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**“The mind never thinks without a picture.” -Aristotle**

Expressive art uses art to improve a person’s emotional well-being. We are all born with the capacity to feel; however, none of us is born with the ability to speak. Emotions are critical to the formation of memory, and the process of creating art allows us to tap into early memories buried deep within and provides a way to express them.

The left and right hemispheres of the brain process the world in two very different ways. Verbal information is processed in the left brain, whereas visual imagery is processed in the right. Verbal language is a left brain function and is limited when it comes to tapping into core feelings, because the left brain is the interpreter of feelings, not the part that experiences the event that brought about the feelings. The drawback to verbal language as a means of emotional expression is that the left brain uses a person’s established belief system to judge feelings as either right or wrong. These judgments are then translated into verbal thoughts that tell us what we think we feel. Words, therefore, can remove us from our feelings and inhibit the healing process.

Every experience we encounter is first processed in the right brain as an image. This image is then interpreted or misinterpreted by the left-brain in the form of words. Art can bypass that last and sometimes unreliable step in the communication process, because it taps into the emotional areas of the brain that words are unable to access. An unspoken language, in the form of images, exists within each of us that tells the true depth and breadth of who we are as individuals. Works of art are like silent messengers that carry messages from ourselves and to ourselves as they reveal information that might have never been known if limited to words alone.

From early on, historically, art has served a genuine need for expression and validation that words fail to accomplish. Experiences stored in the right brain as images are unlocked by the act of creating and come bursting forth with evidence of life experiences and intense emotion. Bypassing the judgmental and interpretive left brain, as well as conditions culture has placed upon us when it comes to the expression of thoughts and feelings, allows the freedom to relay experiences that would have otherwise been kept silent. Art brings about a wholeness that words alone could never hope to capture and can only enhance the healing process.

Source:s

A. Bolwerk, J. Mack-Andrick, F. Lang, A. Dörfler, C. Maihöfner: How Art Changes Your Brain: Differential Effects of Visual Art Production and Cognitive Art Evaluation on Functional Brain Connectivity  
 D. Campbell: This is your brain on art: a Q & A with Oshin Vartanian. University of Toronto News.

# SPECIAL REPORT ON ART AND THE BRAIN



9/1/2017

## Art & Creativity for Healing

Exposure to visual art and participation in creative activities creates positive brain changes. In this report, Art & Creativity for Healing highlights some of our favorite data and quotes surrounding this hypothesis.

# Art and the Brain

## EXCITING DATA SHOWS BENEFITS OF VISUAL ART EXPRESSION

### SUMMARY

We've collected information from a variety of sources, and the results are overwhelming: ***exposure to visual art and participation in creative activities creates positive brain changes.***

In this report, Art & Creativity for Healing highlights some of our favorite data and quotes surrounding this hypothesis. Read on to see how you can use art to change the brain, create wellness, and improve quality of life.





## ART TO THE FOREFRONT

Artistic and creative outlets contribute positively to peoples' well-being. It's been historically difficult to put unbiased "hard statistics" to this hypothesis.

Researchers are placing more emphasis on the benefits of creativity and quantifying it in increasing detail. Advances in medical technology have allowed scientists to study the precise physical effects of stimuli on the brain. Addiction and pain management treatment has undergone philosophical shifts in the past decades. These shifts have spurred increased study into the effect of visual art on the brain and its use as a therapeutic tool.

## ART CHANGES THE BRAIN

It's been shown that creative expression is a powerful tool for well-being. However, little has been known about the underlying neurological cause until recent years. The brain's structure is being revealed through advanced fMRI studies. Neuroplasticity is key in the brain's evolution, structure, and ability to repair, or re-channel pathways. Because exposure to art invokes and stimulates both brain hemispheres, creating or viewing art stimulates the motor cortex even though there may be no movement involved. This is an exciting advance in treating neurological conditions such as stroke and traumatic brain injury. (Demarin, Bedeković, Puretić, & Pašić, 2016)

### Think differently

"This class is helping me get in touch with feelings from the past. It makes me realize that I have turmoil in my "inner" life that I need to resolve to move on with my life. This class makes me think in a different way that I like."

- Senior Citizen Participant



## Learn about emotions

"When I go into Art for Healing I get really excited to start the class.

After finishing the class, I feel peaceful and happy. Honestly, I love doing this class. It's the best....

I really loved it because I got to say how I felt in my painting. I liked this experience because it relieved my stress."

