). All individuals have two brain hemispheres. The left and right brain are separated into two distinct cerebral hemispheres, which are connected by the corpus callosum. Even though the two sides mirror each other, the brain hemispheres have very different functions. While both brain hemispheres store memories, the left hemisphere mainly processes verbal information, while the right hemisphere stores nonverbal images. Therefore, it has been surmised that people are often “double-minded” in their memories (Tinnin & Gantt, 2013, p. 16). When traumatic memories are evoked, repressed feelings associated with

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nonverbal memories of such experiences can infringe incompletely into one's consciousness and therefore be mistakenly ascribed to present events (2013).

Research has found that the right side of our body is wired to the left side of our brain, and vice versa (Henderson, 2002). In right hemisphere stimuli studies, the right side of the brain has been found to be associated with nonverbal expressions, whereas in left hemisphere stimuli studies, the left brain has been associated with verbal and language expressions (Springer & Deutsch, 1998). Since the human species depends upon interactions with others for a sense of protection and togetherness, an individual's ability to communicate effectively, whether it be verbal and/or non-verbal, are important (Lucas, 2017). Once an individual initiates a means of communicating, this individual typically desires to be understood. Nonverbal communication may be a bit more challenging to understand, even though expressions may arise through touch, facial expressions, tone, and different aspects of hand and eye coordination. Gazzaniga's (1998) research on split-brain interventions affirmed the use of the left brain for language and speech and the right brain for visual and motor tasks (1998). Accordingly, he wrote that, "writers refer to themselves as left-brained, visual artists as right-brained" (p. 51).

One way in which a therapist may elicit communication from clients in therapy sessions is while using his or her left eye to directly make contact to the left eye of a client while speaking to that individual. The "left eye to left eye" technique is a tool used in talk therapy to engage individuals into "sensitive verbal dialogue" (Chapman, 2014, p. 104). Art therapy and play therapy can provide body-to-body guidance where a therapist can respond and safely answer back to a client with "body conversations" (Chapman, 2014).

Francine Shapiro (2004) originated the Eye-Movement Desensitization and Reprocessing (EMDR) treatment technique (Forrest, 2004). Shapiro recognized that regulating eye movement

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was effective in decreasing negative emotions associated with her own distressing memories. Moreover, she also found that eye movements had a desensitizing effect (Shapiro, 1989, 2004). EMDR therapy is a noninvasive technique that stimulates the ability of the central nervous system to process uncomfortable information, and thus, may potentially stop the onset of trauma-related illnesses (Rimini et al., 2016). Schiffer (1999) noted that “Kinsbourne and his associates performed a remarkable study that showed that when asked to perform a verbal memory task (considered a left-brain task), their subjects turned in superior performances when gazing to the right side (p. 53).” The conclusion of the study was that “looking at the right stimulated the left brain, and looking to the left stimulated the right brain,” thus indicating that a person could activate both brain hemispheres by looking to one direction versus another (Schiffer, 1999, p. 53).

Capacchione (2001) published research on the biological and cultural explanations of “handedness in humans” (p. 31). She described how people, as children, are often coerced and encouraged to use one preferred hand, usually the right. However, she asserted that, with practice, most individuals can become ambidextrous with such activities as brushing the teeth with the opposite hand, or playing two-handed instruments like the guitar, keyboard, or drums (Capacchione, 2001).

The Impact of Negativity

Common attributes associated with prejudiced attitudes towards others include negative feelings, stereotypical beliefs, and tendencies to discriminate against other people (Plous, 2003). Negative beliefs projected onto the self by others could inadvertently interfere with an individual’s ability to look upon their own self without the same prejudgments. When a person

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has been wounded by another, he or she may feel entitled to and desire some sort of closure or apology (Tinnin & Gantt, 2013).

Negativity can arise when secrets, negative thoughts, or emotions are left untreated or unspoken, thereby causing individuals to feel alone, powerless, and ambushed. Negative emotions may be particularly intense and painful due to the involvement of self-criticism and vulnerability that may exacerbate one's mental health over time (Wilson, 2012). Lansky (2000) indicated that feelings of negativity often remain hidden from awareness following trauma. When an individual experiences disorganized and fragmented thoughts and emotions, they may no longer believe in themselves or have a strong sense of personal identity, which may lead to "self-sabotaging" behaviors (Taylor, 2015). Such behaviors are often unconscious and misguided attempts to protect one's self from being hurt or experiencing unpleasant emotions ("Self-Sabotage," 2015). Self-sabotaging behaviors may appear in various forms, such as self-harming and self-medicating with the use of drugs or alcohol, disordered eating, or not following through with important life goals.

Tinnin and Gantt (2013) associated negative self-talk and beliefs with what they described as "infinite helplessness," indicating that one may experience this when feeling defeated or conquered. When humans feel threatened and cannot think of a way out of a threatening or highly stressed situation, the left and verbal brain hemisphere may yield to the instinctive animal mind of flight or fight action. If this fails and there seems to be no means to escape, humans may default into a freeze mode (2013). They further contended that, not only may one feel helpless and be void of action in such a situation, but one may also feel entitled to an apology and restitution. However, Tinnin and Gantt surmised that, in most cases, reparation from unhealed wounds may not be realistically attainable. Thus, they claimed that without

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apologies or a sense of settlement, the individual's sense of demand that unhealed wounds be made right would go unresolved, which in turn, could result in obstacles to their recovery process.

Negativity can contribute to chronic social problems and mental illnesses such as depression, anxiety, and addictions (Brennan, Robertson, & Curtis, 2017). Brennan et al. noted that, while resilience is a common response to negative emotions, people vary in their ability to discuss or dismiss emotions associated with negativity. Empirical research has explored which treatment modalities may work best to help one to identify, process, and expose feelings of negativity in a more flexible and adaptable manner (Rabinor, 2001; Springer & Deutsch, 1998; Tinnin & Gantt, 2013; Wilson, 2012).

Both addiction and trauma can hinder one's ability to know what is real and what isn't real (Carnes, 1992; Malchiodi, 2012). Acknowledgement and personal understanding can enable empowerment. Providing individuals with opportunities to describe their experiences in a way that assist with reality orientation may help them to personalize their experiences and, consequently, be more accountable for their actions (Malchiodi, 2012).

Negative self-worth and feelings of shame have been viewed as some of the dominant ingredients involved in the addictive process; essentially, they are at the core of all addictions (Cook 1991; Malchiodi, 2012; O'Connor, Berry, Inaba, Weiss, & Morrison, 1994; Reid, Harper, & Anderson, 2009). Persons who are most prone to negativity may be especially vulnerable to posttraumatic stress disorder and especially addiction (Wong & Cook, 1992). It is important and vital that clients be able to find a way to safely identify and communicate their overwhelming feelings of low self-worth and shame. Low self-worth can be very harmful when it goes undisclosed and is not addressed (Brown, 2012).

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Art Therapy Approaches That Address Negativity

Expressive approaches, such as art therapy, have offered safe methods of reducing negativity, since creative approaches may be better able to bypass common defense mechanisms that individuals use to avoid feeling intense emotions (Francis, Kaiser, & Deaver, 2003; Malchiodi, 2012; Moore, 1983; Wilson, 2000, 2002). Art therapists enable traumatized individuals who experience feelings of powerless and negativity to “speak the unspeakable” while making art (Hinz, 2009; Wilson, 2012). Art therapist, Lucia Capacchione, proposed that writing with the non-dominant hand could serve as a direct channel for releasing one’s inner wisdom pertaining to the true self (2000). She also believed that this method could liberate creativity, hidden secrets, and abilities, while also promoting relief in recovery from addictions and trauma. Sharing of art directives and journaling has been shown to enable clients in various clinics and treatment facilities to develop better social skills and to gain personal insights (Howie, 2016). The use of imagery and art directives while drawing, painting, or sculpting with both hands has also been shown to help individuals keep themselves in the “here-and-now” (2016).

Summary of Literature Review

Based on the reviewed literature, the use of art therapy and other creative methods that encompass both right and left-brain hemispheres may play an important role in helping clients recognize and identify their own negative responses. The use of narrative and retold approaches in art therapy interventions have been used to facilitate restructuring of the narrative of the traumatic event, as well as to dispel negative beliefs and emotions that still being experienced long after the trauma has occurred (Rankin & Taucher, 2003). While research has explored the effectiveness of art therapy and other creative methods to help clients reduce negativity and

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increase self-resiliency, there is limited research that explores the effectiveness of bilateral handwriting, particularly for diminishing negativity. Venting emotions alone, whether through writing or talking, may not be enough to relieve stress or to improve one's multi-dimensional self and overall health. Writing between counseling sessions, e-mailing, and texting and whether these may reduce anxiety, depression, and life stressors have all been explored; however, research on bilateral expressive writing techniques alone has been limited (Rabinor, 2001). Researchers have not fully explored the power of bilateral writing techniques. Consequently, this qualitative study aimed to expand the literature on this under-examined topic by examining the impact of dominant and non-dominant handwriting enhanced positivity through writing with a non-dominant hand.

