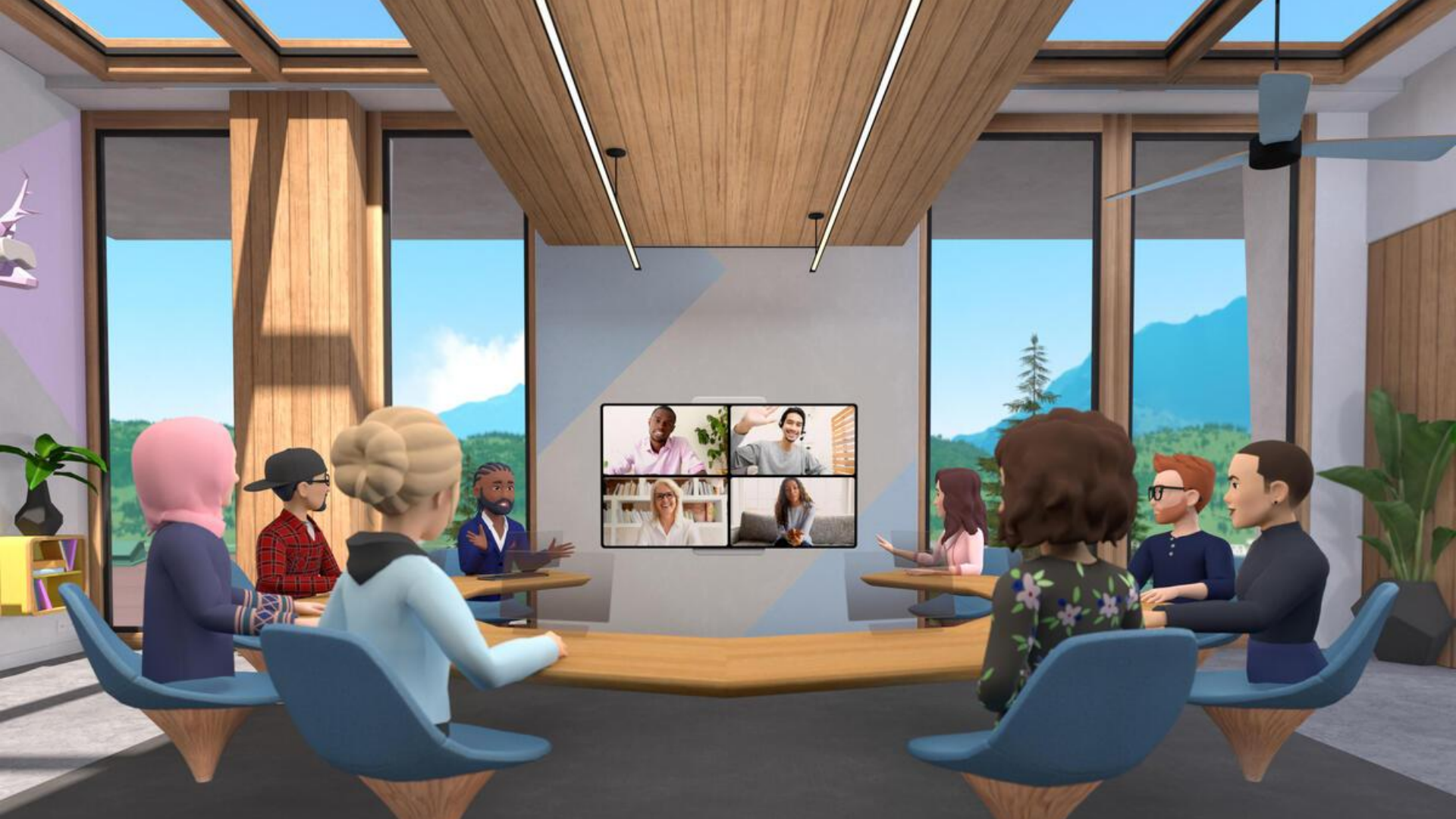
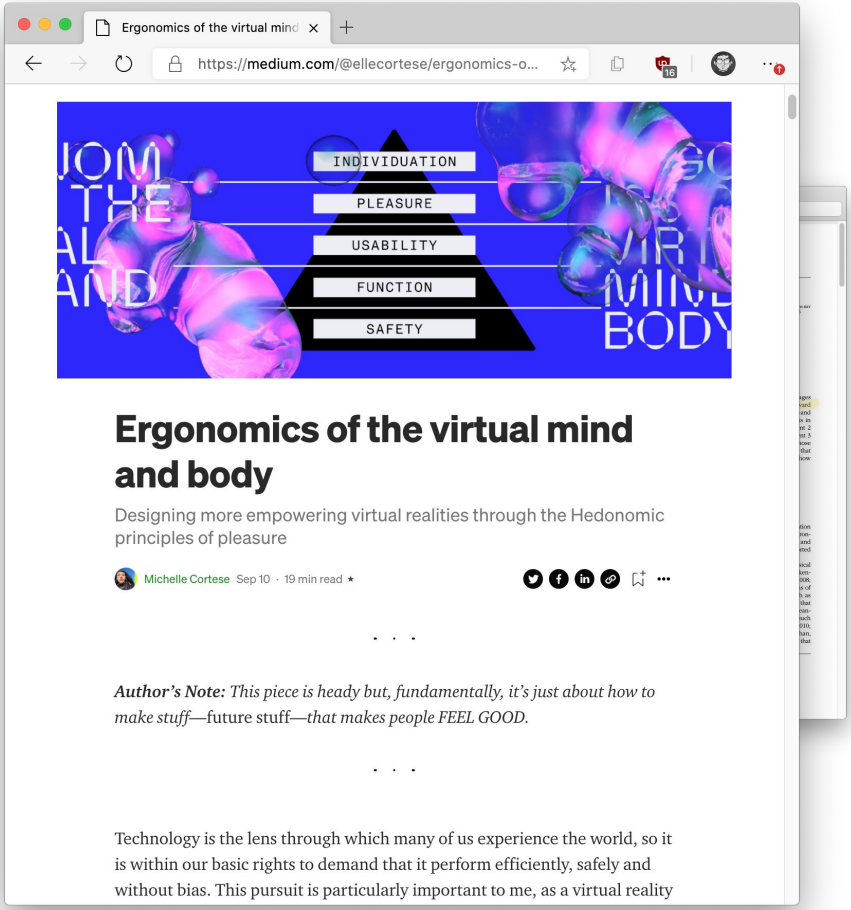


