

Online Supplementary Materials

For:

**Bullshit Makes the Art Grow Profounder**

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## **Part A: Measures and Materials for Studies 1-4**

### **Profoundity Judgments (Studies 1, 2, 3, and 4)**

**Pennycook, Cheyne, Barr, Koehler, and Fugelsang (2015)**

**Instructions:** We are interested in how people experience the profound. Below are a series of statements taken from relevant websites. Please read each statement and take a moment to think about what it might mean. Then please rate how "profound" you think it is. Profound means "of deep meaning; of great and broadly inclusive significance."

#### **Response Options:**

- 1 (not at all profound);
- 2 (somewhat profound);
- 3 (fairly profound);
- 4 (definitely profound);
- 5 (very profound)

1. Hidden meaning transforms unparalleled abstract beauty.
2. Good health imparts reality to subtle creativity.
3. Wholeness quiets infinite phenomena.
4. The future explains irrational facts.
5. Imagination is inside exponential space time events.
6. Your consciousness gives rise to a jumble of neural networks.
7. Your movement transforms universal observations.
8. Perceptual reality transcends subtle truth.
9. The invisible is beyond new timelessness.
10. The unexplainable undertakes intrinsic experiences.
11. We are in the midst of a self-aware blossoming of being that will align us with the nexus itself.
12. Consciousness consists of frequencies of quantum energy. "Quantum" means an unveiling of the unrestricted.
13. Consciousness is the growth of coherence, and of us.
14. We are in the midst of a high-frequency blossoming of interconnectedness that will give us access to the quantum soup itself.
15. Today, science tells us that the essence of nature is joy.
16. As you self-actualize, you will enter into infinite empathy that transcends understanding.
17. The infinite is calling to us via superpositions of possibilities.
18. We are being called to explore the totality itself as an interface between serenity and intuition.
19. Throughout history, humans have been interacting with the dreamscape via bio-electricity.
20. The future will be an astral unveiling of inseparability.
21. Attention and intention are the mechanics of manifestation.
22. Our minds extend across space and time as waves in the ocean of the one mind.
23. Nature is a self-regulating ecosystem of awareness.
24. We are non-local beings that localize as a dot then inflate to become non-local again. The universe is mirrored in us.

25. Mechanics of Manifestation: Intention, detachment, centered in being allowing juxtaposition of possibilities to unfold.
26. Mind and matter are subtle and dense vibrations of consciousness (spirit).
27. We are not an emergent property of a mechanical universe but the seasonal activity of a living cosmos.
28. Every material particle is a relationship of probability waves in a field of infinite possibilities. You are that.
29. As beings of light we are local and non-local, time bound and timeless actuality and possibility.
30. Matter is the experience in consciousness of a deeper non-material reality.
31. Your teacher can open the door, but you must enter by yourself
32. The creative adult is the child who survived.
33. A river cuts through a rock, not because of its power but its persistence.
34. All endings are also beginnings. We just don't know it at the time.
35. Art and love are the same thing: It's the process of seeing yourself in things that are not you.
36. At the center of your being you have the answer; you know who you are and you know what you want.
37. A wet person does not fear the rain.
38. Forgiveness means letting go of the hope for a better past.
39. Only those who will risk going too far can possibly find out how far one can go.
40. I wonder how many people I've looked at all my life and never seen.
41. Newborn babies require constant attention.
42. Most people enjoy some sort of music.
43. Lazy people usually don't succeed in life.
44. A balanced diet is important for maintaining good health
45. Human cultures often differ from each other quite a bit.
46. People often have very bizarre dreams.
47. Higher rates of unemployment typically follow economic downturns.
48. Some things have very distinct smells.
49. Some people have poor taste in clothing.
50. Children sometimes look a lot like their parents.

*\*Statements 1-30 belong to the Bullshit Receptivity (BSR) scale; statements 31-40 belong to the Motivational Quotation Scale; statements 41-50 are mundane statements.*

#### **Cognitive Reflection Test Items (Studies 1 and 4)**

**Frederick (2005); Thomson and Oppenheimer (2016); Toplak, West, and Stanovich (2014)**

1. If John can drink one barrel of water in 6 days, and Mary can drink one barrel of water in 12 days, how long would it take them to drink one barrel of water together?
2. Jerry received both the 15<sup>th</sup> highest and the 15<sup>th</sup> lowest mark in the class. How many students are in the class?
3. A man buys a pig for \$60, sells it for \$70, buys it back for \$80, and sells it finally for \$90. How much has he made?