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CHAPTER III

Methodology

Participants were asked to practice a series of bilateral written responses during a 90-minute session, switching back and forth between writing with the dominant and non-dominant hands. The researcher employed a series of open-ended questions to solicit participants' cognitive and affective responses during and after the activity, as well as sat with, observed, and conversed freely with participants as they completed the activity. The researcher took notes during the sessions to record verbal self-report observations by participants. The researcher completed the same activity as the participants, during the self-study portion of the project.

Participants

The study took place at a nonprofit organization that offered drug and alcohol treatment and mental health services, including outpatient, intensive outpatient, and residential level of care services. Participants were recruited from the facility, as well as from the general populations. Some of the participants may or may not have had a variety of mental and/or physical health disabilities, but those who did reported that they were concurrently being monitored by their chosen primary health care providers and/or physicians.

Though the researcher completed 16 initial intake interviews of individuals who were potentially interested in the study, five of these did not sign consent forms and did not complete the study. The total study sample consisted of 11 individuals and the researcher, who completed a heuristic, self-study version of the activity. Two participants were ambidextrous, which will be discussed in the Limitations section of this study. All participants were known to the researcher during the study, however pseudonyms have been used when referring to participants in this study to protect their confidentiality.

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The self-study took place at the researcher's home and involved the researcher practicing bilateral writing responses. One of her bilateral written responses was in reaction to a collage she had created regarding her thoughts and beliefs about herself as a mother without ever having raised her own biological son. Furthermore, the researcher read aloud and shared her collage and bilateral written responses with a professional counselor during one of the researcher's weekly individual counseling sessions. As heuristic inquiry can also be described as exploratory research, the researcher's personal involvement in this study was incorporated as a way to derive further understanding of the bilateral process (Hiles, 2001).

Research Design

A qualitative, single-subject research design was used to look at the effects of bilateral handwriting exercises on changes in cognition and affect, through examination of participants' responses during a 90-minute session (Kapitan, 2010). The study took place over a period of 12 weeks. The 11 volunteer adult study participants were recruited via word-of-mouth and/or from fliers that were posted at the facility. The flyer explained the basic purpose and goals of the study, as well as contained contact information for the co-researcher (See Appendix A).

Research Instruments

Semi-structured interview. Participation in the study consisted of one 90-minute session that concluded with a semi-structured interview. The interview consisted of a series of open-ended questions and lasted approximately 15 minutes. These included questions such as, "What was this experience like for you? What did you learn about yourself? What feelings did you notice emerge? Could you see yourself continuing this practice on your own?" The researcher manually transcribed participants responses to the interview questions. Differences in body

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language and communication that occurred before, during, and after the bilateral written technique were also observed and noted.

Participants' verbal and written responses. Participants' verbal and written responses were recorded by this researcher through manual hand-written transcriptions and digital photographs of participants written responses. The participants were provided with paper and pens for the bilateral writing exercises, as well as were each asked whether he or she left-handed or right-handed, the response to which was recorded by the researcher.

Researcher's artwork. The heuristic process involved the use of paper, pen, glue, magazines, scissors, and self-dialogue written by the researcher. The researcher wrote at home alone and spoke directly about her own experience through a bilateral written response to a collage. The researcher also shared her subjective experience in the presence of a counselor in a confidential and safe environment.

Data Collection

For this study, the researcher gained informed consent and completed the research protocol with the participants who had chosen to participate in the study in a quiet and confidential office space at the treatment setting. During the initial meeting, the researcher reviewed the consent forms with each participant to gain participant agreement. Participants were also provided with informed and media consent forms approved by the SWMC institutional research review board that explained the purpose and protocols of the study. These included a discussion of safety and confidentiality policies and procedures. Once the individual had signed both of the consent forms, they became a participant in this research study and the first part of the study began. Participants were informed that their decision to choose or not choose to participate in the study would not impact the treatment they received at the facility. Two of the

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eleven participants reported that they were ambidextrous and one of the eleven reported that he was left-handed.

This researcher informed each participant that he or she would be provided emotional support and reassurance, as needed. In addition, participants were also taught various grounding techniques and coping strategies that he or she could use to aid in affect management and coping, if any intense emotions were to arise during the bilateral writing process. Grounding techniques and safe coping strategies recommended to participants included guided breathing exercises, kinesthetic sand, scribbling on paper, or squeezing a ball in one or both hands.

The participant was then asked open-ended questions as to what thoughts, feelings, beliefs, or emotional reactions had been most unpleasant and frustrating to him or her within the last week. The participants were prompted to write them down using their dominant hand. After the participant did this, then the participant was asked to respond to what they had originally written with their non-dominant hand. After the participant wrote down words, phrases, or sentences that presently evoked intense emotions and beliefs related to their own personal negativity, the participant was asked to respond to what they had originally written with their non-dominant hand. Participants were given as much time as needed to respond freely.

Examples of open-ended questions were as follows: “What did you notice while you were in the process of writing with both hands? Did you notice anything with parts of your body, or the way you were feeling while doing this? Does anything stick out to you while looking at what you wrote?” The participant was prompted to write them down using their dominant hand or the hand they had felt most comfortable writing with first. After the participant did this, then the participant was asked to respond to what they had originally written with their non-dominant hand and/or other hand. Participants were informed that the process of

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writing with the non-dominant hand might be experienced as awkward, uncomfortable, or more challenging when compared to writing with the dominant hand.

Depending on the length and thoroughness of written responses, the participant was then asked to repeat the process of responding to each hand-written response, one or more times and with multiple pieces of paper. While each participant completed the written responses, the researcher manually recorded the participant's written, verbal, and behavioral responses for the purpose of descriptive data analysis.

Each of the 11 participants were given as much time as needed to give both written and verbal responses, alternating written responses between both hands, until each of the participants chose to stop, appeared to be at a loss for continued written dialogue, or until 15 minutes had elapsed. If the participant had not already stopped on his or her own, the researcher then prompted the participant to stop. After the participant had stopped writing, the researcher asked the participant to reflect on and verbalize what he or she felt and thought when comparing the writing performed with the dominant hand as compared to the writing performed with the non-dominant hand.

Depending on the length of time it took for participants to create their written responses, some of the participants were asked to repeat the process of responding to each hand-written response, one or more times thereafter. This was done through open-ended questions such as, "Is there anything else that comes to mind? Would you like to respond some more to what you had just written?" Individual variables that may have impacted participants' ability to perform the writing exercises were not accounted for in this study, such as highest level of education attained, reading and writing skills, cognitive delays, and intellectual disabilities.

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Upon conclusion of the study, the researcher debriefed all participants regarding the nature of the study and expected results. For those participants who were also engaged in treatment at the facility where the study took place, they were asked whether they would like to continue using the methods employed in the study within their art therapy treatment or transition to other art therapy directives. Participants were notified that their results would be made available if requested. Each participant was informed that he or she would have the opportunity to read the final thesis upon their request.

Data Analysis

Data analysis was completed using the recorded observations of what occurred with the 11 participants, as well as the results from the heuristic self-study inquiry. The researcher analyzed the data using a descriptive content analysis approach. The self-study results and the participant responses were analyzed separately using the results of bilateral written responses, verbal responses recorded by this researcher, responses to semi-structured postintervention interview questions, and postintervention debriefing questions. In addition, the researcher also analyzed bilateral written responses while alone and when read aloud in the presence of a counselor for the heuristic component of this study. The researcher documented all 11 adult participants and the researcher's ability to give voice to parts of their inner selves that may have been stuck or trapped inside.

Analysis of participant content involved examining participants' verbal responses to determine whether there had been either an increase or a decrease in feelings associated with negativity before and after each session where written bilateral techniques had been utilized. For this purpose, the researcher manually recorded participants' observed verbal and behavioral responses, as well as took digital photographs of participants' written responses, if consent was

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given for this purpose. The researcher made particular note of any negative self-stigmatizing views in association with negative thoughts and/or beliefs that participants indicated. All of the manually recorded notes of participant responses were analyzed using a descriptive approach. Both for participant responses and her own responses during the heuristic self-study portion of this study, this researcher made observations related to the ability to bring to surface and reveal constructive logical articulation and creative intuition of both brain hemispheres.

Validity and Reliability

External circumstances that may have affected the validity or reliability of this study included interruptions during the sessions by noise from a participant's cell phone, text messaging, and self-distractions. Distractions also included other faculty members knocking on the office door, incoming calls to this researcher's office space, participants over-reporting, under-reporting, or minimizing negativity associated with their recent stressors, participants being under the influence of a drug or alcohol substance, or participants voluntarily discontinuing a session before the 90-minutes had completed. Two of the 11 participants attended as a married couple and reported a willingness to participate in the research in the presence of one another. This may have affected the validity of the research in that each of these participants may have either been more or less likely to disclose information in the presence of their partner.