"As we move forward into a future of … VR, augmented reality (AR), mixed reality (MR) and anything in between — our new **immersive interfaces should be pleasurable**. And pleasurable doesn't just mean fun: it means **trustworthy, functional and beneficial**."

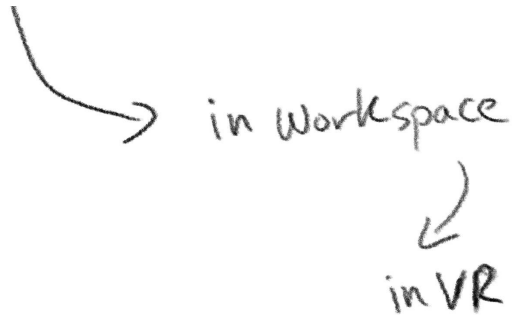
-Michelle Cortese



Minimalism vs Maximalism in the Workplace

What is **minimalism** and
what is **maximalism**?

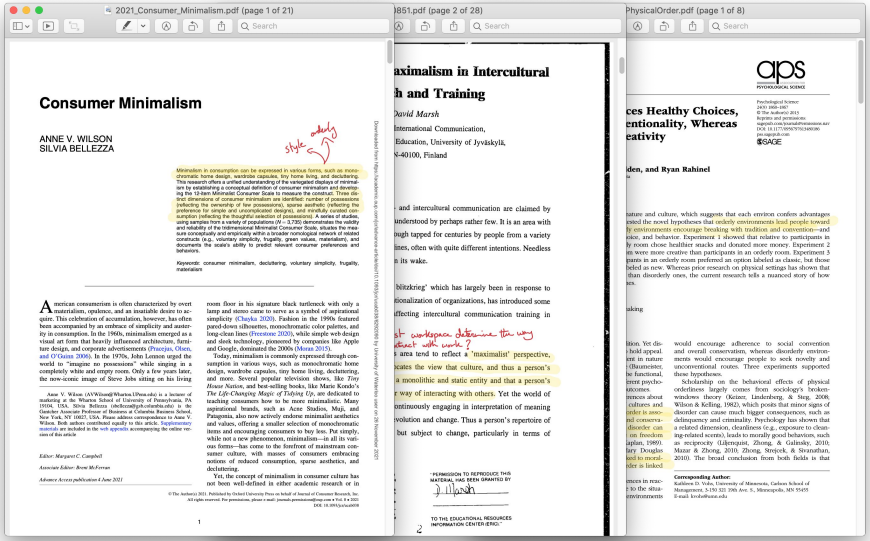
What is **minimalism** and
what is **maximalism**?



