


April 3-6, 2024 | CREATIVITY - "Behind and Beyond the Brain"
14th Symposium of the BIAL Foundation | Casa do Médico, Porto, Portugal

MYTHS & TRUTHS OF THE CREATIVE MIND

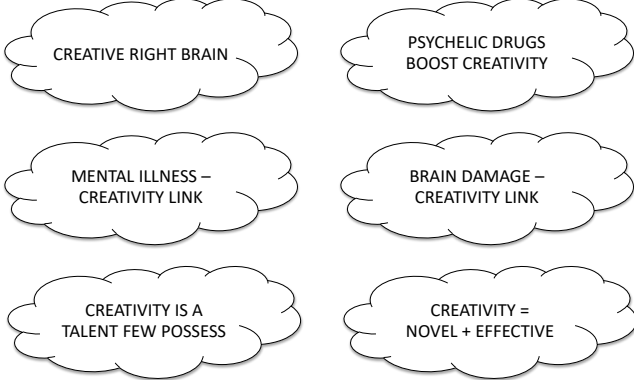


Perseus Triumphant (1813) by Domenico Marchetti after *Perseus with the Head of Medusa* (1804-1806) by Antonio Canova
- The Metropolitan Museum of Art -

Anna Abraham, Ph.D.
University of Georgia, USA | www.anna-abraham.com

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Creativity: Myth or Truth?



- CREATIVE RIGHT BRAIN
- PSYCHELIC DRUGS BOOST CREATIVITY
- MENTAL ILLNESS – CREATIVITY LINK
- BRAIN DAMAGE – CREATIVITY LINK
- CREATIVITY IS A TALENT FEW POSSESS
- CREATIVITY = NOVEL + EFFECTIVE

Verdict on these claims →
a kernel of the truth (but not the whole truth)


2

What is Creativity?

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3

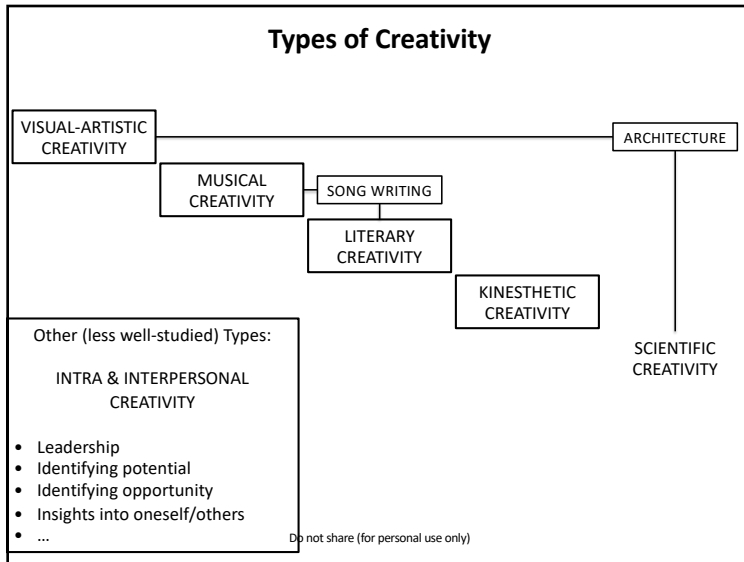
Manifestations of Creativity



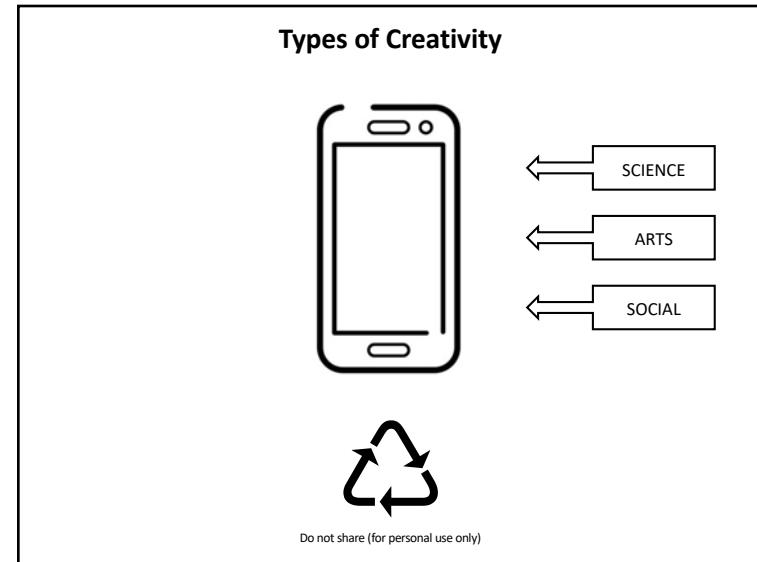
- Countries with free and universal health care
- Countries with universal but not free health care
- Countries with free but not universal healthcare
- Unknown

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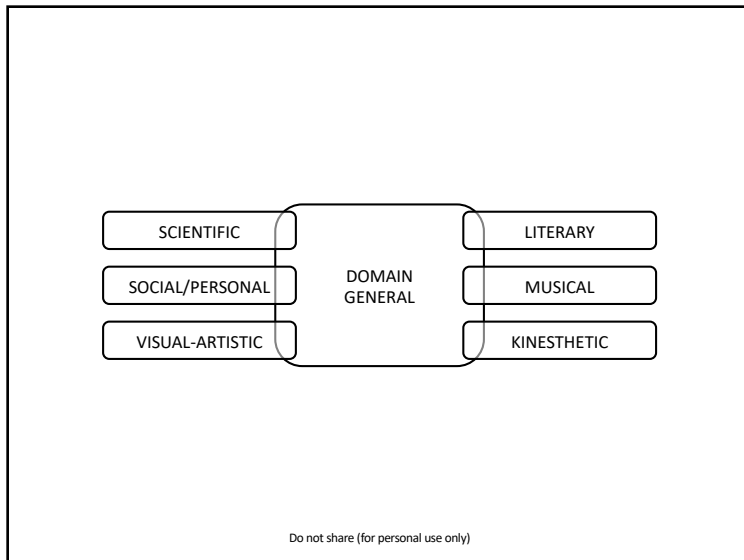
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The Challenge of Defining Creativity

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8

Defining Creativity

CREATIVITY RESEARCH JOURNAL, 14(1), 96, 2012
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DOI: 10.1080/10401612.2012.681000

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COMMENTS AND CORRECTIONS

The Standard Definition of Creativity

Mark A. Runco and Garrett J. Jaeger
Tennessee Creativity Center, University of Memphis

Let us start with a definition. The creative work is a novel work that is accepted as tenable or useful or satisfying by a group in some point in time By “novel” I mean that the creative product did not exist previously in precisely the same form The extent to which a work is novel depends on the extent to which it deviates from the traditional or the status quo. This may well depend on the

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Defining Creativity

Creativity

Original

Appropriate

“uncommon responses which are merely random, or which proceed from ignorance or delusion” are not “adaptive to reality”

(Frank Barron, 1955)

“... it must serve to solve a problem, fit the needs of a given situation, accomplish some recognizable goal. And this is as true for the expressive arts as for scientific and technological enterprises; in painting, the artist’s problem is to find a more appropriate expression of his own experience; in dancing, to convey more adequately a particular mood or theme, etc.”