Ethical Implications

Standards of ethical research, as stated by the American Art Therapy Association's (2018) *Ethical Principles for Art Therapists*, were adhered to for this research study. In order to complete research at the graduate level, this researcher submitted a proposal for the research study to the Saint Mary-of-the-Woods Institutional Review Board (IRB), which was reviewed

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and approved on July 6, 2018. This researcher adhered to all of the guidelines set by the IRB board. The study was found to have minimal risk to both the participants and the researcher. Health Insurance Portability and Accountability Act (HIPAA) privacy rules were consistently followed and adhered to by this researcher. Written information and notes were stored in a locked facility and/or given to the participant to take with him or her after each session to do with it what they liked.

Researcher Biases

This researcher was biased in several different areas. The researcher believed that the bilateral written techniques would be effective in revealing and bringing to surface more positive and different perspectives of her inner self due to her own use of both written and art directed bilateral techniques experienced through previous training. In addition, this researcher had previously implemented this technique during both individual and group therapy sessions while working as a certified substance abuse counselor. The researcher believed in the effectiveness of multidimensional healing methods and their effect on brain functioning, internal stressors, and psychosomatic conditions related to the extremes of untreated posttraumatic symptoms of negativity. The researcher had personally experienced a positive outcome due to successful past experiences using bilateral stimulation through various techniques, such as writing and drawing. The researcher believed that art making directives were processes that would increase general self-awareness, as well as understanding of one's own multidimensional self.

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CHAPTER IV

Results

The data collected from both outside participants and the heuristic self-study were analyzed descriptively in relation to categories of right-handed writing and left-handed writing, as well as positivity and negativity, as expressed through word choice, repetition of words and themes, or change in affect through body language or cognitive insights observed body language. Both observer-reported and self-reported changes in affect were included, for outside participants.

Participant Results

Drew. Words and phrases associated with writing with the dominant hand included the following: “relapses,” “directly,” “I need to take care” (Figure 3), “have not addressed,” “changed,” “approaching,” “unresolvable,” “drag out,” “wasn’t,” “past,” “before,” and “never.” Repeated patterns included the word “serious” used twice. Non-dominant handed responses included phrases: “I can be,” “friendship,” “past,” “determined,” “resolve,” “unstuck,” “hopefully,” “an honest statement,” and “I need to be cautious” (Figure 3). There were no repeated patterns of words included with the non-dominant handed responses.

Changes in affect self-reported after engaging in the right/left-hand dialogue (Figure 3 & 4) was that the participant talked out loud while simultaneously writing with both of his hands. He reported that his handwriting wasn’t as “legible” and “fluid” as he had wanted it to be. He had laughed out loud when he had started responding to his dominant hand-written response with his nondominant hand. Drew concluded, “Nothing came to fruitions. I get it. Let it happen. Let it play out”

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I need to take care in how I address
 Rick's past issues, specifically his potential
 drug relapses (or even alcohol).

Hopefully I can ~~maintain~~ ~~are~~ ~~bring~~ ~~and~~
 friendships of ~~years~~

I have not addressed the issue directly with
 my roommate, but have changed how I am
 approaching the situation to see how it
 plays out in the short term.

Past roommate / friends have developed
 into pillars so I do not to be critical.

Figure 3. Drew1.

five years of my life was in a serious relation-
 ship with a woman who I lived with, who smoked
 a pack a day, and this led to serious, unresolvable
 issues.

I simply can not waste the amount
 of time over again.

I have never let anything like this
 drag out past a month or two, before
 resolving it.

I did date non smokers / drug users and
 nothing came to fruition.

Figure 4. Drew2.

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Alex. Words and phrases associated with writing with the dominant hand included the following: “future,” “loss,” “I wander,” “Do I deserve” (Figure 5)? Other forms included, “I don’t deserve,” “I judge too much,” “I don’t know how” (Figure 6), “I seek,” “I keep,” “trudging,” “looking,” and “I need to feel okay.” Repeated patterns include the words “peace” used twice and “need” used three times. There are several mentions of words that denote anxiety: “inner turmoil,” “danger,” and “restless.” Non-dominant handed responses included phrases: “yes,” “I will never give up,” “You need love” (Figure 5), “You must rest” (Figure 6), “you are,” “started,” “caretaker,” “attached,” “accept,” “happy,” “light,” and “afraid to lose.” Repeated patterns included words “rest” and “deserve” used twice. The word “you” was mentioned eight times.

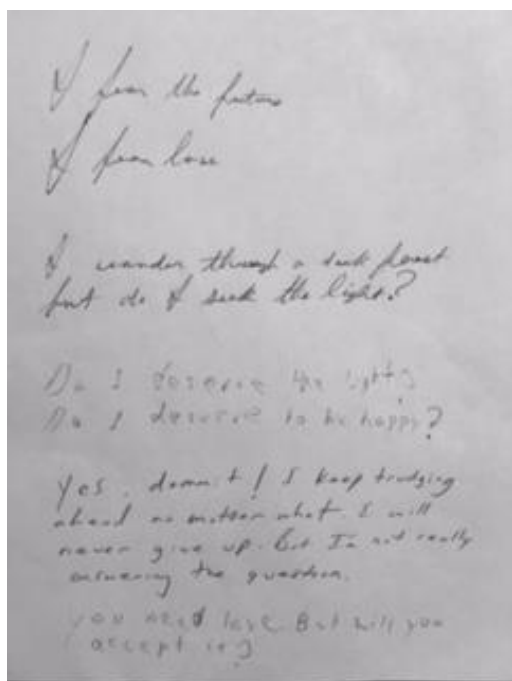


Figure 5. Alex1.

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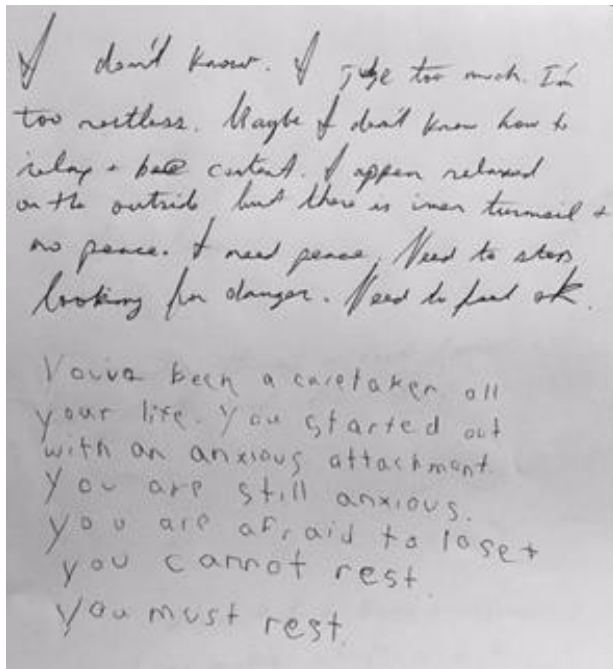


Figure 6. Alex2.

Changes in self-reported affect after engaging in the right/left-hand dialogue was that the participant was talkative during the initial task, wrote with light pressure on paper, laughed when he responded with his nondominant hand, and then stated that the process “helped me relinquish control.” He also reported that the process of bilateral writing seemed to help him to be “more of an advocate for myself.”

Merry. Words and phrases associated with writing with the dominant hand included the following: “stressing,” “influenced,” “loose,” “I am,” “prideful,” “need,” “handle,” “not capable,” guilty,” “I,” “I need help,” “attempting,” “paralyzed,” “worried,” “weighing,” “rock,” “probing,” and “struggles.” Other forms included phrases: “writers block” (figure 7), “good enough,” and “easier said than done.” Repeated patterns include the words “about” and “begin” used twice. The phrase “help me” was also included twice. The word “should,” was mentioned three times and the phrase “I want,” was noted three times as well. There were several words

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that denoted barriers: “barriers,” “perfectionism,” “procrastination,” and “self-pressure” (Figures 7 & 8). Non-dominant handed responses included words and phrases: “excelled,” “stressed,” “stressing,” “outcome,” “applying,” “result,” “blessed,” “get help,” “ask for help,” “better,” “habit,” “procrastination,” and “ask.” Other forms included phrases: “underlying issue,” “you can,” “you get,” “I see,” “I’m aware,” “pride thing,” “I’ll be fine, no pressure,” and “doesn’t mean you’re a bad student” (Figure 7). Repeated patterns included words that were each mentioned two times: “deadline,” “need,” “resources,” and “help.”

The initial changes in affect through Merry’s body language that was noticed was clenched dominant hand and having stated, “I’m getting sloppy.” After the bilateral written responses had been completed, Merry noted that she felt “tired” and that the process had brought back childhood memories.