4. Simon decided to invest \$8,000 in the stock market one day early in 2008. Six months after he invested, on July 17, the stocks he had purchased were down 50%. Fortunately for Simon, from July 17 to October 17, the stocks he had purchased went up 75%. At this point, Simon (circle your answer):

- a) has broken even in the stock market
- b) is ahead of where he began
- c) has lost money

5. If you're running a race and you pass the person in second place, what place are you in?

6. A farmer had 15 sheep and all but 8 died. How many are left?

7. Emily's father has three daughters. The first two are named April and May. What is the third daughter's name?

8. How many cubic feet of dirt are there in a hole that is 3' deep x 3' wide x 3' long?

9. A bat and a ball cost \$1.10 in total. The bat costs \$1.00 more than the ball. How much does the ball cost?

10. If it takes 5 machines 5 minutes to make 5 widgets, how long would it take 100 machines to make 100 widgets?

11. In a lake, there is a patch of lily pads. Every day, the patch doubles in size. If it takes 48 days for the patch to cover the entire lake, how long would it take for the patch to cover half of the lake?

*\*For all items, except item 4, participants provided their answers in a free-entry text box.*

*\*\*Items 1-4 taken from Toplak et al. (2014); Items 5-8 taken from Thomson & Oppenheimer (2016); Items 9-11 taken from Frederick (2005).*

*\*\*\*Only Items 1-4 and 9-11 were administered in Study 4*

**Actively Open-Minded Thinking Scale (Study 1)**  
**Stanovich and West (1997)**

**Response Options:**

1 (disagree strongly)

2

3

4

5

6 (agree strongly)

1. Even though freedom of speech for all groups is a worthwhile goal, it is unfortunately necessary to restrict the freedom of certain political groups.

2. What beliefs you hold have more to do with your own personal character than the experiences that may have given rise to them.
3. I tend to classify people as either for me or against me.
4. A person should always consider new possibilities.
5. There are two kinds of people in this world: those who are for the truth and those who are against the truth.
6. Changing your mind is a sign of weakness.
7. I believe we should look to our religious authorities for decisions on moral issues.
8. I think there are many wrong ways, but only one right way, to almost anything.
9. It makes me happy and proud when someone famous holds the same beliefs that I do.
10. Difficulties can usually be overcome by thinking about the problem, rather than through waiting for good fortune.
11. There are a number of people I have come to hate because of the things they stand for.
12. Abandoning a previous belief is a sign of strong character.
13. No one can talk me out of something I know is right.
14. Basically, I know everything I need to know about the important things in life.
15. It is important to persevere in your beliefs even when evidence is brought to bear against them.
16. Considering too many different opinions often leads to bad decisions.
17. There are basically two kinds of people in this world, good and bad.
18. I consider myself broad-minded and tolerant of other people's lifestyles.
19. Certain beliefs are just too important to abandon no matter how good a case can be made against them.
20. Most people just don't know what's good for them.
21. It is a noble thing when someone holds the same beliefs as their parents.
22. Coming to decisions quickly is a sign of wisdom.
23. I believe that loyalty to one's ideals and principles is more important than "open-mindedness."
24. Of all the different philosophies which exist in the world there is probably only one which is correct.
25. My beliefs would not have been very different if I had been raised by a different set of parents.
26. If I think longer about a problem I will be more likely to solve it.
27. I believe that the different ideas of right and wrong that people in other societies have may be valid for them.
28. Even if my environment (family, neighborhood, schools) had been different, I probably would have the same religious views.
29. There is nothing wrong with being undecided about many issues.
30. I believe that laws and social policies should change to reflect the needs of a changing world.
31. My blood boils over whenever a person stubbornly refuses to admit he's wrong.

32. I believe that the "new morality" of permissiveness is no morality at all.
33. One should disregard evidence that conflicts with your established beliefs.
34. Someone who attacks my beliefs is not insulting me personally.
35. A group which tolerates too much difference of opinion among its members cannot exist for long.
36. Often, when people criticize me, they don't have their facts straight.
37. Beliefs should always be revised in response to new information or evidence.
38. I think that if people don't know what they believe in by the time they're 25, there's something wrong with them.
39. I believe letting students hear controversial speakers can only confuse and mislead them.
40. Intuition is the best guide in making decisions.
41. People should always take into consideration evidence that goes against their beliefs.