From research on creativity:
orderly vs **disorderly** (organization, patterns, and categorization)

From intercultural research:
cultural maximalism vs minimalist **freedom**

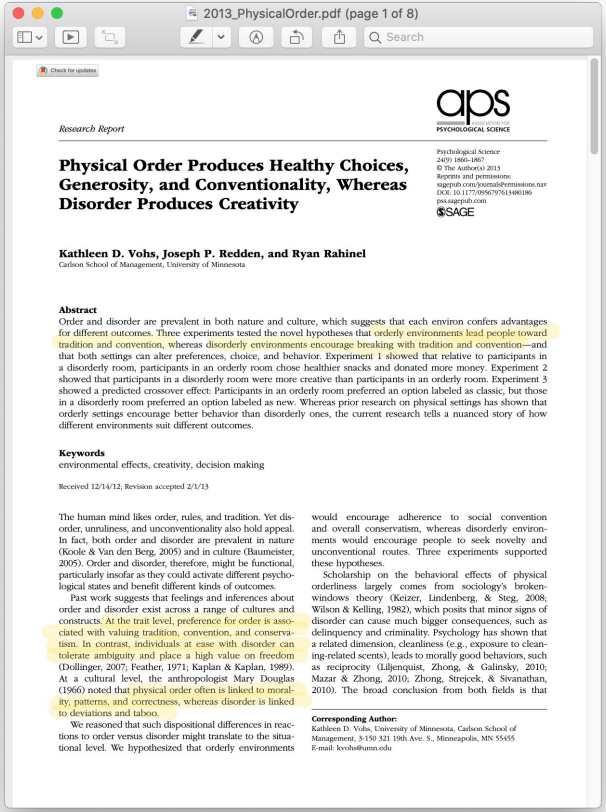
From consumer research:
minimalism as an aesthetic (**style**) vs order and organization (**function**)



Wilson, & Bellezza, 2021.

Researchers found that
orderly workspaces (organization of items, categorized into patterns, etc) inspire more **healthy choices**,
where **disorderly** workspaces inspires more **creativity**

Order is linked to **convergent** thinking,
disorder is linked to **divergent** thinking



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Research Report

aps ASSOCIATION FOR PSYCHOLOGICAL SCIENCE

PSYCHOLOGICAL SCIENCE

Psychological Science
24(9) 1860–1867
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Physical Order Produces Healthy Choices, Generosity, and Conventionality, Whereas Disorder Produces Creativity

Kathleen D. Vohs, Joseph P. Redden, and Ryan Rahinel
Carlson School of Management, University of Minnesota

Abstract

Order and disorder are prevalent in both nature and culture, which suggests that each environ confers advantages for different outcomes. Three experiments tested the novel hypotheses that orderly environments lead people toward tradition and convention, whereas disorderly environments encourage breaking with tradition and convention—and that both settings can alter preferences, choice, and behavior. Experiment 1 showed that relative to participants in a disorderly room, participants in an orderly room chose healthier snacks and donated more money. Experiment 2 showed that participants in a disorderly room were more creative than participants in an orderly room. Experiment 3 showed a predicted crossover effect: Participants in an orderly room preferred an option labeled as classic, but those in a disorderly room preferred an option labeled as new. Whereas prior research on physical settings has shown that orderly settings encourage better behavior than disorderly ones, the current research tells a nuanced story of how different environments suit different outcomes.

Keywords

environmental effects, creativity, decision making

Received 12/14/12; Revision accepted 2/1/13

The human mind likes order, rules, and tradition. Yet disorder, unruliness, and unconventionality also hold appeal. In fact, both order and disorder are prevalent in nature (Koole & Van den Berg, 2005) and in culture (Baumeister, 2005). Order and disorder, therefore, might be functional, particularly insofar as they could activate different psychological states and benefit different kinds of outcomes.