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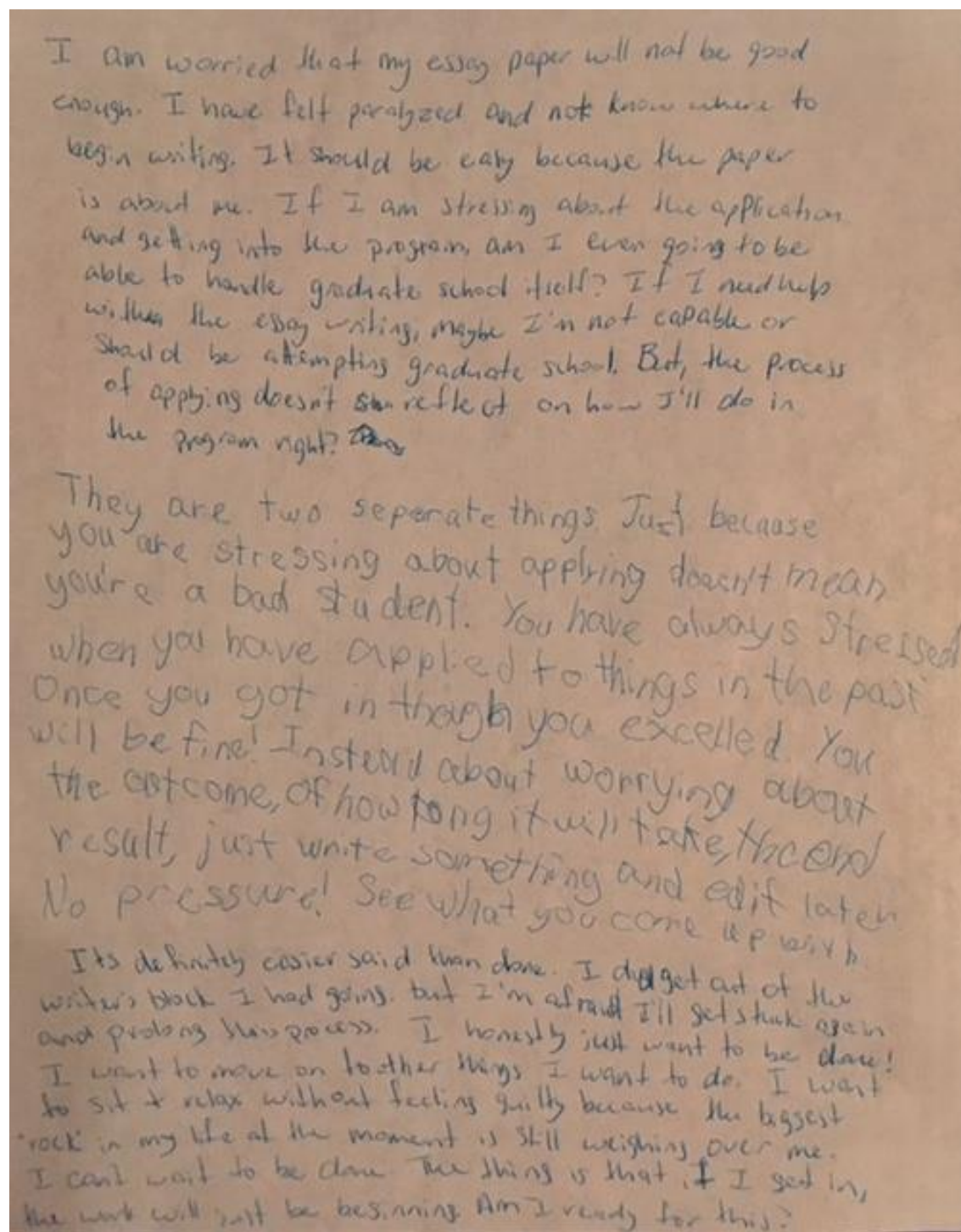


Figure 7. Merry1.

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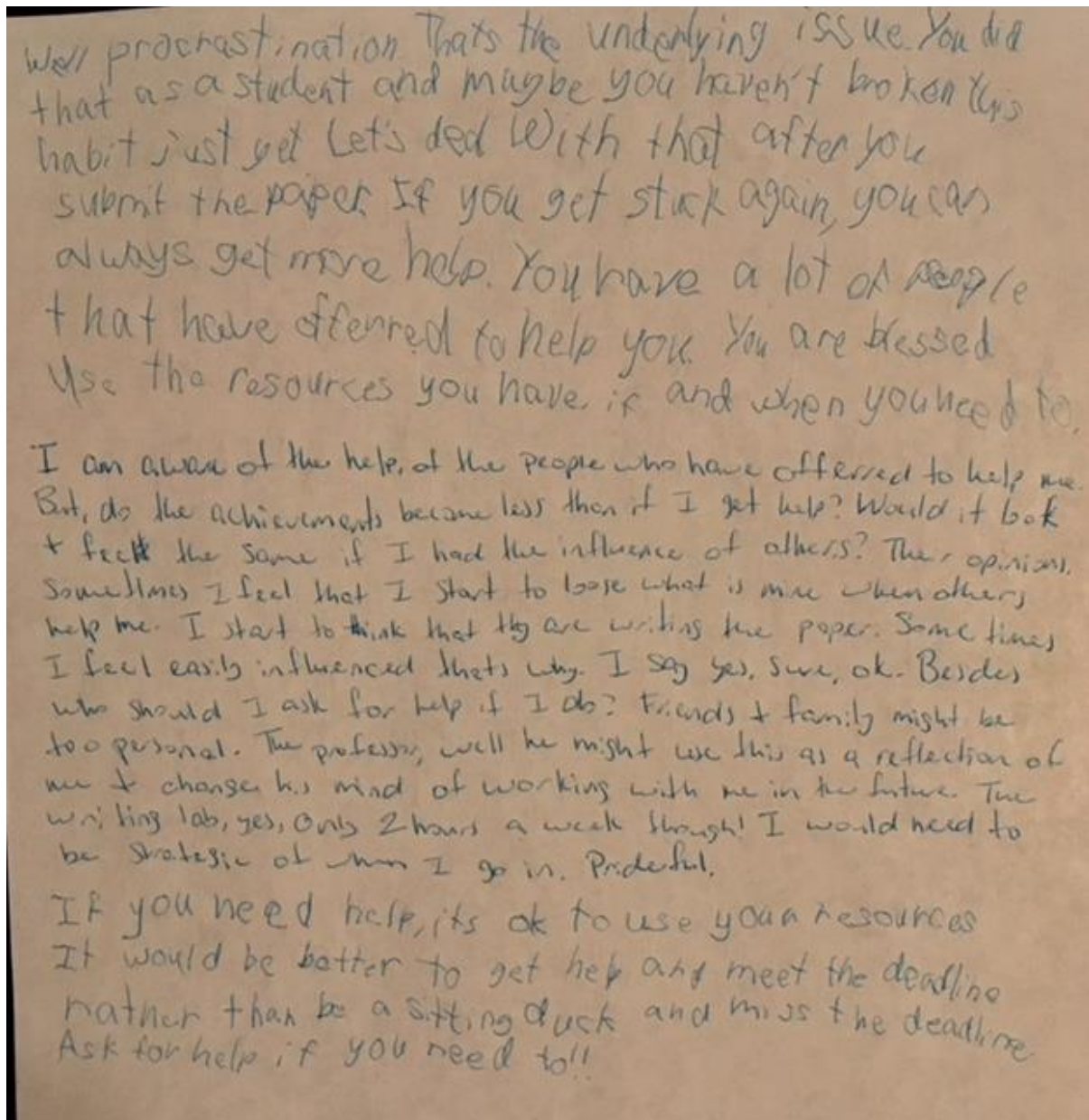


Figure 8. Merry2.

Fish. Words and phrases associated with writing with the dominant hand included the following: “absent,” “analytical,” “sincerely,” “identity crisis,” “hesitant,” “social role,” “uncertain,” “overly assertive,” “selfish,” “subjective,” “abusive,” “indirect,” “influence,” “neglect,” “I neglect myself,” “respect,” “acknowledgement,” “humility,” “bye,” “expectation,” “reciprocation,” “too much,” “expect,” and “expected.” Repeated patterns included the words

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“fear,” “father,” “healthy,” and “model,” which were all used two times. There are several mentions of the word “man” followed by relevant phrases, such as “what is expected of me” (Figure 9) and “more concerned about how others see me.” Non-dominant handed responses included words: “respect,” “service,” “humble,” “sacrifice for others,” “patient,” “supportive,” “relentless,” “sincerely,” “committed,” “demonstrates,” “selfless,” “determine,” “fate,” “define,” “balance,” “true,” “demonstrate,” “infinite,” “ego,” “identity,” and “compensate.” Repeated patterns included “self-esteem,” “love,” “value,” and “humility,” which were each mentioned twice. Non-dominant handed responses included phrases such as: “I am not my step-father,” “You can’t let the past actions of others determine your fate” (Figure 10), “need to fight for my life” (Figure 9), “process of trying.”

Change in affect through body language and/or cognitive insights observed were that Fish appeared comfortable, focused, and was thinking a lot before responding with either dominant or nondominant hand. When he was first asked to respond to what he had written to his dominant hand-written response, Fish had reported, “this is challenging.” He had laughed out loud and clenched his dominant hand during half of his written responses. Fish concluded that writing with both of his hands had “evoked those feelings” from his “youth,” then “dissipated” towards the end of the process. Fish further reported that the bilateral writing process had brought back childhood memories and that he had noticed himself become “more emotional, emote strongly,” and that his nondominant hand written responses were “less psychoanalytical” and “less critical” of himself.