*\*Items 1, 2, 3, 5, 6, 7, 8, 9, 11, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25, 28, 32, 33, 35, 36, 38, and 39 are reversed scored.*

**Wordsum Task (Studies 1, 2, 3, and 4)**  
**Malhotra, Krosnick, and Haertel (2007)**

**Large print words with small print words in parentheses:**

1. SPACE (school; noon; captain; room; board; don't know)
2. BROADEN (efface; make level; elapse; embroider; widen; don't know)
3. EMANATE (populate; free; prominent; rival; come; don't know)
4. EDIBLE (auspicious; eligible; fit to eat; sagacious; able to speak; don't know)
5. ANIMOSITY (hatred; animation; disobedience; diversity; friendship; don't know)
6. PACT (puissance; remonstrance; agreement; skillet; pressure; don't know)
7. CLOISTERED (miniature; bunched; arched; malady; secluded; don't know)
8. CAPRICE (value; a star; grimace; whim; inducement; don't know)
9. ACCUSTOM (disappoint; customary; encounter; get used to; business; don't know)
10. ALLUSION (reference; dream; eulogy; illusion; aria; don't know)

**Pseudo-Profound Bullshit Titles (Studies 1, 2, and 3)**

*Pseudo-Profound Bullshit Titles were generated using the website <http://noemata.net/pa/titlegen/>*

1. Apparition of Designated Path
2. Appendix of Life
3. Articulated Response of Life
4. Decomposing the Canvas
5. Deeper Substance
6. Departure of Dreams

7. Deserting Innocence
8. Dimension of Sorrow in Development
9. Evolving Air
10. Evolving Model of Dreams
11. Extracts from Rising Purity
12. Extracts from Sadness
13. Falling Impression of Tender Perception
14. False Ghost
15. Faust of Lust in Retrospect
16. Fragment of Masked Dimensionality
17. Glowing Present in the Distance
18. Glowing Self of Pain
19. Hallucinogenic Exclusion
20. Indestructible Continuation
21. Indestructible Purity
22. Information of Fear
23. Inverse Lover
24. Juxtaposed Scar
25. Kinetic Emotion
26. Knowledge of Sorrow Decomposed
27. Literature of Death
28. Literature of Innocence (& Water)
29. Lonely Action
30. Lost Dot of Love
31. Manifesto of Dying Season
32. Manufactured Shape of Dreams
33. Matter of God
34. Meditative Future
35. Metaphysical Metamorphosis
36. Nothing of Fear
37. Pain in Development
38. Preconceived Idealism
39. Pure Action
40. Reincarnated Echo
41. Rising Future
42. Sacred Dimensionality of Fear
43. Sadness of Innocence
44. Screaming Illumination
45. Soft Impression of High Idealism
46. Still Life with Shimmering Absence

- 47. Summation of Life
- 48. Surface of Lust
- 49. The Beaten Angel
- 50. The Beaten Image
- 51. The Blue Reality
- 52. The Cosmic Metamorphosis
- 53. The Crippled Spirit
- 54. The Deaf Echo
- 55. The Dimension of Pain
- 56. The Knowledge of God
- 57. The Knowledge of Innocence
- 58. The Morphism of Love
- 59. The Painted Boundary
- 60. The Pathological Interior
- 61. The Sadness of Innocence
- 62. The Space of Hate
- 63. The Tender Lair
- 64. The Undefined Elegance
- 65. The Uplifting Path
- 66. Trapped
- 67. Virgin Desire
- 68. Vision of Hallucinogenic Abstraction
- 69. Undefined Singularity of Pain
- 70. Apparitionality of Falling Self
- 71. Incoherent Continuity
- 72. Act Including Speculative Sequence
- 73. Alphanumeric Sentiment
- 74. Analysis of Lust Part II
- 75. Apparition of Burning Square
- 76. Articulated Aviator
- 77. Autumnal Act with Reincarnated Dimension
- 78. Babble of Peace
- 79. Birth and Shape
- 80. Commercial Sphere
- 81. Conversation with Hedonic Muse
- 82. Conversation with Juxtaposed Departure
- 83. Deciphering the Left
- 84. Decreasing Nature
- 85. Demagogic Fire Constructed
- 86. Demoralized Appendix