Past work suggests that feelings and inferences about order and disorder exist across a range of cultures and constructs. At the trait level, preference for order is associated with valuing tradition, convention, and conservatism. In contrast, individuals at ease with disorder can tolerate ambiguity and place a high value on freedom (Dollinger, 2007; Feather, 1971; Kaplan & Kaplan, 1989). At a cultural level, the anthropologist Mary Douglas (1966) noted that physical order often is linked to morality, patterns, and correctness, whereas disorder is linked to deviations and taboo.

We reasoned that such dispositional differences in reactions to order versus disorder might translate to the situational level. We hypothesized that orderly environments would encourage adherence to social convention and overall conservatism, whereas disorderly environments would encourage people to seek novelty and unconventional routes. Three experiments supported these hypotheses.

Scholarship on the behavioral effects of physical orderliness largely comes from sociology's broken-windows theory (Keizer, Lindenberg, & Steg, 2008; Wilson & Kelling, 1982), which posits that minor signs of disorder can cause much bigger consequences, such as delinquency and criminality. Psychology has shown that a related dimension, cleanliness (e.g., exposure to cleaning-related scents), leads to morally good behaviors, such as reciprocity (Liljenquist, Zhong, & Galinsky, 2010; Mazar & Zhong, 2010; Zhong, Strejcek, & Sivanathan, 2010). The broad conclusion from both fields is that

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Vohs, Redden, & Rahinel, 2013.

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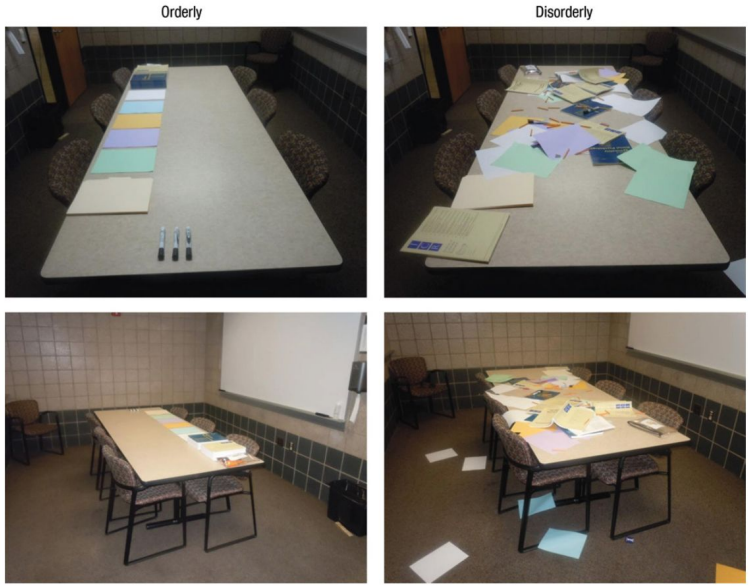


Fig. 2. The rooms used in the orderly (left) and disorderly (right) conditions of Experiment 2.

Vohs, Redden, & Rahinel, 2013.

Research Questions + Hypothesis

Research Questions

How do **organized vs disorganized** environments affect **creativity**?