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I am sincerely uncertain about how to be a "man." It seems like I am extremely hesitant to be overly assertive about my needs and wants in the fear that I am being selfish and, therefore, neglecting those whom I love. "Being a man" is obviously a subjective phrase but underlies the deeper question of my identity and understanding my social role. What is expected of me and how do I succeed in my station? I am a "husband", I am a "father," I am a "man." As a "husband" and "father" I am uncertain because I never felt like I had a good model of these roles. Do I then model the example ~~that my mother~~ ^{and psychological} ~~and~~ physically, and ~~emotionally~~ of my mother who has physical, ~~and~~ ~~mental~~ issues?

I sincerely love and respect my mother. In the past she demonstrates selfless love and infinite sacrifice for others. In the least she is patient, supportive, and relentlessly committed. The issue is that I don't know if ~~she~~ her example is healthy. The ego is our identity, do I need to fight for my life (taking an aggressive stance to the world) or walk humbly in service of others? It's probably best for a healthy balance but in the process of trying I feel like I over compare.

Perhaps ~~is~~ I am more concerned about how others see me, whether or not I am "respected" and "loved" by those whom I love and respect. If that is the case, then my actions are influenced by how I perceive others' perspectives of me. Do I neglect myself in the hopes of acknowledging and the expectation of reciprocity? Is this, fundamentally, an indirect method of instilling commitment in relationships. Am I afraid of simply stating my needs and wants in the fear that my loved ones just say, "sorry, I won't do it. Too much of an expectation. Bye."? Is that my humility, low self-esteem? What is the healthy difference? In the fear of becoming my step dad who was physically abusive?

Figure 9. Fish1.

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What is the healthy difference between low self
 esteem and humility? What is the ~~difference~~ detriment
 of low esteem? suicide? What is the value of humility?
 This is determined by your value system,
 your ideology... or from the fear of defying
 that value system. I am not my step-father
 and yet, when losing your temper, the look on others
 faces looks the same as the one on your
 2 year old face. You can't let the past
 actions of others determine your fate. Nor
 can you know how others will respond to
 your ~~best~~ intentions. It's not so easy to
 define who you are by not being someone that
 you are not.

Figure 10. Fish2.

David. Words and phrases associated with writing with the dominant hand included the following: "fair," "I won't," "jump," "jumped," "shake," "time," "quit," and "before." Phrases included "this is fucked up" and "it was the right thing to do" (Figure 11). Repeated patterns include the phrase "I won't" that was mentioned three times. Non-dominant handed responses included words and phrases: "I haven't tried," "you may not know," "be careful," "survive,"

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“time will tell,” “seem,” “set back,” “observe,” “shake it out,” and “you will survive this.” There were no repeated words with the nondominant hand.

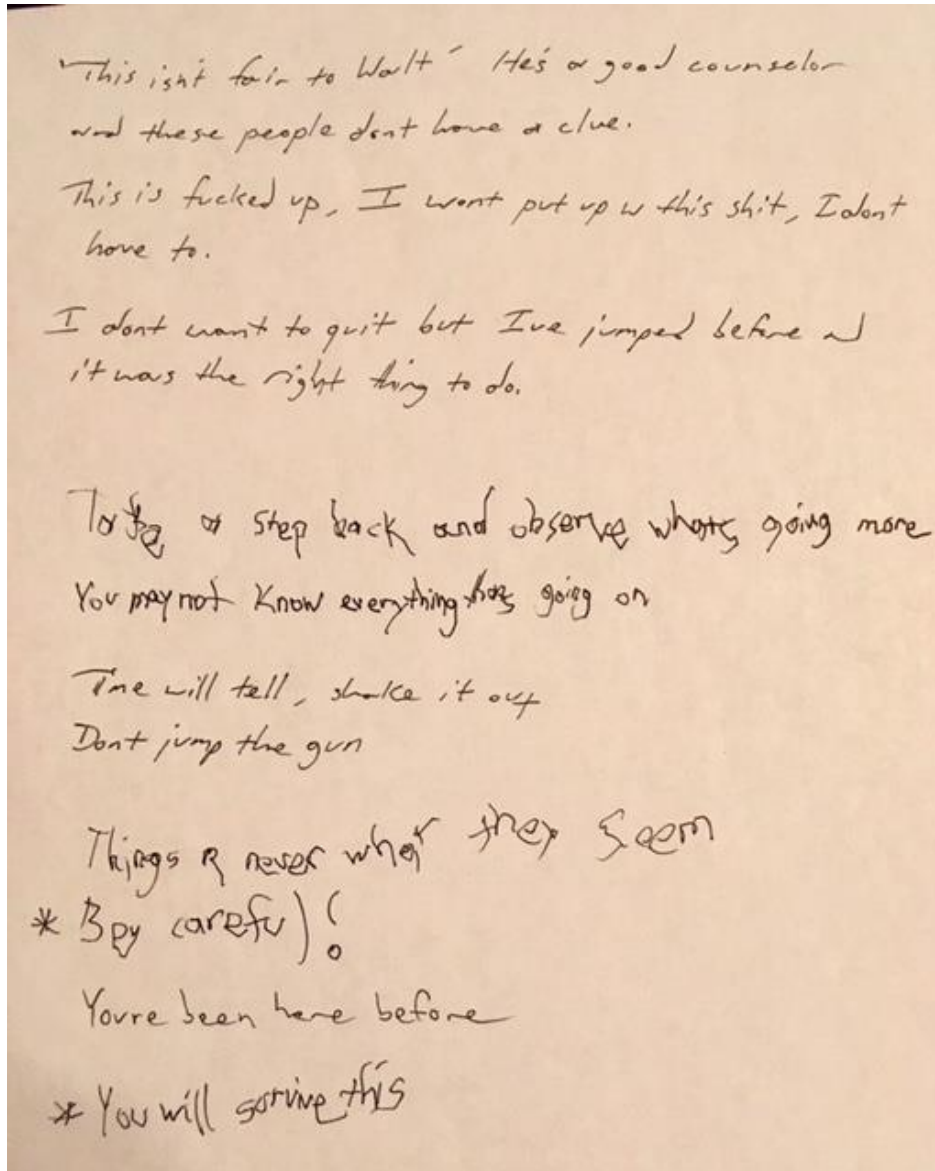


Figure 11. David1.

The initial change in affect through body language while David started writing with the nondominant hand was that he had giggled and clenched his other fist. Cognitive insights included his concluded summarization of the bilateral writing experience that, “I’m just one

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person, I've been taught to be afraid, gaps are longer, almost like giving more time or being more direct." He further reported that while he was alternating between both hands, "instinctively" he was feeling a need to be a "defender," but in "reality," he concluded that he didn't have to "defend people."

Lisa. Words and phrases associated with writing with the dominant hand included the following: "worried," "role," "caused by me," "teach," "support," "guide," "focus," "know," "always," and "helping." Non-dominant handed responses included words: "learn," "manage," "belongs," "experiences," "focus," and "helping." Other phrases that were included were: "his process," "I can," and "I just need to love him" (Figure 12).

Changes in self-reported affect after engaging in the right/left-hand dialogue (Figure 12) included clenched fist while writing with the nondominant hand, placing the dominant hand under the table, and then placing the hand back on the table and releasing the palm. Lisa self-reported, "Is it that simple? Wow, it was hard to write that out and now I'm relieved. I'm not going to stress about this. I'm not going to worry about it anymore. I'll just love him."

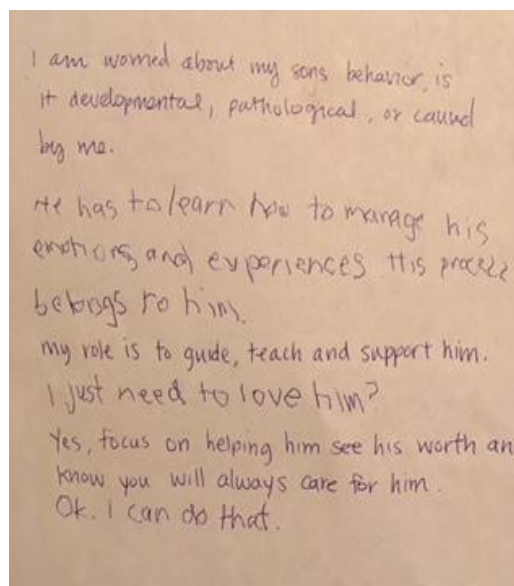


Figure 12. Lisa1.

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Mark. Words and phrases associated with writing with the dominant hand included the following: “I don’t trust,” “resentful,” “stopped praying,” “only,” “detached,” “red flags,” “failing,” “instincts,” “won’t admit,” “triggering,” “I must,” and “let go.” Non-dominant handed responses included words and phrases: “probably,” “over reacting,” “I began,” “praying,” “pray,” “trust,” “rebellion,” “I must let go,” “sync,” and “only compounds.” The word “only” repeated twice with both dominant and nondominant hand written responses.