- 87. Describing Nature
- 88. Desecrating a Bureaucracy
- 89. Ephemeral Stain in 3 Stages
- 90. Extracts from Modest Thing
- 91. Fugue with Glowing Investigation
- 92. Geopolitical Interior
- 93. Greener Image Rearranged
- 94. Illumination or Point
- 95. Impression of Happy Stick
- 96. Impression of Rising Concept
- 97. Impression of Transfigured Analysis
- 98. Incidental Dance in Retrospect
- 99. Incidental Still Life with Manufactured Song
- 100. Indestructible Blob
- 101. Information with Sky
- 102. Instant Eye under Construction
- 103. Instant Vision of Smaller Babble
- 104. Inverse Image under Construction
- 105. Joint Feeling
- 106. Joint Manifesto of Intuitive Aphrodite
- 107. Kinetic Self-Portrait with Secret Dimension
- 108. Landscape with Falling Investigation
- 109. Landscape with Reincarnated Idealism
- 110. Mind-Bending Piece
- 111. Modern Material
- 112. Mystic Information
- 113. Mystic Redhead of Death
- 114. Painted Formation
- 115. Pathological Redhead Rearranged
- 116. Reality with Formation
- 117. Reappearance of Falling Variation
- 118. Reflecting Shape
- 119. Reflecting Wheel (& Water)
- 120. Rejected Biscuit of Sorrow
- 121. Secret Machine in Development
- 122. Shape or Literature
- 123. Sketch of Ephemeral Information
- 124. Sphere & Plan
- 125. Sphere in Venus
- 126. Still Life with Conceptual Dimension

- 127. Study for Geometric Summation
- 128. Superior Architectonic Poetry
- 129. Supposed Situation
- 130. The Celluloid Cannibalism
- 131. The Meditative Song
- 132. The Paranoiac-Critical Song
- 133. The Remixed Space
- 134. The Rotating Babble
- 135. The Superimposed Mechanism
- 136. Theme from Explained Approach
- 137. Transfigured Present in Retrospect
- 138. Unfolding Context
- 139. Useless Summation
- 140. Vision of Jumping Compilation
- 141. Vision of Material
- 142. Volume and Gentleman

*\*Titles 1-71 appeared in Studies 1, 2, and 3. Titles 72-142 appeared only in Study 1.*

### **Computer-Generated Abstract Art Images (Studies 1, 2, and 3)**

*Computer-Generated Abstract Art images were generated using the websites:  
<http://bomomo.com> and <http://windowseat.ca/viscosity/create.php>*



*\*Three examples of computer-generated abstract art used in Studies 1, 2, and 3. All computer-generated abstract art images used in the current study are available for download at the following link <https://osf.io/vkfn6/>*

### **Mundane Titles (Studies 2 and 3)**

1. Shades (2012)
2. Composition 3: Mixed
3. Split Design #7
4. Abstract II - Digital

5. Line Segments and Shapes (145)
6. Light Hues
7. Pattern Aspect #21 - Colour
8. Mixed Media 11
9. New Media XVI
10. Medium Bright
11. Composition
12. Concept Three
13. Structures
14. Exploring Abstract
15. Concept Art - Geomix
16. Tones of Colour #7
17. Concept Lines - ver. 34
18. Colouration
19. Form and Light
20. Tinted Abstraction
21. Big Swirl
22. Tinted 27650
23. Version 3: Abstract Elements
24. Sharp Shades c. 2011
25. Contrasting Lineations
26. Horizontal Design
27. Version 4: Abstract Elements
28. Colour Mixing
29. Asymmetry in Art (2001)
30. Variations of Lines
31. Colour Study 5/7
32. Moderate Colouration
33. Study Piece 4: Depth
34. Computerized Medium 2.0
35. Plain Hues
36. Even Colour
37. Edges in Digital
38. Complex Colour
39. Digital Design
40. Streak VII
41. Linear Study: A4
42. Colourful Range
43. Tonal Hues - 1999 (XXI)
44. Brushed Edges

- 45. Digital Medium (1 of 6)
- 46. Patterns in Space
- 47. Colour in Line 3.5
- 48. General Geometry (1998)
- 49. Figure Overlay
- 50. Untitled 2016
- 51. Concept Study VIII
- 52. Abstract Piece XI
- 53. Mixing Palette
- 54. Filtered Shades
- 55. Poster Art (2 of 10)
- 56. Abstract Concepts - Remastered (2009)
- 57. Digital Illustration 14b (2000)
- 58. Style Colouration
- 59. Paper and Graphics 1.0
- 60. Medium in Colour 6.5
- 61. Abstract Qualities
- 62. Number Eight - 1994
- 63. Simple Shapes (on canvas)
- 64. Objects in Tint
- 65. Project: Colour 467
- 66. Tints in Style B
- 67. Abstraction #5
- 68. Untitled 4/5 (vibrance)
- 69. Cropped Print Number Seven
- 70. Converging Shapes II
- 71. Shapes in Tandem

#### **Artist-Created Abstract Art Images (Study 3)**



*\*Three examples of artist-created abstract art used in Study 3. All artist-created abstract art images used in the current study are available for download at the following link  
<https://osf.io/vkfn6/>*

## **International Art English Statements (Study 4)**

### **Response Options:**

- 1 (not at all profound);
- 2 (somewhat profound);
- 3 (fairly profound);
- 4 (definitely profound);
- 5 (very profound)