(Donald MacKinnon, 1978)

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Defining Creativity

Alternate Uses Task:

“Generate as many uses as possible for common objects”

Kill an insect

- NOT Original
- Appropriate

Wash clothes

- Original
- NOT Appropriate

Plant pot

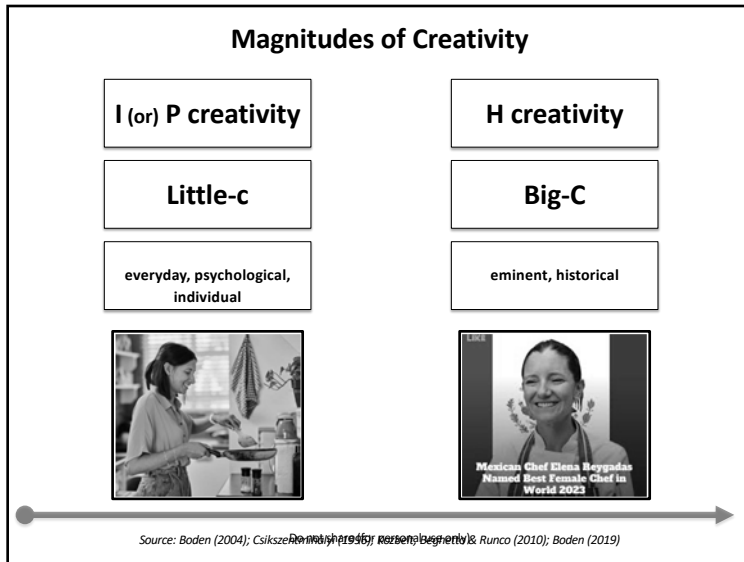
- Original
- Appropriate

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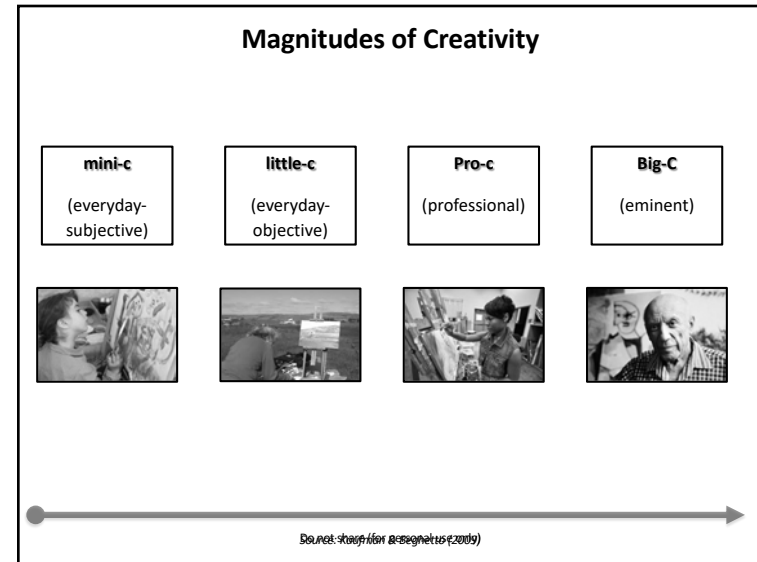
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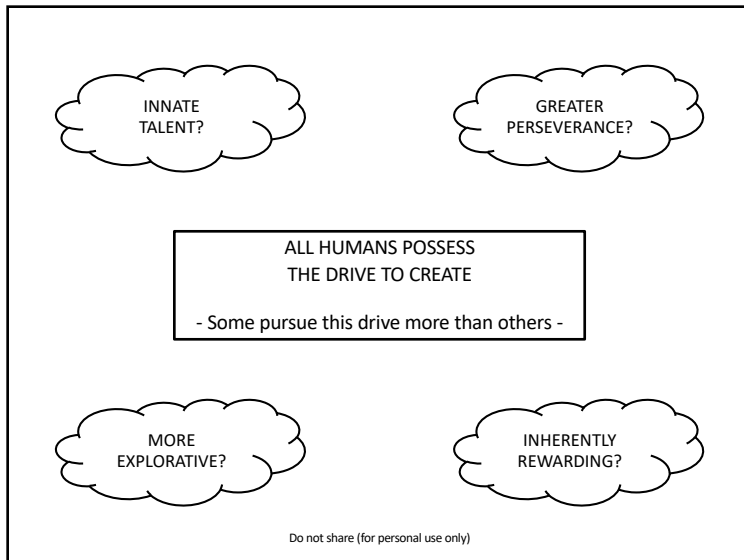
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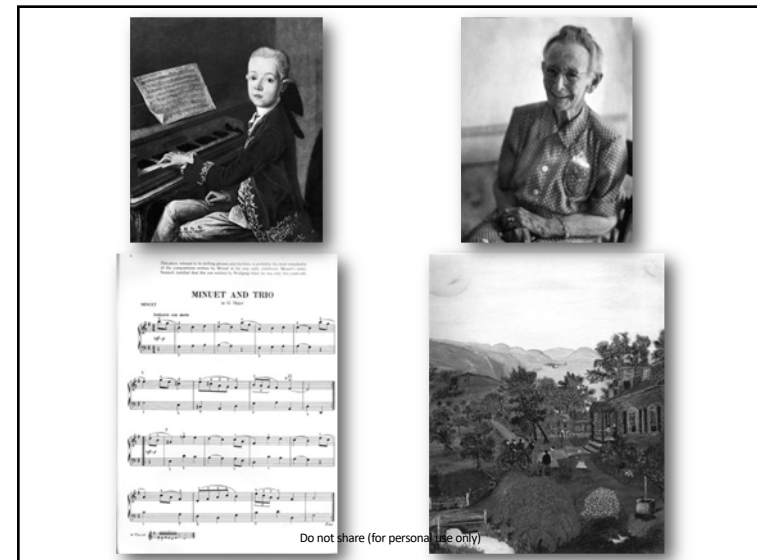
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Myth or Truth?