- Teen Participant



## ART CHANGES THE BRAIN (CONT.)

In one study (Bolwerk, Mack-Andrick, Lang, Dörfler, & Maihöfner, 2014), researchers used fMRI to study post retirement adults, ½ of which went through a 10-week "art intervention" while ½ did not. The group exposed to the visual art intervention showed more functional connectivity in the frontal and parietal brain cortices. This correlated with increased psychological/stress resistance. No such effects were observed in the control group. The study was exciting, because it was "first to demonstrate the neural effects of visual art production on psychological resilience in adulthood."

A University of Toronto neuroscientist recently completed a different study where he explored the diverse ways people observe and appreciate art using fMRI. This study found that, in addition to the visual cortex being activated, other, deeper state areas of the brain were also activated. These areas include the brain's pleasure and reward (serotonin) system. In addition, a sort of "daydreaming" brain mode was activated during conscious processing of the images. The brain is processing and judging the imagery even though the participants were not instructed to analyze the images. (Campbell, 2014)

This proves even more that art has positive healing effects on the brain.

## ART IMPROVES CRITICAL THINKING AND EMPATHY

Seeing the changes that art invokes in students, medical schools are requiring physicians in training to take creative courses to mold their critical thinking skills. Penn State began their medical humanities program in 1967 and other universities continue to follow suit.

Why have a physician take an Impressionist art course? Professors find that performing arts, music, literature, and the visual arts build critical thinking, observation, communication, bias awareness, and empathy skills that “science” just can’t provide.

At Yale, Harvard, and University of Texas Austin, medical students are required to visit museums and describe the works in precise detail. (Lesser, 2017) At first this may look unrelated to medicine. However, the course is teaching students important observational skills to aid in future diagnoses. Like the medical school approach, Art4Healing® Workshops create a group experience allowing the participants to observe, reflect, and share emotional responses about their inner dialogue in a safe and confidential environment.

### Build team empathy

“Art & Creativity for Healing has facilitated our staff retreats for the past 5 years with exceptionally high ratings from our employees.”

– St. Joseph Healthcare System

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“Hearing other co-workers’ thoughts and insights helped me see where everyone was on our team.”

– Gregg Eisenman, Hotel Management





## Cope with stress

"I find great relief after we have completed each class. It has helped me deal with stress and chronic anxiety."

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"This class has helped me express my healing process more than traditional therapy itself. Please keep this class going to help others as well!"

- Wounded Warrior Participants



## ART MEANS LESS DEPRESSION, PAIN, MEDICAL INTERVENTION

Deep activation of brain systems through art reduces stress and creates happiness. This means less doctor visits, at least in a case study with the Artlift arts-on-prescription project in Gloucestershire, England. Artlift serves patients with a wide range of conditions, from depression to chronic pain to stroke.

These patients were referred to an eight-week course involving poetry, ceramics, drawing, mosaic or painting. A cost-benefit analysis showed a *37% reduction* in GP consultation rates and a *27% reduction* in hospital admissions. That represents an NHS (National Health Service) saving of £216 (\$280) per patient. Imagine that cost savings if extrapolated to the population! (All-Party Parliamentary Group on Arts, 2017)

## A DOCTOR'S PERSPECTIVE

Art & Creativity for Healing's services provide many of the benefits outlined in the studies above. We wanted an expert opinion from someone with first-hand knowledge of our organization.

Dr. Carolyn Cherie has experienced the Art4Healing methodology as a participant and as an observer of the method. She participated at several locations where foster youth and at-risk teens have joined an Art4Healing workshop.

Dr. Cherie said: *“As a Psychologist, I believe in this method as I have seen firsthand its transformative power during workshops with foster youth. The teens quickly relaxed and were able to document feelings using painted colors to express different intensities of emotions such as fear and anger.”*

Dr. Cherie’s quote, along with the other opinions and studies in this report, solidifies our mission’s value: *to support emotional healing through art & creative expression for those living in pain, grief, fear or stress.*

## INVEST IN CREATIVITY

These exciting advancements in evaluating visual art and the brain are the tip of the iceberg. It is convincing that regular creative visual art exercises are worth the effort. *It’s easy for anyone to get started.* Collage, journaling, and painting all provide benefits and require minimal investment. So, what are you waiting for?

## Choose art

“It surprised me how interactive and innovative this Art4Healing process was—anyone can do it without needing to be an artist. I learned some new things about my staff due to this process. I was so impressed with the first workshop that I sent our Operations Team over as well. They too had a powerful, engaging team-building experience.”

-Paul Giobbi, Founder/CEO of Zumasys

“I love getting the chance to stop the cogs of my brain and step out of my head and express. When I’m done I get to step back and look at a portrayal of my heart and mind without judgement and make new connections. I LOVE IT. It is so helpful and IMPORTANT.”

- Wounded Warrior Participant





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