1. The idealization of aesthetic form; the integration of architecture, sculpture, and furniture; and the poetic evocation of spiritual thought.
2. Urban environments that address the politics of public space to large-scale communal participation where the culmination of many small acts achieves mythic proportions.
3. Testing the diminishing boundaries between our bodies and a world in which virtuality is ubiquitous and surrealism is increasingly normalized.
4. Physicalized, transcribed into sounds, symbols, pictures or patterns, scrambled, or negated, language is freed from the page as well as from its received meanings, received forms, and, in some cases, the duties of communication altogether.
5. By casting his own masculinity into question, by performing its absence, Acconci problematizes the dictum that the male (or female) subject is a coherent being.
6. Aesthetic Error is a group of sculptural works that aims at a void that signifies precisely the non-being of what it represents. Because nothing so testifies to an artist's lack of genius as resorting to allegory.
7. Inspired by the un-inked page, the blank screen, the untouched canvas, the white 'readiness' of the seemingly un-pixelated infinity of a page without text.
8. When everything disappears by excess of reality, when, thanks to the deployment of a limitless technology, both mental and material, human beings are capable of fulfilling all their potentialities.
9. The catoptric box and the cabinet of curiosities come together in Soane's house as a means of creating a fully internalized world, from the wondrous universe in microcosm of the cabinet.
10. The fugacity of rainbows or the delicacy of mist – which initially appear redolent of the spiritual and emotional sensibilities of Romanticism.
11. This simulacrum of inversion or involution of poles, this clever subterfuge which is the secret of the whole discourse of manipulation and hence, today, in every domain, the secret of all those new powers sweeping clean the stage of power.
12. Deliberate ambivalence is inherent to the approach, yielding qualities where things convulse and stutter in emerging vitality.
13. Each mirror imaginatively propels its viewer forward into the seemingly infinite progression of possible reproductions that the artist's practice engenders.
14. Faldbakken's practice holds in perpetual tension the forces of proposition and cancellation, vandalism and erasure, aesthetic generosity and conceptual restraint, the possibility of language and its abstraction into illegibility.

15. Still lifes, domestic interiors and landscapes of her native Australia are imbued with a sense of profound serenity and a sensibility that invokes the significance of time, reflection and the intimacy of a private world.
16. Sculptures too, and drawings continue this investigation of the macabre, the carnivalesque and the abject, as well as apparently abstract painting compositions from which the familiar physiognomies of Condo's players emerge and retreat.
17. The banality of this gesture is disconcerting, and in their strangeness, the works convey a future created in the past.
18. Their invisibility heightens the mystery and artifice of the scene but also removes the most recognizable aspect of figuration from works.
19. Close inspection reveals that any trace of materiality or depth to the painted mark is conspicuously absent.
20. In SIRENS, we tend to a fire that mediates between all vanishing and appearing forms; we take a bite from the paradise, party pizza, assert to energize and eat our words.
21. The materialization of not-making—as in all the activities that surround or are instrumental to artistic production, but not production itself—is a business of false vacancies. There is no absence in not-making.
22. The condition of appearing out of time, or beyond time, implies a claim that the work already belongs to posterity - that is, it is an assurance of good investment.
23. The eternity suggested in our exhibition spaces is ostensibly that of artistic posterity, of undying beauty, of the masterpiece. But in fact it is a specific sensibility, with specific limitations and conditionings, that is so glorified.
24. The white cube represents the blank ultimate face of light from which, in the Platonic myth, these elements unspeakably evolve.
25. In such types of thought, primary shapes and geometric abstractions are regarded as alive - in fact, as more intensely alive than anything with a specific content.
26. They acknowledge that our identity is itself a fiction, and they give us the illusion we are present through a double-edged self-consciousness.
27. We objectify and consume art, then, to nourish our nonexistent selves or to maintain some esthetic starveling called "formalist man."
28. I am against the unity of the self and a fixed identity. I am talking about hybrid, schizophrenic identity, and one which is lost in Inter-textuality.
29. By suggesting eternal ratification of a certain sensibility, the white cube suggests the eternal ratification of the claims of the caste or group sharing that sensibility.
30. Works that probe the dialectic between innovations that seem to have been forgotten, the ruinous present state of projects once created amid great euphoria.

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## **Part B: Replication of Study 1**

### **Study 1B**

In Study 1B we sought to replicate the enhancing effect of computer-generated pseudo-profound bullshit titles on participants' profundity judgments of abstract art.