CREATIVE RIGHT BRAIN	PSYCHELIC DRUGS BOOST CREATIVITY
MENTAL ILLNESS – CREATIVITY LINK	BRAIN DAMAGE – CREATIVITY LINK
CREATIVITY IS A TALENT FEW POSSESS	CREATIVITY = NOVEL + EFFECTIVE

Verdict on these claims →
a kernel of the truth (but not the whole truth)

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Problems with the “Standard” Definition

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Ann. N.Y. Acad. Sci. ISSN 0077-8923

ANNALS OF THE NEW YORK ACADEMY OF SCIENCES

Issue: *Unlocking the Unconscious: Exploring the Undiscovered Self*
COMMENTARY

The deeper self: an expanded view of consciousness

Steve Paulson,¹ Siri Hustvedt,² Mark Solms,³ and Sonu Shamdasani⁴

¹Wisconsin Public Radio, Madison, Wisconsin. ²Weill Cornell Medical College, New York, New York. ³University of Cape Town, Cape Town, South Africa. ⁴University College London, London, England. annals@nyas.org

As science continues to explore the mysteries of the unconscious, two critical questions remain. First, can unconscious impulses, desires, and feelings be willfully raised to the level of the conscious self, and, if so, would the unveiling of unconscious mechanisms lead to genuine self-knowledge or empowerment? Second, can we methodically tap into the unconscious to gear ourselves along more creative lines? If the unconscious is a source of intuitive and creative inspiration, how might a more expansive understanding of consciousness help us to flourish? How can we harness the intuitive parts of ourselves to think “outside the box,” transcending the limitations of preconceived categories? And along those same lines, how would an expanded view of the unconscious frame our spiritual experiences or offer spiritual nourishment? Writer Siri Hustvedt, historian of psychology Sonu Shamdasani, and neuropsychologist Mark Solms will tackle everything from noetic experiences and the role of intuition to the phenomenon of peak experience and Jung’s “collective unconscious.”

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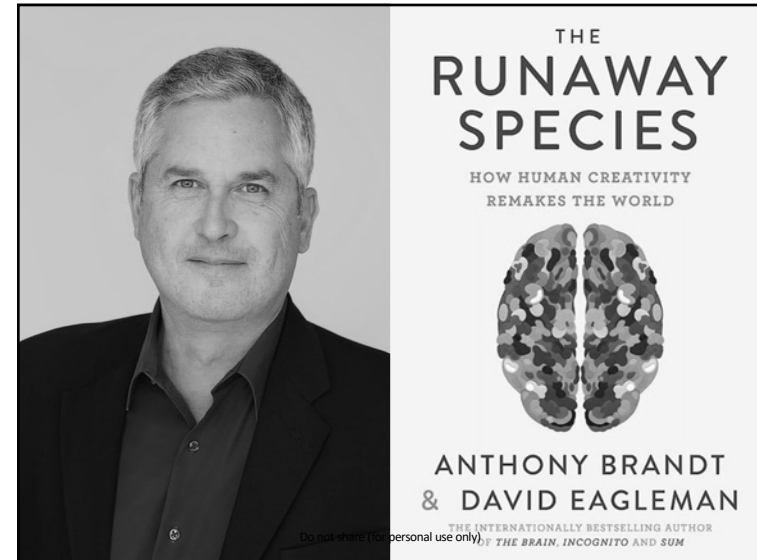
20

Paulson: To bring science, and specifically neuroscience, back into the discussion, isn't creativity, isn't what you do [*speaking to Hustvedt*] as a novelist, a total mystery? The question is, will neuroscience ever be able to explain why, when you're at your writing desk, that a particular story line pops into your head?

Hustvedt: A problem with the study of creativity in contemporary neuroscience is that the definition of creativity is pretty bad. Creativity is defined as something *new, novel*, which is also *useful* to society. Now I ask you whether Emily Dickinson's poems are useful. My novels, are they useful? And what would their use be? It's a corporate definition. We want our workers to be really creative and to create useful things that will make us a lot of money—that's a problem. The other element often discussed is *divergent thinking*—that people who can make distant associations are creative. I think that's true sometimes, and other times, it's probably not true.

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ANTHONY BRANDT composer

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Composer **Anthony Brandt** (b. 1961) earned his degrees from California Institute of the Arts (MA '87) and Harvard University (BA '83, PhD '93). His honors include a Koussevitzky Commission from the Library of Congress and grants from the National Endowment for the Arts, Meet-the-Composer, the Houston Arts Alliance, the New England Foundation for the Arts, and the Margaret Fairbank Jory Copying Assistance Program. He has been commissioned by Performing Arts Houston, the Louisiana Philharmonic, Opera in the Heights, River Oaks Chamber Orchestra, the Metamorphosen Chamber Orchestra, Da Camera of Houston, the SOLI ensemble, Houston Ballet II, the Bowdoin International Festival, the Moores School of Music, *Deception Ensemble: the Wabster Trio, the Fisher*

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CREATIVITY RESEARCH JOURNAL
2021, VOL. 33, NO. 2, 81–95
<https://doi.org/10.1080/10400419.2020.1855905>



Research Article
Defining Creativity: A View from the Arts
Anthony Brandt
Rice University

ABSTRACT
Over several decades, novel-and-appropriate has become established as the standard definition of creativity; while allowing for variations in the exact wording, the requirement that creativity requires external validation of value, utility, etc. is largely unchallenged. This functions well in high consensus fields in which value can be empirically verified. However, in low consensus fields such as the arts, value judgments are subjective, controversies abound, and it can take a long time to reach agreement. As a result, novel-and-appropriate needs to be revisited as a generalized definition. In its place, a successful definition should take into account that bringing something novel to life often requires taking the initiative long before there is external judgment of value or utility and, in low consensus fields, those external judgments can be a poor barometer. Synthesizing arguments by Simonton and Weisberg, the solution is to conduct separate analyses for personal production and public reception, and to remove utility from the definition of creativity. Advantages, risks, and implications of the recommended framework are discussed.

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Creativity

/

Appropriate

relevant, fitting, useful,
adaptive, has value,
effective

Anthony Brandt (2021):

THE JUDGE

- Who is the jury?
- Experts can disagree
- Judgments can be faulty or biased
- Judgments can change

THE ARTIST

- Novelty can come at the expense of value
- Sometimes novelty IS the value
- Subjective notions of value may be at odds with the field or society
- Usefulness is highly context-dependent
- Production is important whether useful or not

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"... originality and novelty are well articulated: their opposite is derivative, imitative, tried-and true, etc. As we've seen, though, in low consensus fields, usefulness and value are deliberately open ended: they can mean different things to different people, and even put artists and their public in conflict. Innovation in the arts depends on leaving these terms porous."

"As currently written and applied, the standard definition risks under-representing the nonconformist, the marginalized, the amateur, and the child. On top of that, in an age without a common practice in the arts, a reliance on external judgment becomes even more tenuous. Scientists may often have good reasons to limit themselves to effective output. But a definition needs to be all encompassing."

"Taking into account the wide range of creativity from amateur to professional, low consensus fields to high ones, child to adult, and private to published work, a definition of creativity is more comprehensive and internally consistent when the making is distinguished from its reception, and utility, value, usefulness, appropriateness, and fitness are considered as secondary attributes rather than as primary ones."

