



# Finding Meaning in the Clouds: Illusory Pattern Perception Predicts Receptivity to Pseudo-Profound Bullshit



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## Introduction

“Imagination is inside exponential space time events” ~ Computer Algorithm

- Research on Pseudo-Profound Bullshit has shown that people often extract a false sense of meaning from impressive but ultimately vacuous statements<sup>1</sup>
- Individual differences in cognitive thinking style have been linked to bullshit receptivity with less reflective thinkers displaying a higher receptivity to pseudo-profound bullshit<sup>1</sup>

“Horoscopes are right too often for it to be a coincidence”

- Individuals who perceive more illusory patterns are also more likely to endorse various irrational beliefs<sup>2</sup>
- It is possible that the same psychological processes that underlie illusory pattern perception are also involved in the misperception of meaning in meaningless statements

## Hypotheses

1. Individuals prone to perceiving illusory patterns will be more receptive to pseudo-profound bullshit
2. Individuals adept at perceiving *real* patterns will *not* be more receptive to pseudo-profound bullshit

## Methods

- $N = 627$  (Exp. 1 = 201; Exp. 2 = 220; Exp. 3 = 206)

### Profundity Judgments

- **Pseudo-Profound Bullshit (BSR):** “Hidden meaning transforms unparalleled abstract beauty”
- **Motivational Quotations:** “Forgiveness means letting go of the hope for a better past”

## Methods

### Pattern Perception Tasks

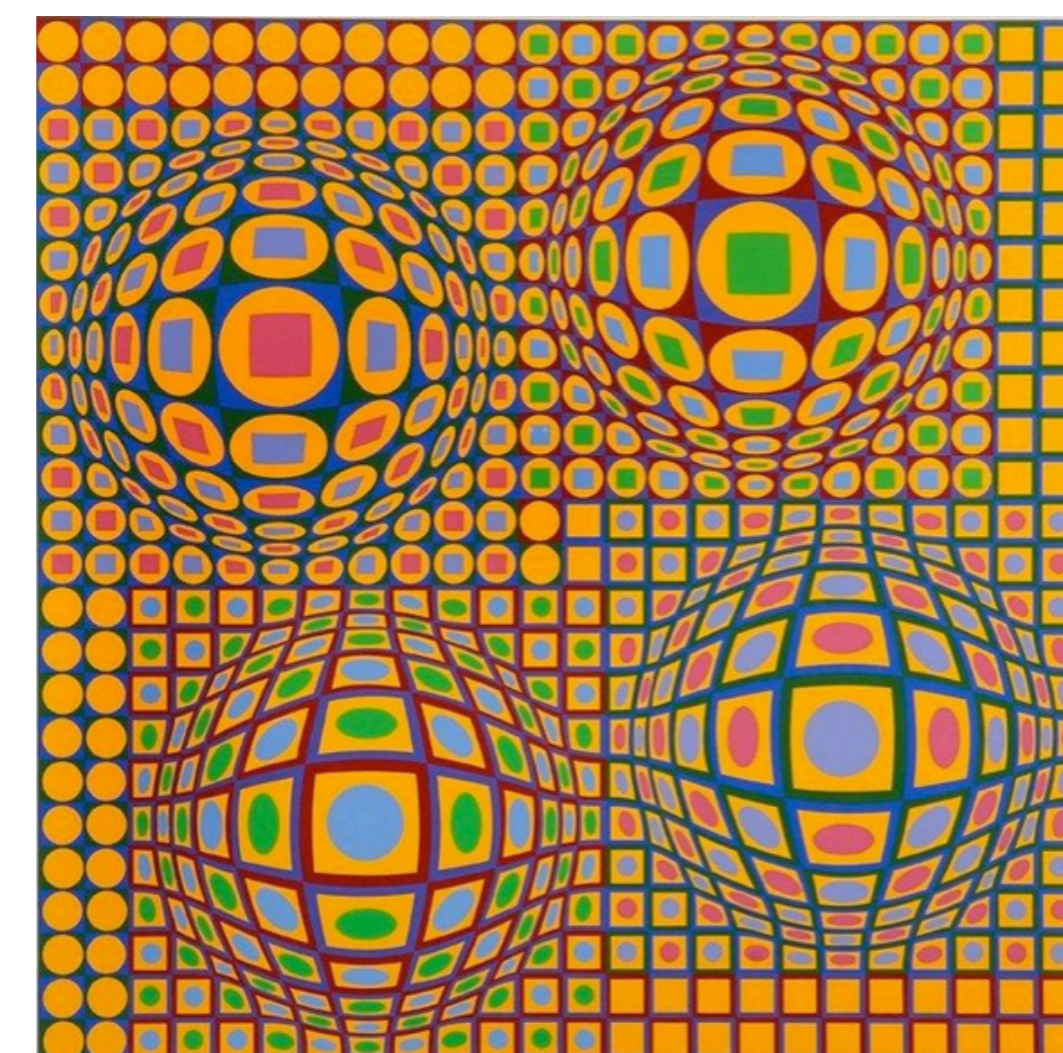
#### Coin Sequences (Experiment 1):