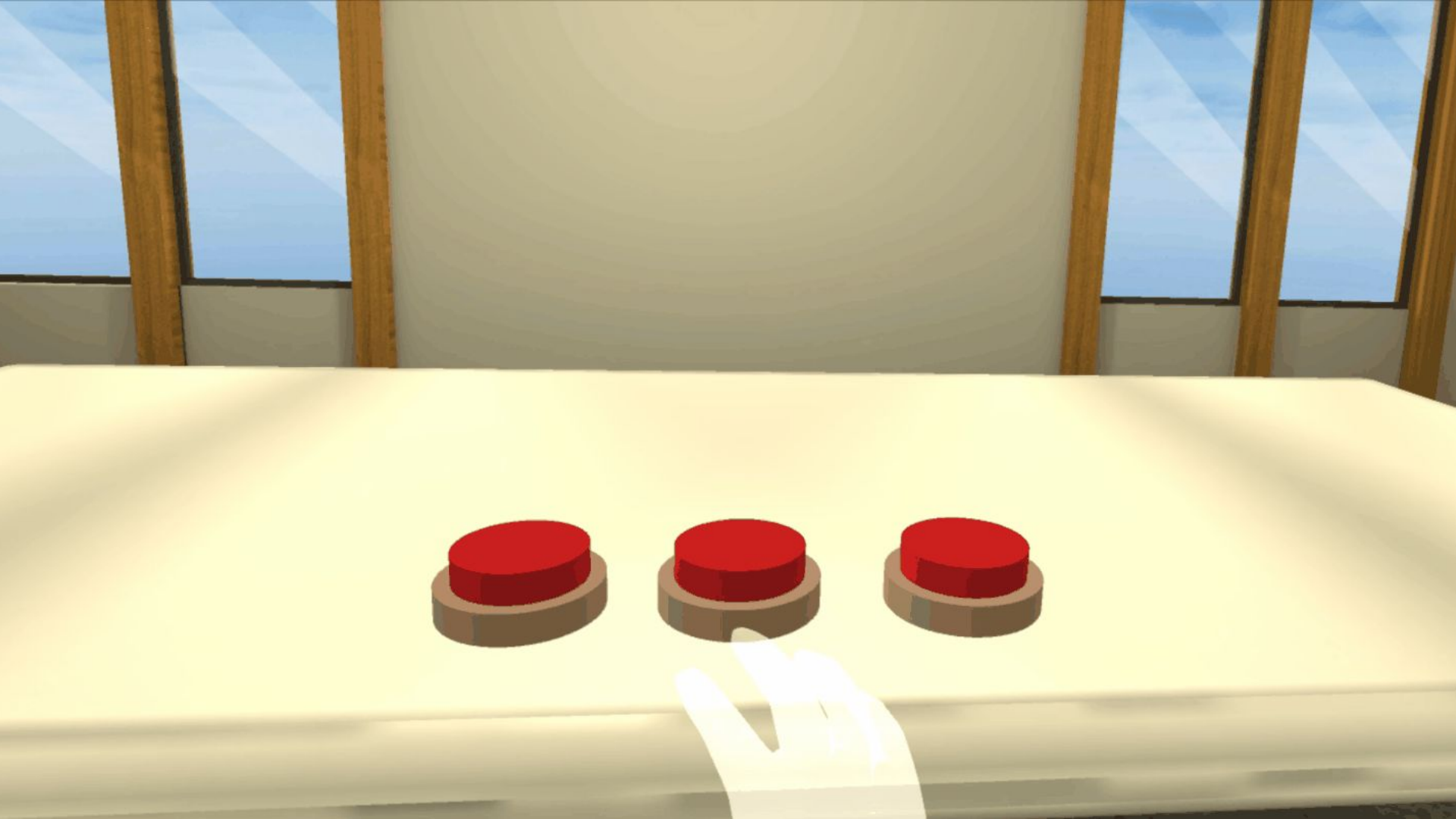
How do **minimalist vs maximalist** environments affect **cognition** at **work**?

Hypothesis

Minimalism: Better for **Convergent Creativity**
Maximalism: Better for **Divergent Creativity**

Method

Hardware



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Measures - **Quantitative**

Quantitative **Research Question**

How do **organized vs disorganized** environments affect **creativity**?

Quantitative **Research Question**

How do **organized vs disorganized** environments affect **creativity**?

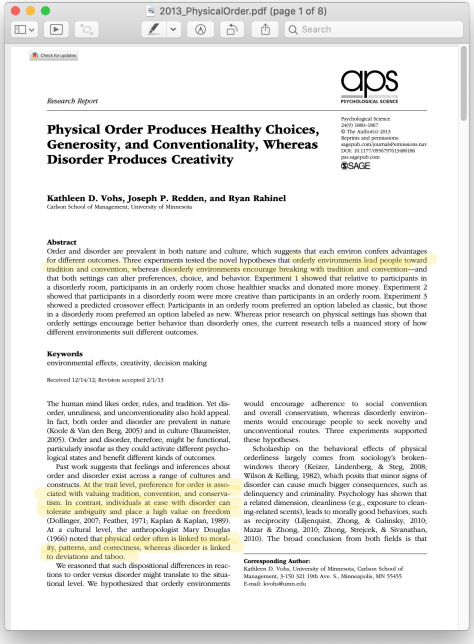
Convergent Creativity?
Divergent Creativity?

Divergent Creativity

2 minutes - 1 word

“This is a test of creativity. List as many (and varied) uses as you can.”

Example: A brick, a paper clip,
newspaper, an ice tray,
and a rubber band.