Changes in self-reported affect after engaging in the right/left-hand dialogue included frequent talking before, during, and after writing. Mark asked himself, “Who’s ‘I’ the observer being observed?” He leaned his upper torso towards the paper and giggled while initially responding to his written response with his nondominant hand. Mark self-reported after the completion of his written dialogues, “It’s like I’m looking at another viewpoint from a helicopter. It’s my alternative neuropathways opening up.”

Lee. Words and phrases associated with writing with the dominant hand included the following: “no,” “anticipate,” “experienced,” “reject,” “problems,” “I can,” and “know myself.” Repeated patterns included the words “help” and “me,” which were both written twice. Another phrase associated with the dominant hand was, “I do not believe” (Figure 13). Non-dominant handed responses included phrases: “initial,” “predicate,” and “doubt.” Two different phrases of questions were included: “Do I really help?” and “Would he reject me?” There were no repeated patterns of words or phrases included with the non-dominant handed responses.

When Lee was initially asked to respond to his dominant hand-written response with his nondominant hand, self-doubt was observed in his affect as he stated, “I can’t write really well.” Changes in self-reported affect after engaging in the right/left-hand dialogue included “upright”

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lettering with nondominant handwritten responses. Lee had concluded with certainty, stating “I have to admit, I’m pretty sure of who I am.”

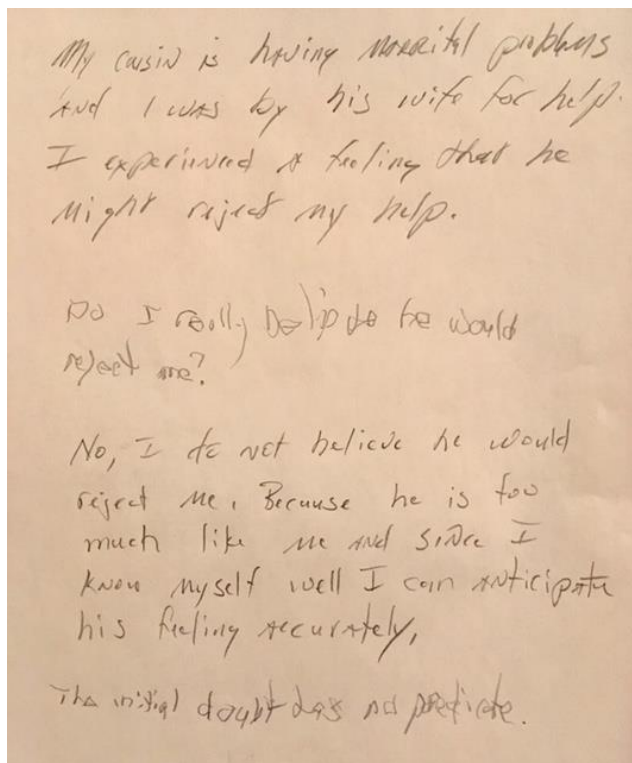


Figure 13. Lee1.

DeAnn. Dominant handed responses included words and phrases: “painful,” “depression,” “uncomfortable,” “my own voice,” “loosing,” “wanting,” “excited,” “shock,” “betrayal,” “intense,” “understanding,” “language,” “visual,” “listening,” “voice,” “persuasive,” “real,” “reality,” “better said,” “express,” “important,” “heart,” and “rely more.” The word “traumatic” was repeated twice. Words and phrases associated with writing with the nondominant hand included the following: “therapeutic,” “honest,” “hard,” “intense,” “I find,” “best way,” “express,” “true self,” “I am,” “ability,” “seem,” and “reading out loud is always hard for me” (Figure 14). Repeated patterns include the word “skipping,” which was written two times. The word “stone” was repeated three times.

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Changes in self-reported affect after engaging in the right/left-hand dialogue (Figure 14) included clenched fist and arm protecting/shielding what DeAnn was writing. She also experienced release of emotion through tears and memories that brought back childhood experiences. She reported that there was a time in her childhood when “I was very alone.” When she was asked to initially engage with her nondominant hand in response to what her dominant hand had written she laughed and stated, “It’s like patting your head and rubbing the stomach at the same time. This is working better than I thought.”

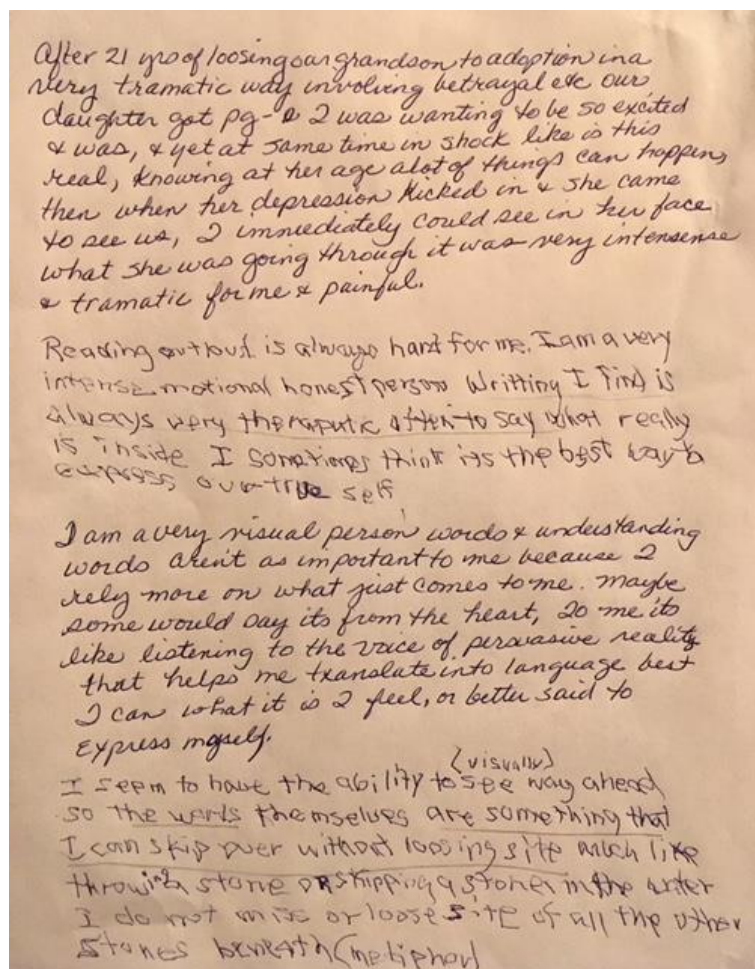


Figure 14. DeAnn1.

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Thomas. Words and phrases associated with writing with the dominant hand included the following: “risks,” “learned,” “greatest lessons,” “gone wrong,” “didn’t achieve,” “desired outcome,” “unsettling,” and “failed” (Figure 15). Repeated patterns included the word “change,” which was written twice. Non-dominant handed responses included words and phrases: “guaranteed,” “attempted,” “learned,” and “achievement is nearly a perspective.” There were no repeated words with the nondominant hand.

Changes in self-reported affect while engaging in the right/left-hand dialogue were “uncomfortable,” and shaky hand, hesitant to write with the nondominant hand, and giggling in defense to his discomfort. Thomas concluded that he had felt, “vulnerable. Even though times clicking, I know I can slow it down. I’m okay with that. Getting out of my comfort zone.”

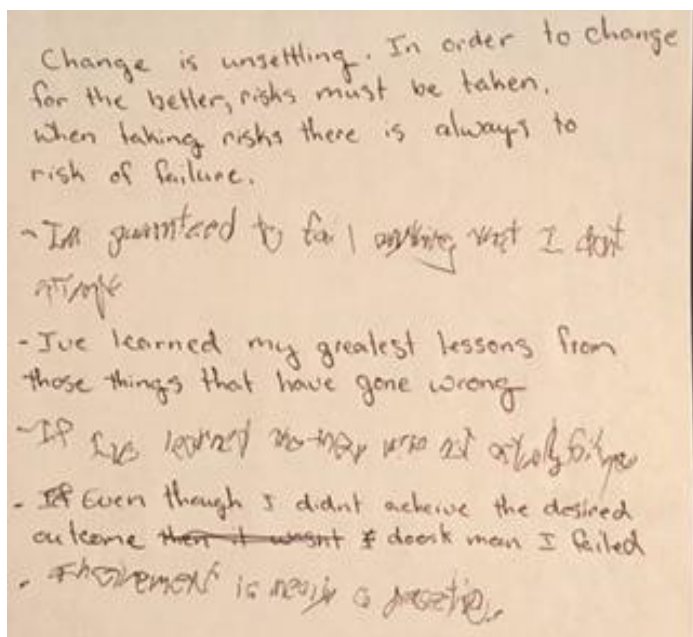


Figure 15. Thomas1.