### **Method**

#### **Participants**

A sample of 199 University of Waterloo undergraduates volunteered to complete a study in exchange for course credit.

#### **Measures and Materials**

All measures and materials were identical to those used in Study 1 with the exception that Study 1B featured the addition of the Rational-Experiential Inventory, and the removal of the Cognitive Reflection Test and Actively Open-Minded Thinking scale.

**Rational-Experiential Inventory.** The Rational-Experiential Inventory (REI) is a 40-item measure used to assess preferences for rational versus experiential information processing (Pacini & Epstein, 1999). It consists of four subscales measuring rational ability, rational engagement, experiential ability, and experiential engagement. For each REI item, participants responded to a statement (e.g., "I enjoy intellectual challenges") using a 5-point scale ranging from 1 (definitely not true of myself) to 5 (definitely true of myself). As this scale was administered for exploratory reasons it is not analyzed below.

#### **Procedure**

The procedure of Study 1B was identical to that of Study 1 with the exception that participants completed the REI instead of the CRT and AOT following all profundity judgments.

### **Results & Discussion**

As in Study 1, a paired samples *t*-test comparing participants' profundity ratings of abstract art when accompanied by a randomly generated bullshit title versus no title revealed a significant effect of title presence [ $t(198) = 10.44, p < .001, d = 0.48$ ]. That is, abstract art images presented with pseudo-profound bullshit titles ( $M = 2.56, SD = 0.67$ ) were perceived as more profound compared to untitled abstract art ( $M = 2.24, SD = 0.66$ ), once again demonstrating the ability of pseudo-profound bullshit to enhance the profundity of abstract art.

### **Individual Differences**

Along with the observed profundity enhancing effect of pseudo-profound bullshit titles, we conducted correlational analyses to explore the relation between some of our key variables of interest (see Table S1). First, consistent with the results of Study 1, we observed a strong positive correlation between profundity ratings for pseudo-profound bullshit statements and randomly-generated pseudo-profound bullshit titles [ $r(197) = .67, p < .001$ ], further suggesting that our randomly-generated titles approximated pseudo-profound bullshit well. Moreover, we once again observed strong positive associations between participants' *bullshit receptivity* and their profoundness ratings given to titled [ $r(197) = .53, p < .001$ ] and untitled [ $r(197) = .44, p < .001$ ] abstract art. These associations were largely unaffected by including participants' profundity ratings of motivational and mundane statements as a covariate [ $r(195) = .47, p < .001$  and  $r(195) = .39, p < .001$  respectively]. Overall, it appears that those judging computer-generated abstract art as profound are also most likely to be receptive to meaningless pseudo-profound bullshit statements. Finally, verbal ability (as measured by the Wordsum task) was once again negatively correlated with a tendency to judge pseudo-profound bullshit statements [ $r(197) = -.24, p = .001$ ] and pseudo-profound bullshit titles [ $r(197) = -.20, p = .004$ ] as profound, suggesting that those low in verbal ability may be most receptive to pseudo-profound bullshit. However, also

replicating the findings of Study 1, we observed a negative correlation between verbal ability and profundity ratings given to mundane statements [ $r(197) = -.32, p < .001$ ], suggesting that those low in verbal ability may simply be more permissible in endorsing some level of profundity to any and all statements.

Table 1S

Study 1B Correlations

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1. BS Titled Art	2.56	0.67	-							
2. Untitled Art	2.24	0.66	.79	-						
3. BS Titles	2.73	0.63	.73	.56	-					
4. BSR	2.96	0.75	.53	.44	.67	-				
5. Motivational Quotations	3.66	0.78	.25	.13	.33	.45	-			
6. Mundane statements	1.59	0.78	.19	.30	.32	.34	.25	-		
7. BS Sensitivity (Var5 – Var4)	0.70	0.80	-.26	-.29	-.31	-.49	.55	-.08	-	
8. Wordsum	5.92	1.51	-.17	-.26	-.20	-.24	.01	-.32	.23	-

*Note.* Pearson correlations (Study 1B;  $N = 199$ ). “BS Titled Art” refers to participants’ profundity ratings given to abstract art images accompanied by a pseudo-profound bullshit title. “Untitled Art” refers to participants’ profundity ratings given to untitled abstract art images. “BS Titles” refers to participants’ profoundness ratings of pseudo-profound bullshit titles unaccompanied by art. *BSR* = Bullshit Receptivity scale; *BS Sensitivity* = Participants’ mean motivational quotation profundity ratings minus their mean BSR profundity ratings. Coefficients of .14 or greater are significant at the  $p < .05$  level, coefficients of .19 or greater are significant at the  $p < .01$ , coefficients of .24 or greater are significant at the  $p < .001$  level.