Anthony Brandt, "Defining Creativity: A View from the Arts,"
Creativity Research Journal, 33, no. 2 (2021): 91, 93

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Defining Creativity

CREATIVITY RESEARCH JOURNAL, 33(2) 91-93, 2021
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DOI: 10.1080/10439862.2021.1934981

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Defining Creativity

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Published as a separate and in *The Journal of Psychology*, 1953, **36**, 311-322.

CREATIVITY AND CULTURE*
Department of Psychology, University of Chicago

MORRIS I. STEIN

In this paper¹ a series of hypotheses will be discussed regarding the personality of the creative individual, his work, the process through which he achieves it, and some of the relationships between these and the culture in which they appear. These hypotheses were developed in the course of studying the personalities of a small number of Chicago artists.² The tentative nature of the hypotheses should be emphasized—their validity is still in question. They are now being subjected to test in a study of chemists.

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"The creative work is a novel work that is accepted as tenable or useful or satisfying by a group in some point in time ... By 'novel' I mean that the creative product did not exist previously in precisely the same form. It arises from a reintegration of already existing materials or knowledge, but when it is completed it contains elements that are new. The extent to which a work is novel depends on the extent to which it deviates from the traditional or the status quo ... Often, in studying creativity, we tend to restrict ourselves to a study of the genius because the 'distance' between what he has done and what has existed is quite marked. Such an approach causes us to overlook a necessary distinction between the the creative product and the creative experience. The child who fixes the bell on his tricycle for the first time may go through stages that are structurally similar to those which characterize the work of the genius. His finished product, however, is a return to a previously existing state of affairs. The product of an inventor's labor, on the other hand, may strike one as creative immediately because it did not exist previously. In speaking of creativity, therefore, it is necessary to distinguish between internal and external frames of reference ..."

Morris I. Stein, "Creativity and Culture," *The Journal of Psychology* 36, no. 2 (1953): 311

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<p>INTERNAL FRAME OF REFERENCE</p>  <p><i>The Studio</i> 1867, Winslow Homer (American, 1836-1910) Credit: The Metropolitan Museum of Art</p>	<p>EXTERNAL FRAME OF REFERENCE</p>  <p><i>A Theatre Audience</i> 19th century, Honoré Daumier (French, 1808-1879) Credit: The Metropolitan Museum of Art</p>
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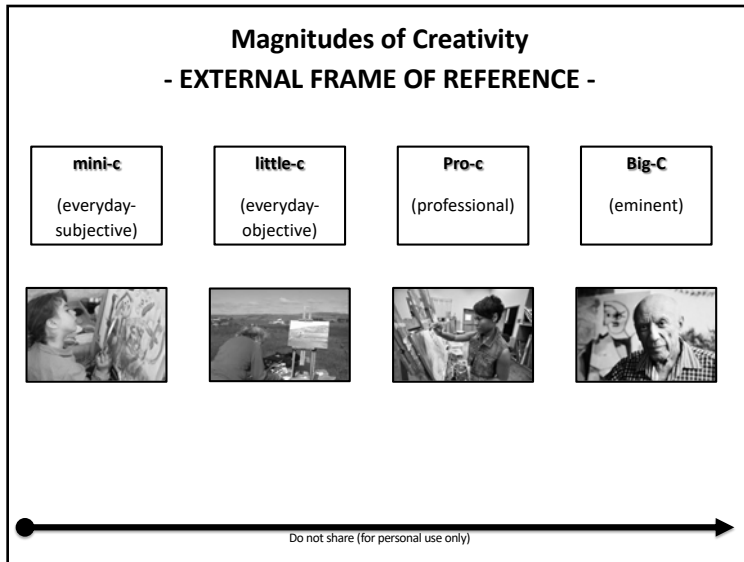
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Magnitudes of Creativity
- EXTERNAL FRAME OF REFERENCE -

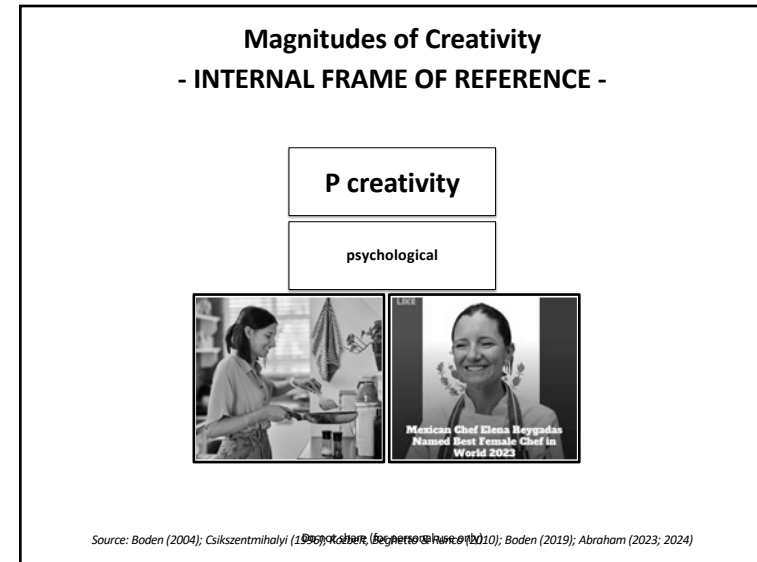
I creativity	H creativity
Little c	Big C
everyday, individual	eminent, historical
	 <p><small>Mexican Chef Elena Reygadas Named Best Female Chef in World 2023</small></p>