John. Words and phrases associated with writing with the dominant hand included the following: “live,” “but,” “dedicated myself,” “fake it,” “depression,” “I am unsure,” “playing its tricks,” “fix,” “handle,” “control,” “use to be able to handle it” (Figure 17), and “why” (Figure

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16)? Repeated patterns include the word “alone,” which was written twice, and the word “illusion,” written three times. Non-dominant handed responses included phrases: “spent,” “need to,” “I am,” “dedicated,” “strong,” “alone,” “lived,” and “too much time.” Other phrases included: “I can fix things,” and “I can’t fix a person except myself.” Repeated patterns included the word “stubborn” written twice and the word “live” repeated three times.

Changes in affect through body language and/or cognitive insights observed when John was asked to initially write in response with his nondominant hand was, “I don’t think I can do it. This is really hard.” He then proceeded to cover what he was writing while responding, stretched his arm, and then reported that his mind seemed to be racing while he was exchanging written dialogue with both hands. He reported that his nondominant hand written dialogue, “Looks like drunk writing. Left seems out of control.” His self-reported responses after having engaged in the right/left-hand dialogue was, “It’s a condition to be endured and to live with. I think what I’ve learned from our conversation today is that I built my own personal construct of negativity and it’s just that, a construct. I need to stop.”

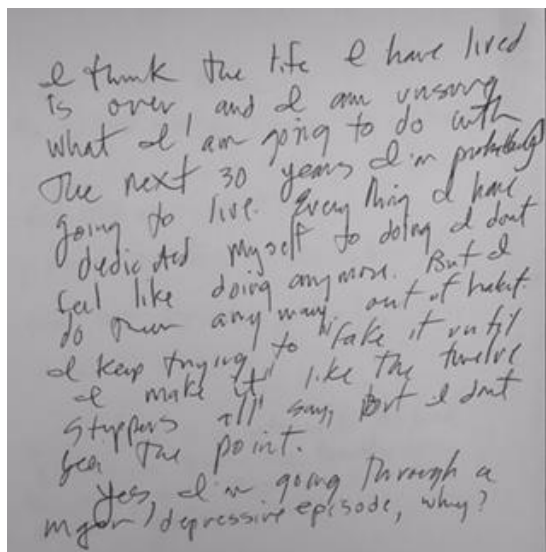


Figure 16. John1.

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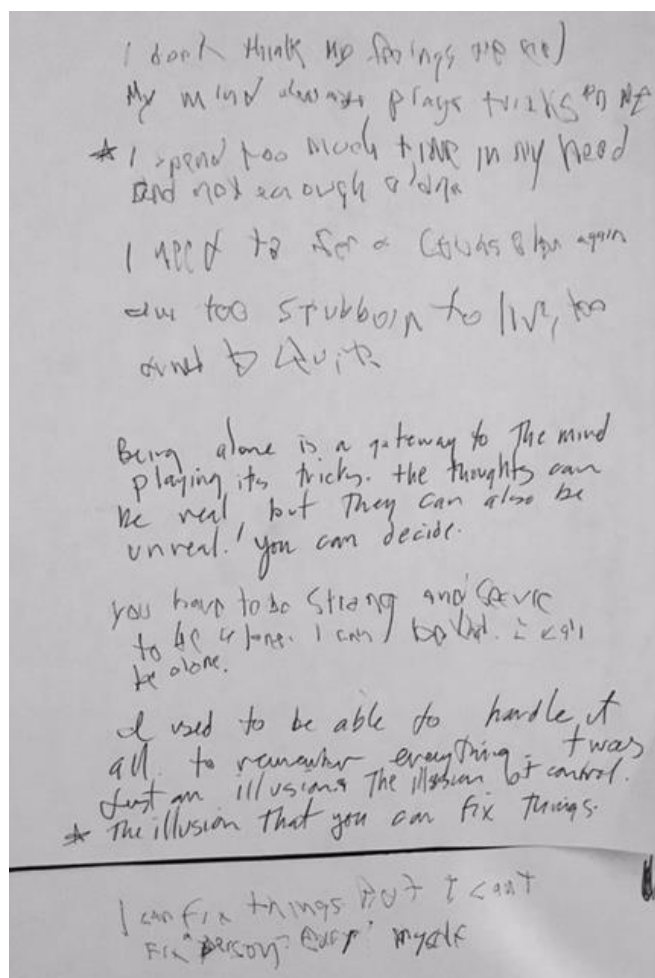


Figure 17. John2.

The self-study

The researcher used dominant and non-dominant handwriting as a component of a mixed-media image (see Figure 1) and also completed the research study task of writing using both her dominant and her non-dominant hand on a separate piece of paper (Figure 2).

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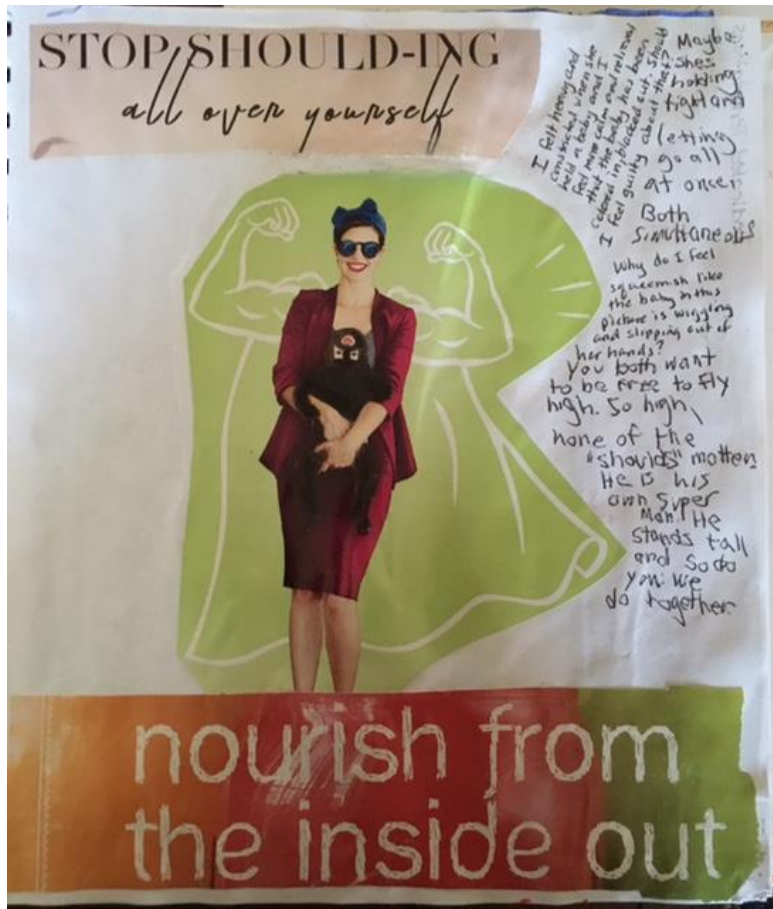


Figure 1. “Letting Go” by Rachel Cutler1.

Words and phrases associated with writing with the dominant hand included the following: “heavy and constricted,” “calmer and more relieved,” “guilty,” “squeamish,” “no way of knowing,” “being kept from,” “afraid,” “terrified,” “scared of being judged,” “pain,” and “nothing I can do.” Other forms included “wriggling and slipping,” “should,” “suggesting,” “hiding,” “lost.” Repeated patterns include the words “hiding” and “scared” used twice. There are four mentions of words that denote being afraid: “afraid,” “scared,” (twice) and “terrified.” Non-dominant handed responses included phrases: “maybe,” “simultaneous,” “free to fly high,” “superman,” “together,” “good reason to trust,” “faith,” “connection,” “roots,” “grace,” “power,” “gifts,” “both,” “fire,” “light,” and “doors.” Other forms included “holding tight and letting go

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all at once,” “he stands tall and so do you,” “knows what's going on and doesn't like it,”

“knows,” “can and will speak up,” “can walk forward,” “saving face,” and “behold.” Repeated

patterns include the words “knows” and “can,” both repeated twice.