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## **Part C: Exploratory Analyses**

In this section we report the results of exploratory individual differences analyses for each study.

### **Study 1**

#### **Exploratory Measures**

**Cognitive Reflection Task.** The Cognitive Reflection Test (CRT) is used to assess the degree to which a person is able to suppress an intuitive incorrect response in favour of a deliberative correct answer. In the current study we administered 11 CRT items: three original CRT items (Frederick, 2005), four items from the CRT-2 (Thomson & Oppenheimer, 2016) and four items from the CRT-4 (Toplak, West, & Stanovich, 2014). Each participant's CRT score was equal to their total number of correct responses, giving each participant a CRT score that ranged from zero to eleven.

**Actively Open-Minded Thinking scale.** The Actively Open-Minded Thinking scale (AOT) is a self-report measure consisting of 41-items designed to assess the degree to which a person is cognitively flexible, open minded, and resistant to dogmatic thinking (Stanovich & West, 1997). Participants were asked to state their level of agreement for each AOT item using a 6-point scale which ranged from 1 (disagree strongly) to 6 (agree strongly). Participants' scores on the AOT were computed by calculating their average rating to all 41-items.

**Wordsum Task.** The Wordsum task is a 10-item vocabulary test commonly used as a measure of verbal ability (see Malhotra, Krosnick, & Haertel, 2007 for a review). In this task, a word in large print (e.g., “CLOISTERED”) appears above a series of smaller print words (e.g., bunched, secluded, malady, miniature, arched). Participants' objective is to pick the small print word that is the best synonym for the large print word. Participants' scores on the Wordsum task

were equal to the total number of correct responses they provided, giving each participant a Wordsum score that ranged from zero to ten.

## Procedure

For a full description of the procedure of Study 1 (as well as descriptions of all non-exploratory measures) see the main body of the manuscript. For a full list of items for all measures used in the current study see Part A of this supplementary materials.

## Results

We conducted correlational analyses to explore the relation between key variables and various individual difference measures (see Table 2S). We observed no correlation between participants' CRT or AOT scores and their profundity judgments for pseudo-profound bullshit statements, titles, and titled and untitled art images ( $p > .05$  in all cases). These findings run contrary to one popular explanation of individual's receptiveness to pseudo-profound bullshit, hypothesizing that this receptiveness is a result of failures to carefully and reflectively consider pseudo-profound bullshit statements (Pennycook et al., 2015; Pennycook & Rand, 2019).

Although the positive correlation between AOT scores and *bullshit sensitivity* [ $r(198) = .18, p = .013$ ] does indicate that those higher in actively open-minded thinking are better able to distinguish between pseudo-profound bullshit statements and motivational quotations.

Additionally, verbal ability (as measured by the Wordsum task) was negatively correlated with a tendency to judge pseudo-profound bullshit statements [ $r(198) = -.19, p = .006$ ] and pseudo-profound bullshit titles [ $r(198) = -.17, p = .014$ ] as profound, suggesting that those low in verbal ability may be most receptive to pseudo-profound bullshit. However, we also observed a negative correlation between verbal ability and profundity ratings given to mundane statements [ $r(198) = -.33, p < .001$ ], signifying that those low in verbal ability may simply be more

permissive in endorsing some level of profundity to any and all statements. Relatedly, the positive correlation between verbal ability and *bullshit sensitivity* [ $r(198) = .21, p = .004$ ] indicates that those with higher verbal ability may also be better at differentiating between meaningless pseudo-profound bullshit statements and meaningful motivational quotations.

Table 2S

Study 1 Correlations

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10
1. BS Titled Art	2.60	0.69	-									
2. Untitled Art	2.31	0.66	.83	-								
3. BS Titles	2.80	0.60	.66	.61	-							
4. BSR	2.98	0.73	.58	.52	.73	-						
5. Motivational Quotations	3.71	0.74	.22	.16	.44	.44	-					
6. Mundane statements	1.80	1.01	.10	.20	.19	.13	.10	-				
7. BS Sensitivity (Var5 – Var4)	0.73	0.78	-.34	-.34	-.28	-.53	.53	-.03	-			
8. AOT	4.29	0.44	-.03	-.10	-.06	-.10	-.09	-.23	.18	-		
9. CRT	5.61	2.86	-.05	-.01	.02	-.01	.01	-.09	.02	-.03	-	
10. Wordsum	5.86	1.59	-.03	-.18	-.17	-.19	.03	-.33	.21	.30	.04	-

*Note.* Pearson correlations (Study 1;  $N = 200$ ). “BS Titled Art” refers to participants’ profundity ratings given to abstract art images accompanied by a pseudo-profound bullshit title. “Untitled Art” refers to participants’ profundity ratings given to untitled abstract art images. “BS Titles” refers to participants’ profoundness ratings of pseudo-profound bullshit titles unaccompanied by art. *BSR* = Bullshit Receptivity scale; *BS Sensitivity* = Participants’ mean motivational quotation profundity ratings minus their mean BSR profundity ratings; *CRT* = Cognitive Reflection Test.