- “Please rate the extent to which you believe the following sequence is fully random or fully determined”

HTHHTTTTHH

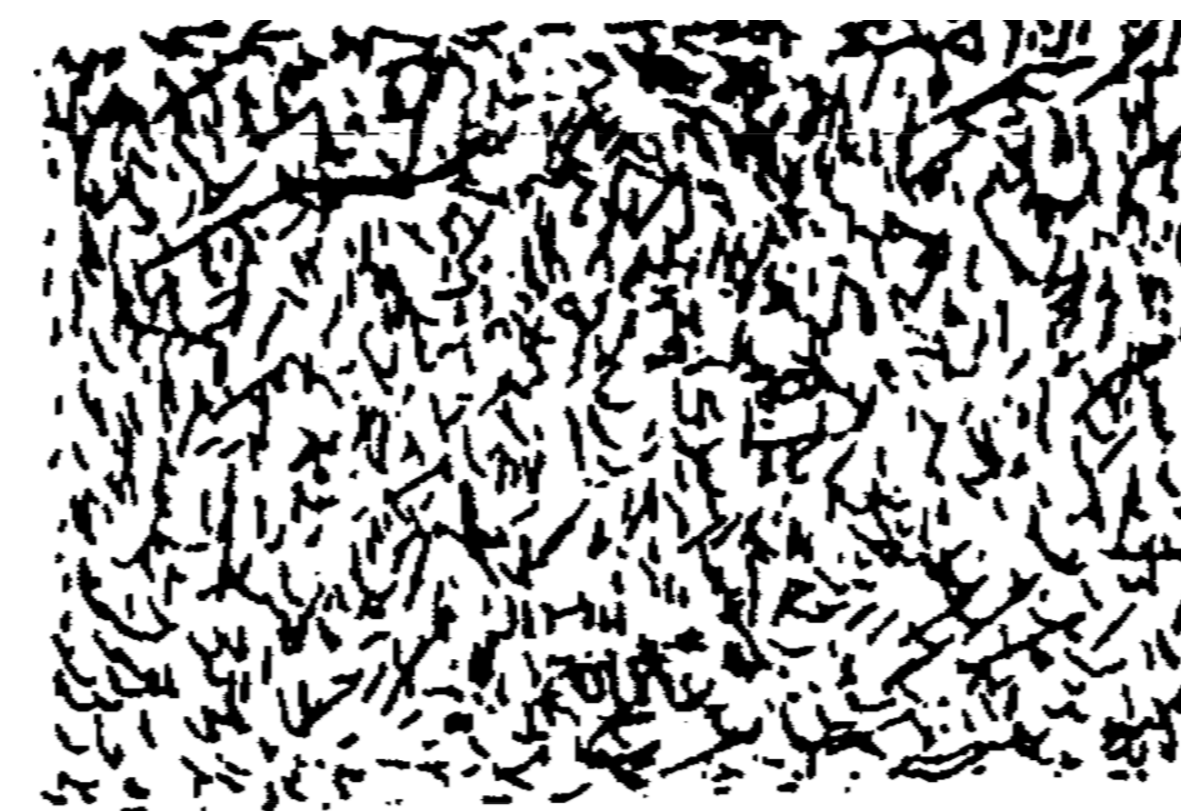
#### Evaluating Modern Art (Experiment 2):