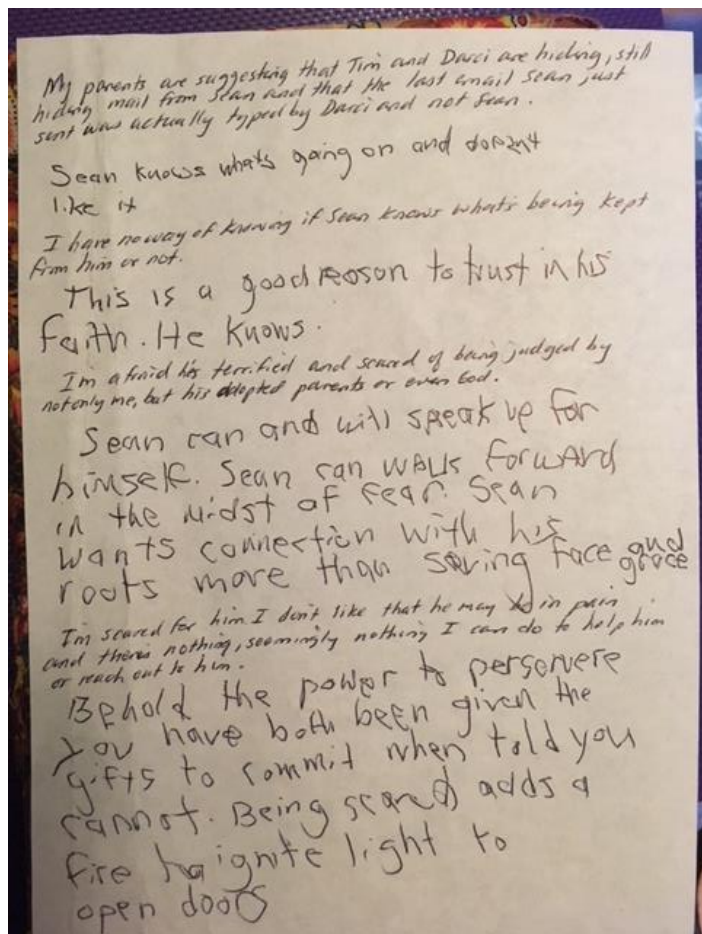


Figure 2. Rachel2.

Changes in self-reported affect after engaging in the right/left-hand dialogue (Figure 2) included relief from ill feelings and beliefs towards self and others. The researcher also experienced release of emotion through tears.

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CHAPTER V

Discussion

Concurring with the findings of Tinnin and Gantt (2013), the use of dual-brain bilateral techniques in the present study are believed to have exposed the existence of two minds in participants by accessing both verbal and nonverbal (i.e., silent, submissive, or harbored opinions) parts of each participant's true and, often times, younger selves. Since art therapy has long been regarded as a method and process that consolidates both the left and right hemispheres of the brain through use of various expressive arts activities, it might be assumed that ambidextrous exercises in the form of bilateral writing techniques open up a broader range of communication and expose hidden and often forgotten experiences from a person's past (Capacchione, 2001; Shapiro, 2001). The findings from the present study suggest that both the researcher and each of the participants were able to share intimate parts and experiences about themselves through the bilateral written process. As each adult participant was asked to pick unpleasant thoughts or feeling to write about, each of the participants perceived their thoughts and feelings differently. Topics varied from issues related to personal beliefs and opinions associated with their co-workers, acquaintances, close friends, or their abilities to be a better parent to their child/children.

Two participants were ambidextrous. One participant was left-handed dominant, but used both hands interchangeably in other ways besides writing. These interchangeable responses may suggest that intense feelings or emotions can be expressed on a surface level from both brain hemispheres through the process of writing feelings out on paper with both left and right hands. In cases where the participant appeared to "let go" through active practices with numerous bilateral activities, the thoughts in each of their minds may have quieted down. Such

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was the case with Drew, Alex, and David. All three of these participants were observed talking the most frequently before, during, and after writing, as well as reading most of what they had written out loud while writing with both hands. Mark was another example of a participant who conversed verbally as much as he did with his written responses. All four participants gave examples of ways in which they actively “let go” during their free time and for self-care, whether through making art, drawing, sculpture, bike riding, snowboarding, skiing, volunteer work, journaling, farming, and/or gardening. These activities were mentioned by the participants as additional ways in which they experienced the ability to “let go.”

The brain creates the body (Ornstein & Sobel, 1987). Holistic medicine is based on the idea that the body, mind, and soul are all unified; each affects and overlaps with the others (Capacchione, 2001). Individuals prone to self-shaming and guilt-ridden thoughts may experience greater difficulty practicing self-compassion (Woods, 2014). However, holistic and mindfulness interventions can be used to increase self-compassion and decrease the debilitating effects of negativity. Bilateral writing appears to be in line with both holistic and mindfulness practices. In this study, bilateral writing offered participants a subtle and balancing dialogue enabling them to attend to feelings of self, whether through physical sensations while writing, validation and surfacing of emotions expressed through words, tone, or spoken words expressed through both brain hemispheres.

The bilateral writing process was also well received by participants, as evidenced by a majority of participants indicating to this researcher that they believed family, friends, or other close loved ones might benefit from the bilateral process. Most of the participants also stated that they believed that the presence of this researcher, her calm and nonjudgmental presence, and open-ended questions helped motivate them to participate. All of the participants reported that

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they probably wouldn't have been comfortable to practice and introduce bilateral writing techniques if they were alone or on their own while doing so. Both of the ambidextrous participants in particular, expressed that they would not have been comfortable participating in a bilateral writing process on their own, and that the presence of someone else guiding them through the process helped them to feel less tense and calmer towards the end.

In this study, bilateral writing techniques were found to offer a unique and tangible means of addressing negative related issues in a more honest and safe fashion. The presence of a supportive individual, in this case the researcher, was believed to be critical to creating a safe environment as participants engaged in the bilateral writing responses. These findings support the contention that art therapy processes that utilize self-affirming techniques, such as the bilateral writing process, can be a beneficial means for individuals to expand and enrich their multi-dimensional selves (Wilson, 2012).

Limitations

This study had a number of limitations. These included small sample size, a descriptive case approach, and reliance on a non-random "snowball" sampling method by which participants recruited other participants, all of which limit the generalizability and reliability of the results. In addition, this researcher was biased because she believed that the bilateral written techniques would be effective in revealing and bringing to surface more positive and different perspectives in both her participants and her inner self due to prior experiences and training having used both written and art directed bilateral techniques. In addition, this researcher had previously implemented this technique during both individual and group therapy sessions while working as a certified substance abuse counselor.

Recommendations and Future Studies

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Future studies might build on this study by using a larger sample of participants willing to use art as a narrative therapy and/or in conjunction with the bilateral writing process. A larger scale study could also examine the benefits of images with writing to release additional traumatic experiences other than just internal feelings and thoughts of negative experiences, beliefs, or emotions. While the present study asked participants to recall unpleasant memories or experiences from the previous week, future studies might also direct individuals to recall long-term residual unpleasant and uncomfortable effects associated with trauma from past experiences. Another recommendation would be to use a two-sided approach to identifying negative self-thoughts and feelings to release personal insecurities and break old habits. A two-sided approach to identifying trauma could also be used to delve further into a participant's personal strengths, expansion of creativity, and personal inspirations.

Additionally, future researchers might increase the diversity of the sample by recruiting individuals with a wider range of backgrounds, experiences, or symptoms. In order to accommodate individuals who do not write, have low literacy levels, and/or those with intellectual disabilities, future research may also focus on using bilateral techniques that do not rely on writing as a means of narrative therapy. Finally, future studies might also include psychological or traumatic stress inventories within a pre-post research design in order to obtain quantifiable results of participant change as a result of the bilateral writing intervention.

Conclusion

In conclusion, participants may have shifted towards a deeper and newer way of looking at unpleasant or uncomfortable thoughts, feelings, beliefs, or emotions as a result of their engagement in the bilateral writing intervention. The researcher made this assessment by comparing the responses from the bilateral processing of unpleasant and uncomfortable areas for

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each of the participants. Using such a method, it is believed that individuals can compare the processing of various life areas of negativity by comparing their dominant and non-dominant hand writing responses, and ultimately comparing right-hemisphere versus left-hemisphere ways of seeing and experiencing. Once an individual actively engages in the bilateral task, which is believed to elicit expression of what both brain hemispheres have to say about his or her negative beliefs and circumstances, this may allow the individual to disprove old thoughts and beliefs about themselves and their circumstances (Capacchione, 2001).

Bilateral processing may offer a breakthrough in releasing unpleasant thoughts and/or feelings and expanding one's ability to love all of him or herself. Bilateral techniques may also be used to increase an individuals' self-worth, encourage their ability to be in the here-and-now moment, and to release parts of themselves that may or may not service them. It is hoped that this research may serve as a resource for trauma-informed organizations, as well as to stimulate further research on how the use of bilateral methods may reduce a negative self-view.

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APPENDIX A

Difficulty thinking kindly about yourself?



Seeking participants for a voluntary research study. The purpose of this study is to investigate how bilateral writing techniques may help a participant to express more compassionate and kind gestures towards one self. This Study will include the use of dominant vs. non-dominant hand-written responses.

Who is needed for the study?

Participants who are curious and willing to challenge their ability to express kindness about themselves

Participants who are 18 years or older

Must be willing to write with both the left and right hands

Must be in good general health

Speak English as your first language

What is involved?

Dates and times for participants are flexible.

Study will involve one 90-minute session

Location of study will be conducted in private.

Risks and Benefits?

A risk may be emotional discomfort when writing with a non-dominant hand. Benefits may be increased self-awareness, increased positive-self talk, decrease in worries, and increase in the ability to overcome self-talk obstacles and excuses that may prevent one from taking action. Information gathered during the study may be helpful in that it may help a participant to achieve short-term or long-term goals, and decrease unhappy thoughts about daily stressors, ideas, or personal beliefs.

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