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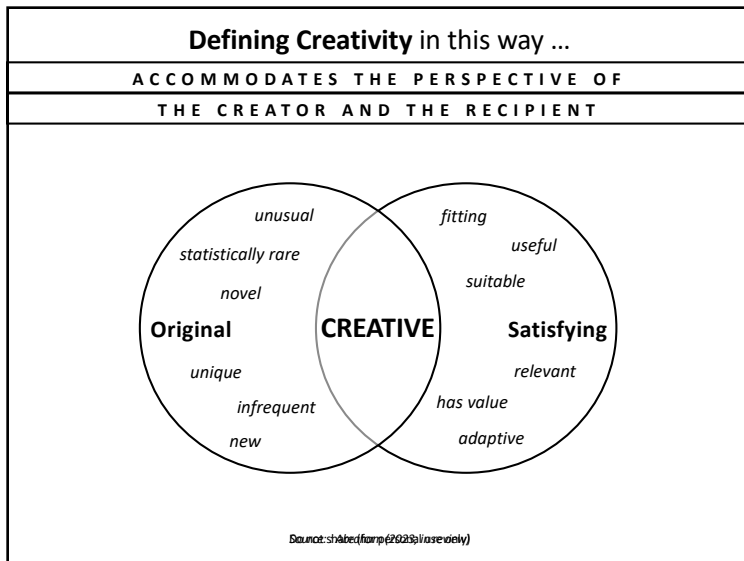
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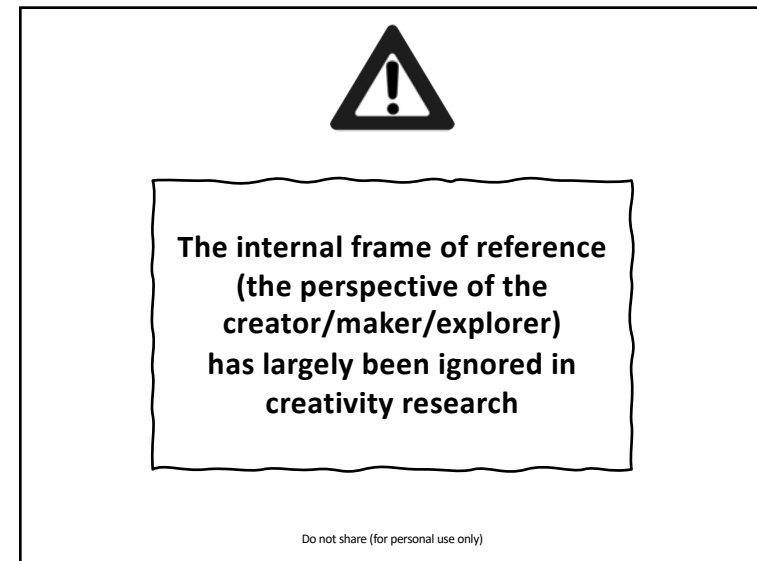
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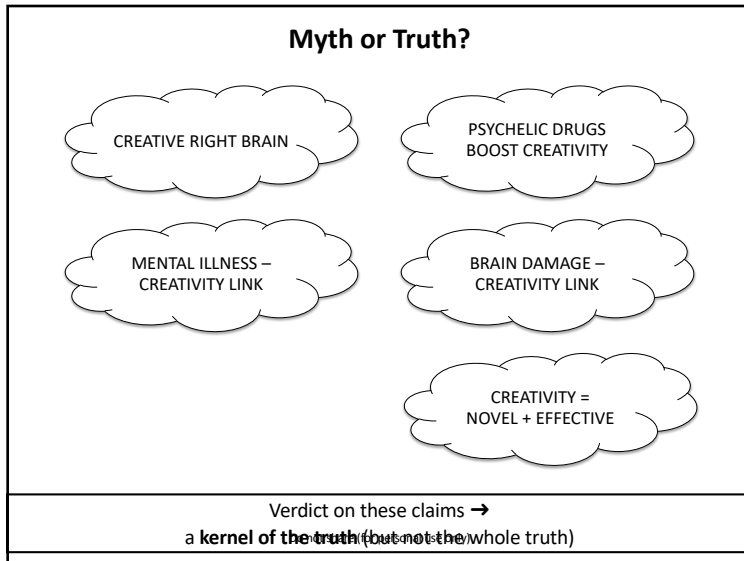
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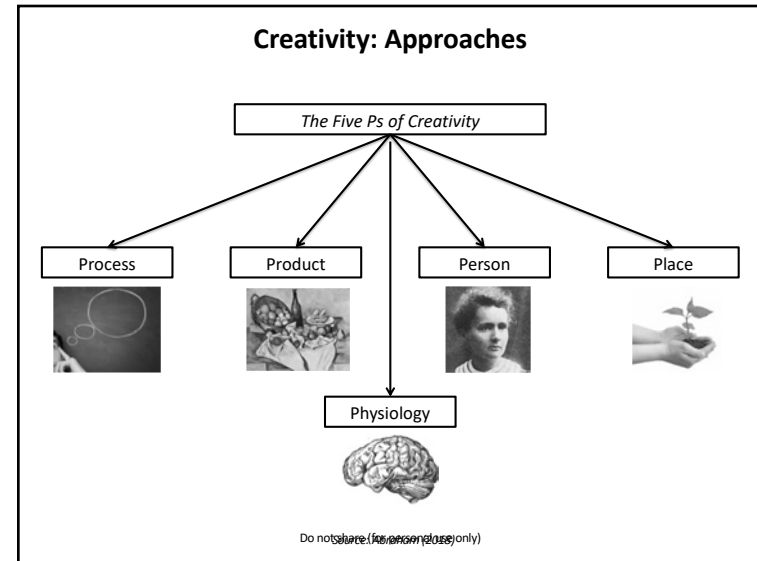
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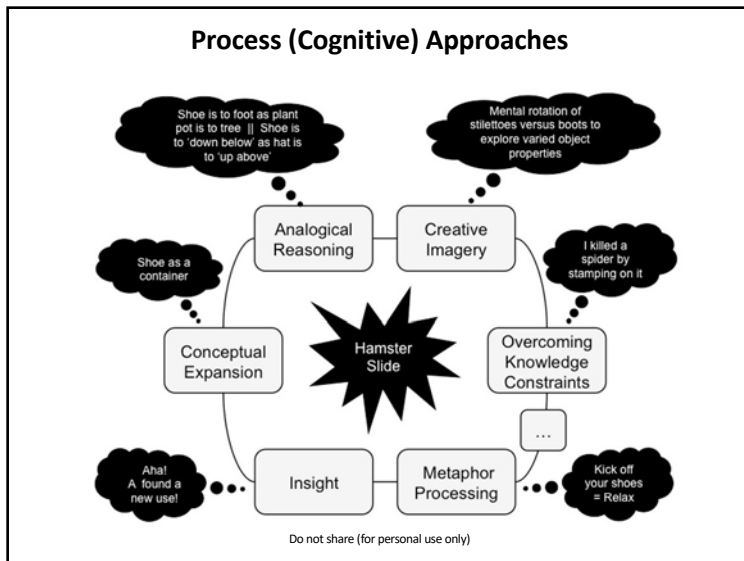
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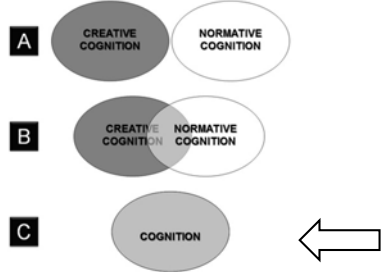


**No Brain Regions
 No Brain Networks
 No Neural Activity patterns**
**... are EXCLUSIVELY in place for
 CREATIVITY**

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Issues to Bear in Mind




Difference: Situation or Contextual Factors
(vague, unknown, non-linear, open-ended)

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Right Brain vs. Left Brain Idea



Mercedes Benz: Left Brain - Right Brain, Paint
 Advertising Agency: Shalom Avnon Amichay Y&R Interactive Tel Aviv, Israel
 Published: Feb 2011

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Dual Systems Ideas (several)




RIGHT BRAIN	LEFT BRAIN
Associative	Executive
Open Mode	Close Mode
Generate	Explore
Primary Process	Secondary Process
Divergent	Convergent
Unconscious Involuntary Uncontrollable	Conscious Voluntary Controllable
DEFAULT MODE BRAIN NETWORK Internal Mentation Spontaneous Cognition	CENTRAL EXECUTIVE BRAIN NETWORK Executive Function Directed Cognition