*AOT* = Actively Open-Minded Thinking scale. Coefficients of .14 or greater are significant at the  $p < .05$  level, coefficients of .19 or greater are significant at the  $p < .01$ , coefficients of .24 or greater are significant at the  $p < .001$  level.

### **Study 2**

In Study 2, we once again found participants' Wordsum scores to be negatively correlated with a tendency to judge pseudo-profound bullshit statements [ $r(216) = -.24, p < .001$ ] and pseudo-profound bullshit titles [ $r(216) = -.14, p = .044$ ] as profound. Nevertheless, consistent with the findings of Study 1, we also observed negative correlations between participants' Wordsum scores and their profundity ratings given to mundane statements [ $r(216) = -.31, p < .001$ ] and mundane titles [ $r(216) = -.44, p < .001$ ]. Therefore, it appears that individual differences in verbal ability predict the extent to which individuals possess a proclivity to rate any and all statements as profound.

### **Study 3**

Surprisingly, in Study 3, we no longer observed a significant negative correlation between participants' Wordsum scores and pseudo-profound bullshit statements and titles [ $r(198) = -.03, p = .710$  and  $r(198) = .08, p = .247$  respectively]. Nevertheless, we do replicate the negative correlations between participants' Wordsum scores and mundane statements and titles [ $r(198) = -.23, p = .001$  and  $r(198) = -.24, p = .001$  respectively], indicating that those low in verbal ability are most likely to endorse any and all statements and titles as profound.

### **Study 4**

In Study 4, participants' verbal ability scores (as measured by the Wordsum task) were negatively correlated with their receptivity to both International Art English [ $r(198) = -.23, p = .001$ ] and pseudo-profound bullshit statements [ $r(198) = -.14, p = .046$ ]. Taken together, these

results indicate that those with high verbal intelligence were less likely to judge either pseudo-profound bullshit or International Art English as profound. Conversely, participants' CRT scores were not correlated with their proclivity to rate either International Art English [ $r(198) = -.12, p = .082$ ] or pseudo-profound bullshit statements [ $r(198) = -.06, p = .377$ ] as profound.

## Discussion

While the primary focus of the current study was to examine how bullshit could be used to impress others, gain prestige, and more successfully navigate social systems, the current study also allowed us to examine various individual differences in participants' susceptibilities to endorsing pseudo-profound bullshit. Failures to properly engage in deliberative (as opposed to intuitive) thinking when encountering pseudo-profound bullshit has been put forth as an explanation for why individuals endorse meaningless pseudo-profound bullshit as profound. Thus, a common finding is that those scoring higher on the CRT (a measure of individuals' propensity to engage in deliberative thinking), and associated measures (e.g., AOT), are less receptive to pseudo-profound bullshit (Pennycook et al., 2015; Pennycook & Rand, 2019). However, we failed to replicate the commonly observed negative relation between participants' CRT and AOT scores and their profundity ratings given to pseudo-profound bullshit statements. We also did not observe a significant negative relation between participants' CRT scores and their profundity ratings for International Art English, titled and untitled computer-generated abstract art images, and stand-alone pseudo-profound bullshit titles. Therefore, individuals endorsing profoundness in both pseudo-profound bullshit statements and abstract art images did not appear to do so as a result of a failure to engage in deliberative thinking.

Unlike our measures of deliberative and open-minded thinking (i.e., CRT and AOT), our measure of verbal ability (i.e., the Wordsum) did predict individual differences in *bullshit*

*receptivity*. That is, in all but one case (Study 3), we find that individuals' verbal ability is negatively correlated with their propensity to judge meaningless pseudo-profound statements and titles as profound. Furthermore, we observe a similar relation between participants' verbal ability scores and their profundity judgments of International Art English. Therefore, it appears that those low in verbal ability may be especially receptive of pseudo-profound bullshit (or bullshit like) statements. Nevertheless, with the exception of Study 4, we observed a negative correlation between participants' verbal ability scores and their profundity judgments of meaningful mundane statements. Thus, another possibility is that those low in verbal ability simply share a proclivity to judge any and all statements as profound.

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