- “To what extent do you see a pattern in this painting? (If you only see random strokes of paint, answer ‘1’; if you clearly see a pattern answer ‘7’)”



#### Modified Snowy Pictures Task (MSPT; Experiment 3):

- “Answer “Yes” if you believe you see an object in the picture below, answer “No” if you do not see an object in the picture below”



#### Co-Variation Task (Experiment 3):

- “To what extent does Additive A cause an increase or decrease in the occurrence of Disease Y?”

Patient	Additive A	Disease Y
1	Present	Yes
2	Absent	No
3	Absent	No
4	Absent	No
5	Present	No

## Results

### Experiment 1

	M	SD	1	2	3	4
1. Pattern Perception	3.20	1.16	(.86)			
2. Bullshit Receptivity (BSR)	2.31	0.97	.35***	(.93)		
3. Motivational Quotations	3.13	0.83	.17*	.49***	(.87)	
4. Cognitive Reflection Test (CRT)	1.84	1.47	-.23**	-.37***	-.18*	(.72)

### Experiment 2

	M	SD	1	2	3	4	5
1. Chaotic Art Pattern Perception	2.74	1.27	(.90)				
2. Structured Art Pattern Perception	6.09	0.85	-	(.89)			
3. BSR	2.33	0.90	.30**	-.23*	(.91)		
4. Motivational Quotations	3.22	0.78	.14	.02	.43***	(.84)	
5. CRT	1.59	1.33	-.08	.16	-.26***	-.17*	(.62)

### Experiment 3

	M	SD	1	2	3	4	5	6	7
1. MSPT (Object Absent)	2.32	2.94	(.87)						
2. MSPT (Object Present)	9.25	2.27	.46***	(.70)					
3. Error (No Association)	32.67	35.31	.26***	.00	-				
4. Error (Association)	71.19	39.25	.26***	.12	.47***	-			
5. BSR	2.41	0.92	.26***	.02	.42***	.28***	(.91)		
6. Motivational Quotations	3.17	0.80	.15*	.07	.29***	.22**	.59***	(.85)	
7. CRT	1.58	1.31	-.17*	-.02	-.28***	-.16*	-.37***	-.22**	(.59)

## Summary and Conclusion

- Across three experiments and four distinct measures of pattern perception we found that participants displaying greater degrees of illusory pattern perception were more likely to rate pseudo-profound bullshit statements as profound
- The positive relation between pattern perception and bullshit receptivity:
  - Was restricted to illusory (and not non-illusory) pattern perception
  - Remained significant after controlling for profundity ratings given to meaningful statements (i.e., Motivational Quotations)
  - Remained significant after controlling for CRT performance
- The psychological processes responsible for illusory pattern perception may also play a role in the misperception of meaning in pseudo-profound bullshit

<sup>1</sup>Pennycook, G., Cheyne, J. A., Barr, N., Koehler, D. J., & Fugelsang, J. A. (2015). On the reception and detection of pseudo-profound bullshit. *Judgment and Decision Making*, 10(6), 549-563.

<sup>2</sup>van Prooijen, J. W., Douglas, K. M., & De Inocencio, C. (2017) Connecting the dots: Illusory pattern perception predicts belief in conspiracies and the supernatural. *European Journal of Social Psychology*.