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Disrupted Brain & Creativity Idea

The Case of Nadia (autistic savant)



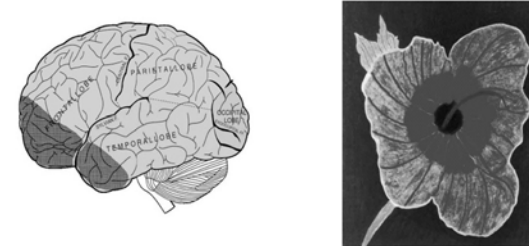
Typical 8-year old Nadia at the age of 5 Leonardo Da Vinci

Sources: Snyder, 2004; Abouhamdan, 1997; Hirstein (1999)

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Disrupted Brain & Creativity Idea

Frontotemporal Dementia (FTD)




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Disrupted Brain & Creativity Idea

Creativity & Mental Illness



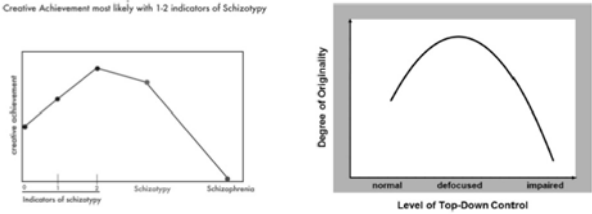
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Disrupted Brain & Creativity Idea

Creativity & Mental Illness

Creative Achievement most likely with 1-2 indicators of Schizotypy

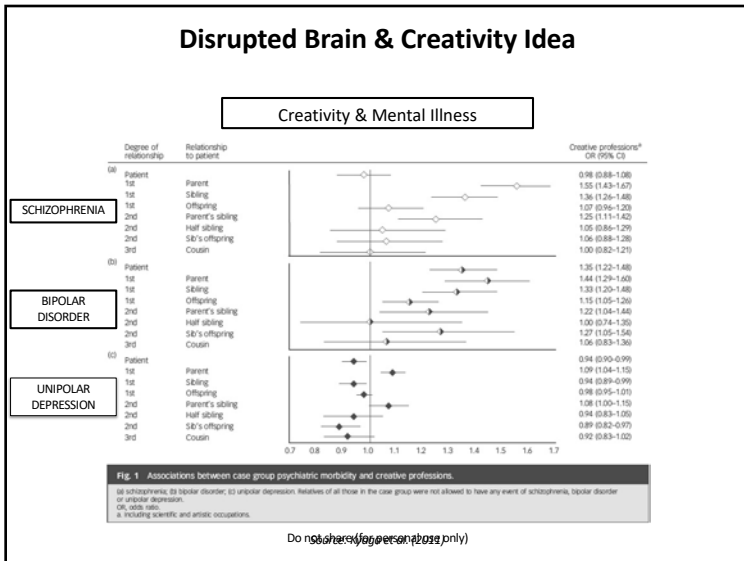


The logic behind an inverted U-function ('Goldilocks' effect)

- too much cognitive control → not conducive to creativity (RIGID)
- too little cognitive control → not conducive to creativity (CHAOS)
- neither too much nor too little → conducive to creative ideation!

Sources: Abraham (2004); Kinsky (2002); Lee & Schulberg (2001-2002)

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Mental Illness & Creativity

Directionality is unclear:

- **Genetic predisposition:** But several professions are associated with family history in that profession (e.g., politics, acting).
- **Environmental factors:** Instabilities inherent to the profession (lack of full-time employment; art-funding cuts; COVID as a case in point)
- **Economical factors:** Lack of value placed on the profession except at Big-C levels
- **Access factors:** Other professions are often less accessible to people who are afflicted (training, education, opportunities)

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Myth or Truth?

CREATIVE RIGHT BRAIN

PSYCHELIC DRUGS BOOST CREATIVITY

MENTAL ILLNESS – CREATIVITY LINK

BRAIN DAMAGE – CREATIVITY LINK

Verdict on these claims →
a kernel of the truth (but not the whole truth)

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Disrupted Brain & Creativity Idea

Paradoxical Functional Facilitation

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Paradoxical Functional Facilitation is NOT Necessarily Creative

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Prodigious Ability ≠ Creative

Savant syndrome



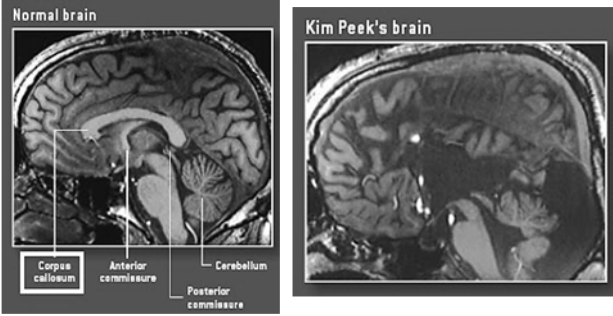
KIM READS a page in eight to 10 seconds, learning it by heart as he goes. His mental library of 9,000 books includes encyclopedic coverage of everything from Shakespeare to musical composers to the maps of all major cities in the U.S.

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Prodigious Ability ≠ Creative

Savant syndrome



Normal brain

Kim Peek's brain


Corpus callosum, Anterior commissure, Posterior commissure, Cerebellum

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Innovative Behavior ≠ Creative

Frontotemporal Dementia (FTD)
The phenomenon of *de novo* creativity



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Innovative Behavior ≠ Creative


“In ... neurological cases, the turning to art is itself innovative; the produced art, however, is not necessarily creative.”

Zaidel (2014)

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Dual Systems Ideas (several)





Associative	Executive
Open Mode	Close Mode
Generate	Explore
Primary Process	Secondary Process
Divergent	Convergent
Unconscious Involuntary Uncontrollable	Conscious Voluntary Controllable
DEFAULT MODE BRAIN NETWORK Internal Mentation Spontaneous Cognition	CENTRAL EXECUTIVE BRAIN NETWORK Executive Function Directed Cognition

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Magnitudes of Creativity

I creativity	H creativity
Little c	Big C
everyday, psychological, individual	eminent, historical
	

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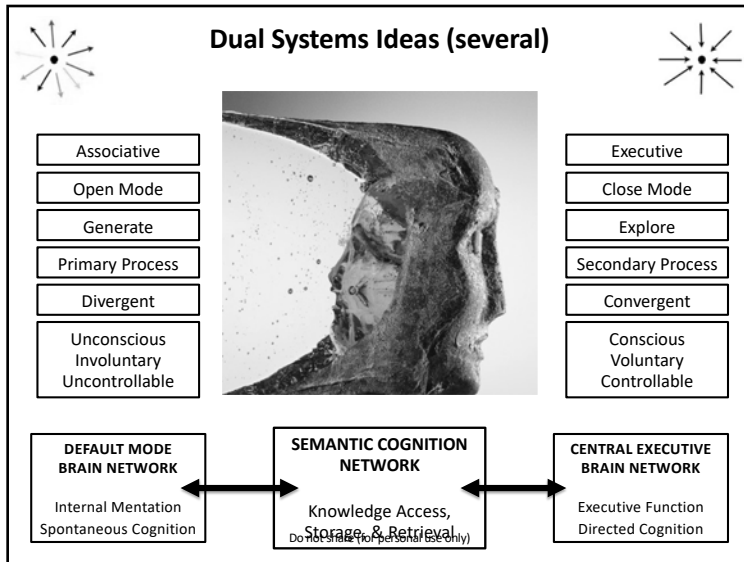
59

Magnitudes of Creativity

I creativity	H creativity
Little c	Big C
everyday, psychological, individual	eminent, historical
	

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The Need to Consider the Magnitude of Creativity

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Myth or Truth?

CREATIVE RIGHT BRAIN

PSYCHELIC DRUGS BOOST CREATIVITY

BRAIN DAMAGE – CREATIVITY LINK

Verdict on these claims →
a kernel of the truth (but not the whole truth)

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Caveat: Disrupted Brain & Creativity Idea

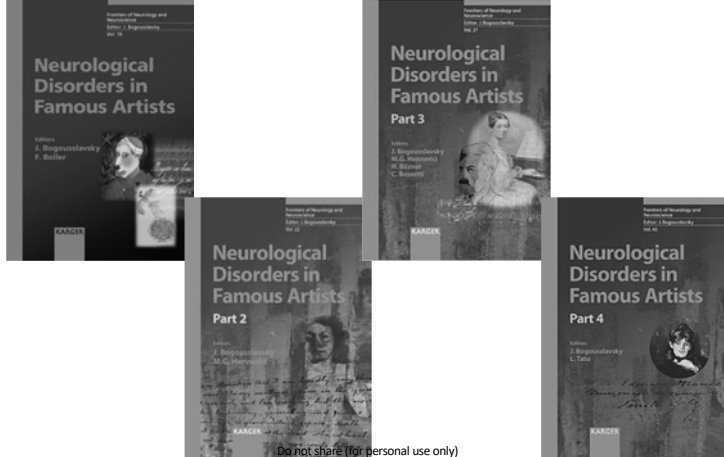
- PPA: Primary progressive aphasia – frontoinsular form

The figure shows a timeline of brain scans for a patient with Primary Progressive Aphasia (PPA). It includes four columns: 1998 (Presymptomatic), 2000 (1st Language Sx), 2002 (Diagnosis made), and 2004 (UCSF Evaluation). Each column contains a top row of functional or structural scans and a bottom row of axial MRI brain slices showing the progression of atrophy in the frontal and insular regions.

Source: Seeley et al. (2006) Brain


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Caveat: Disrupted Brain & Creativity Idea



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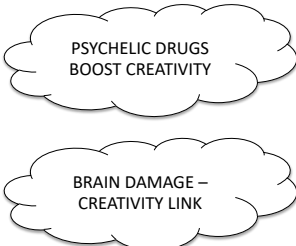
The Damage-Resistant Capacity Of The Human Brain To Create & Engage In Artistic Expression

(Adaptive Role: Drive To Communicate?)

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Myth or Truth?



Verdict on these claims →
a kernel of the truth (but not the whole truth)

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Psychedelic Drugs & Creativity



- Limited empirical work on this topic
- Central Idea:**
↓ cognitive inhibition leads to ↑ creativity
- Mixed Findings (empirical & anecdotal):**
Depending on creativity task, specific drug,
level of baseline creativity skills, etc.
- Confounding Factors:**
Unavoidable selection bias in studies
Openness to experience

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Psychedelic Drugs & Creativity

Int J Ment Health Addiction
DOI 10.1007/s11469-016-9709-8

ORIGINAL ARTICLE

Creativity and Psychoactive Substance Use: A Systematic Review

Fruzsina Iszaj¹ · Mark D. Griffiths² · Zsolt Demetrovics¹ 

study questions asked, the diverse methods used, the different samples applied, and the various substances examined. The general results suggest that there is an association between creativity and substance use. However, the studies were unable to show that substance use directly contributed to the growth of creativity or facilitated creative artistic process. It is concluded that specific skills may be subject to change as a consequence of substance use, and consequently may have an effect on the style of creation.

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Psychedelic Drugs & Creativity

Aldous Huxley, The Art of Fiction No. 24

Interviewed by George Wickes & Raymond Fraser

ISSUE 21, SPRING 1989



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FICTION

INTERVIEW
Aldous Huxley
The Art of Fiction No. 24

POETRY

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Psychedelic Drugs & Creativity

Interviewers: Would the drug give more help to the lyric poet than the novelist?

Huxley: Well, the poet would certainly get an extraordinary view of life which he wouldn't have had in any other way, and this might help him a great deal. But you see (and this is the most significant thing about the experience), during the experience you're really not interested in doing anything practical—even writing lyric poetry. If you were having a love affair with a woman, would you be interested in writing about it? Of course not. And during the experience you're not particularly in words, because the experience transcends words and is quite inexpressible in terms of words. So the whole notion of conceptualizing what is happening seems very silly. After the event, it seems to me quite possible that it might be of great assistance: people would see the universe around them in a very different way and would be inspired, possibly, to write about it.


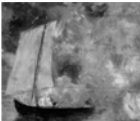

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Psychedelic Drugs & Creativity

Interviewers: But the artist's talents won't be any different from what they were before he took the drug?

Huxley: I don't see why they should be different. Some experiments have been made to see what painters can do under the influence of the drug, but most of the examples I have seen are very uninteresting. You could never hope to reproduce to the full extent the quite incredible intensity of color that you get under the influence of the drug. Most of the things I have seen are just rather tiresome bits of expressionism, which correspond hardly at all, I would think, to the actual experience. Maybe an immensely gifted artist—someone like Odilon Redon (who probably saw the world like this all the time anyhow)—maybe such a man could profit by the lysergic acid [diethylamide] experience, could use his visions as models, could reproduce on canvas the external world as it is transfigured by the drug.



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Psychedelic Drugs & Creativity

Interviewers: Do you see any relation between the creative process and the use of such drugs as lysergic acid [diethylamide]?

Huxley: I don't think there is any generalization one can make on this. Experience has shown that there's an enormous variation in the way people respond to lysergic acid. Some people probably could get direct aesthetic inspiration for painting or poetry out of it. Others I don't think could. For most people it's an extremely significant experience, and I suppose in an indirect way it could help the creative process. But I don't think one can sit down and say, "I want to write a magnificent poem, and so I'm going to take lysergic acid [diethylamide]." I don't think it's by any means certain that you would get the result you wanted—you might get almost any result.

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Translational Psychiatry

Open Access

Spontaneous and deliberate creative cognition during and after psilocybin exposure

N. L. Mason¹, K. P. C. Kuypers², J. T. Reckweg³, F. Müller^{1,2}, D. H. Y. Tse¹, B. Da Rios¹, S. W. Toennes³, P. Stiers¹, A. Feilding⁴ and J. G. Ramaekers⁵

Abstract
Creativity is an essential cognitive ability linked to all areas of our everyday functioning. Thus, finding a way to enhance it is of broad interest. A large number of anecdotal reports suggest that the consumption of psychedelic drugs can enhance creative thinking; however, scientific evidence is lacking. Following a double-blind, placebo-controlled, parallel-group design, we demonstrated that psilocybin (0.17 mg/kg) induced a time- and construct-related differentiation of effects on creative thinking. Acutely, psilocybin increased ratings of (spontaneous) creative insights, while decreasing (deliberate) task-based creativity. Seven days after psilocybin, number of novel ideas increased. Furthermore, we utilized an ultrahigh field multimodal brain imaging approach, and found that acute and persisting effects were predicted by within- and between-network connectivity of the default mode network. Findings add some support to historical claims that psychedelics can influence aspects of the creative process, potentially indicating them as a tool to investigate creativity and subsequent underlying neural mechanisms. Trial NL6007; psilocybin as a tool for enhanced cognitive flexibility; <https://www.trialregister.nl/trial/6007>.

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Psychedelic Drugs & Creativity

Table 1 Mean (SE) and independent t test results (psilocybin vs placebo) of all dependent outcome variables on the AUT and PCT.

Variable	Acute					Long term				
	Psilocybin	Placebo	T value	P value	Cohen's d	Psilocybin	Placebo	T value	P value	Cohen's d
AUT										
Fluency	-6.55 (1.13)	-1.89 (1.02)	-3.06	<0.01*	0.80	-2.44 (0.89)	-3.62 (0.96)	0.89	0.37	0.23
Originality	-1.62 (0.97)	-0.48 (1.22)	-0.73	0.47	0.19	-0.14 (0.83)	-0.72 (0.77)	0.51	0.61	0.13
Ratio	0.07 (0.03)	0.02 (0.05)	0.81	0.42	0.21	0.04 (0.03)	0.05 (0.04)	-0.34	0.73	0.10
Novel	-0.31 (0.76)	-0.21 (0.49)	-0.11	0.91	0.03	2.25 (0.76)	0.45 (0.53)	1.96	0.05*	0.52

*Statistical significance at the $p = 0.05$ level.

FLUENCY
Number of total ideas generated

ORIGINALITY
Uniqueness of the ideas generated

NOVELTY
Number of new ideas generated by the participant

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Psychedelic Drugs & Creativity

Source: Majić T, Schmidt TT & Gallinat J. (2015) Peak experiences and the afterglow phenomenon: When and how do therapeutic effects of hallucinogens depend on psychedelic exposure? *Journal of Clinical Psychopharmacology*, 29(3):241-253.

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Myth or Truth?

PSYCHELIC DRUGS
BOOST CREATIVITY

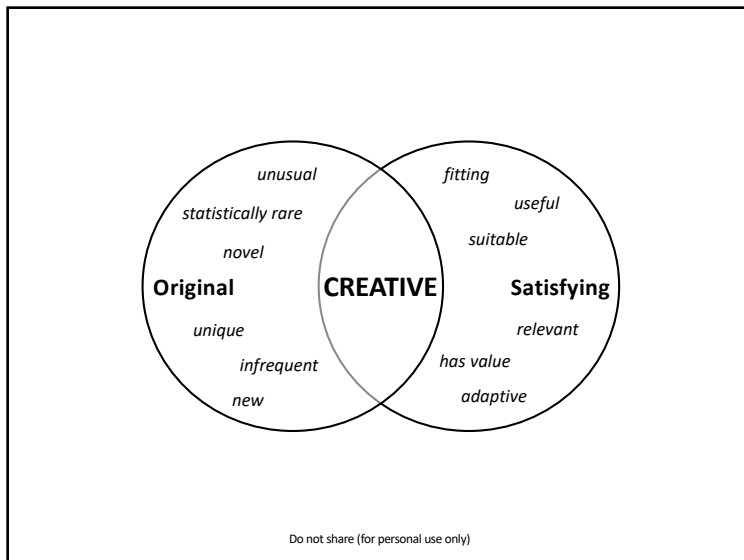
Verdict on these claims →
a kernel of the truth (but not the whole truth)

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The Creative Act: A Way of Being
Rick Rubin

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INTERNAL FRAME OF REFERENCE

The Studio
1867, Winslow Homer (American, 1836-1910)
Credit: The Metropolitan Museum of Art

EXTERNAL FRAME OF REFERENCE

A Theatre Audience
19th century, Honoré Daumier (French, 1808-1879)
Credit: The Metropolitan Museum of Art

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CREATIVE RIGHT BRAIN

PSYCHELIC DRUGS BOOST CREATIVITY

Creativity: Myths or Truths?

Verdict on these claims →
a **kernel of the truth** (but not the whole truth)


CREATIVITY IS A TALENT FEW POSSESS

CREATIVITY = NOVEL + EFFECTIVE

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THE
CREATIVE BRAIN



MYTHS AND TRUTHS
ANNA ABRAHAM
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PUBLICATION DATE:
April 30, 2024

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Torrance
FESTIVAL of IDEAS
APRIL 23-25, 2024



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TUESDAY APRIL 23

 The creativity learning process: how it works, why it matters, and how to foster it	 The role of the creative process in educational research and practice	 The role of the creative process in educational research and practice	 The role of the creative process in educational research and practice	 The role of the creative process in educational research and practice	 The role of the creative process in educational research and practice	 The role of the creative process in educational research and practice	 The role of the creative process in educational research and practice	 The role of the creative process in educational research and practice
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WEDNESDAY APRIL 24

 The role of the creative process in educational research and practice	 The role of the creative process in educational research and practice	 The role of the creative process in educational research and practice	 The role of the creative process in educational research and practice	 The role of the creative process in educational research and practice	 The role of the creative process in educational research and practice	 The role of the creative process in educational research and practice	 The role of the creative process in educational research and practice	 The role of the creative process in educational research and practice
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THURSDAY APRIL 25

 The role of the creative process in educational research and practice	 The role of the creative process in educational research and practice	 The role of the creative process in educational research and practice	 The role of the creative process in educational research and practice	 The role of the creative process in educational research and practice	 The role of the creative process in educational research and practice	 The role of the creative process in educational research and practice	 The role of the creative process in educational research and practice	 The role of the creative process in educational research and practice
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April 3-6, 2024 | **CREATIVITY - "Behind and Beyond the Brain"**
14th Symposium of the BIAL Foundation | Casa do Médico, Porto, Portugal

MYTHS & TRUTHS OF THE CREATIVE MIND



Perseus Triumphant (1813) by Domenico Marchetti after Perseus with the Head of Medusa (1804-1806) by Antonio Canova - The Metropolitan Museum of Art -

Anna Abraham, Ph.D.

University of Georgia, USA | www.anna-abraham.com

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