2013_PhysicalOrder.pdf (page 1 of 8)

Research Report

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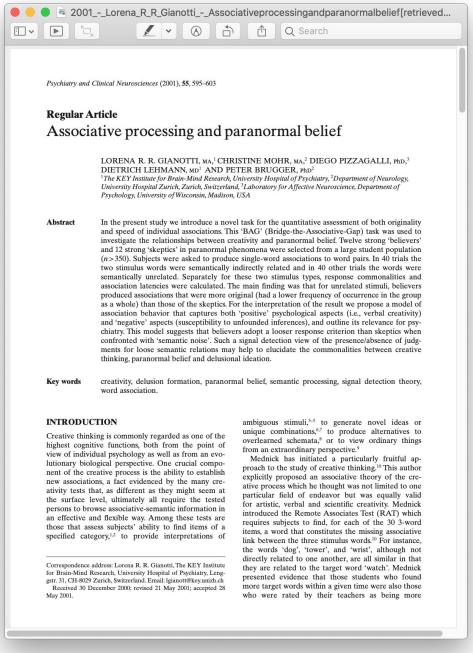
Alternative Use Test (**AUT**)

Convergent Creativity

30 seconds - 4 pairs

“Given a pair of prompt words, respond with a third word that is related to both of them.”

Example: if presented with **giraffe** and **scarf**, participants could respond **neck** as the third word.



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Psychiatry and Clinical Neurosciences (2001), **55**, 595–603

Regular Article

Associative processing and paranormal belief

LORENA R. R. GIANOTTI, MA,[1] CHRISTINE MOHR, MA,[2] DIEGO PIZZAGALLI, PhD,[3] DIETRICH LEHMANN, MD[1] AND PETER BRUGGER, PhD[2]

[1]*The KEY Institute for Brain-Mind Research, University Hospital of Psychiatry,* [2]*Department of Neurology, University Hospital Zurich, Zurich, Switzerland,* [3]*Laboratory for Affective Neuroscience, Department of Psychology, University of Wisconsin, Madison, USA*

Abstract In the present study we introduce a novel task for the quantitative assessment of both originality and speed of individual associations. This ‘BAG’ (Bridge-the-Associative-Gap) task was used to investigate the relationships between creativity and paranormal belief. Twelve strong ‘believers’ and 12 strong ‘skeptics’ in paranormal phenomena were selected from a large student population ($n > 350$). Subjects were asked to produce single-word associations to word pairs. In 40 trials the two stimulus words were semantically indirectly related and in 40 other trials the words were semantically unrelated. Separately for these two stimulus types, response commonalities and association latencies were calculated. The main finding was that for unrelated stimuli, believers produced associations that were more original (had a lower frequency of occurrence in the group as a whole) than those of the skeptics. For the interpretation of the result we propose a model of association behavior that captures both ‘positive’ psychological aspects (i.e., verbal creativity) and ‘negative’ aspects (susceptibility to unfounded inferences), and outline its relevance for psychiatry. This model suggests that believers adopt a looser response criterion than skeptics when confronted with ‘semantic noise’. Such a signal detection view of the presence/absence of judgments for loose semantic relations may help to elucidate the commonalities between creative thinking, paranormal belief and delusional ideation.

Key words creativity, delusion formation, paranormal belief, semantic processing, signal detection theory, word association.

INTRODUCTION

Creative thinking is commonly regarded as one of the highest cognitive functions, both from the point of view of individual psychology as well as from an evolutionary biological perspective. One crucial component of the creative process is the ability to establish new associations, a fact evidenced by the many creativity tests that, as different as they might seem at the surface level, ultimately all require the tested persons to browse associative-semantic information in an effective and flexible way. Among these tests are those that assess subjects’ ability to find items of a specified category,[1,2] to provide interpretations of ambiguous stimuli,[3–5] to generate novel ideas or unique combinations,[6,7] to produce alternatives to overlearned schemata,[8] or to view ordinary things from an extraordinary perspective.[9]

Mednick has initiated a particularly fruitful approach to the study of creative thinking.[10] This author explicitly proposed an associative theory of the creative process which he thought was not limited to one particular field of endeavor but was equally valid for artistic, verbal and scientific creativity. Mednick introduced the Remote Associates Test (RAT) which requires subjects to find, for each of the 30 3-word items, a word that constitutes the missing associative link between the three stimulus words.[10] For instance, the words ‘dog’, ‘tower’, and ‘wrist’, although not directly related to one another, are all similar in that they are related to the target word ‘watch’. Mednick presented evidence that those students who found more target words within a given time were also those who were rated by their teachers as being more

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Bridge-the-Associative-Gap Task (**BAG**)

Convergent Creativity

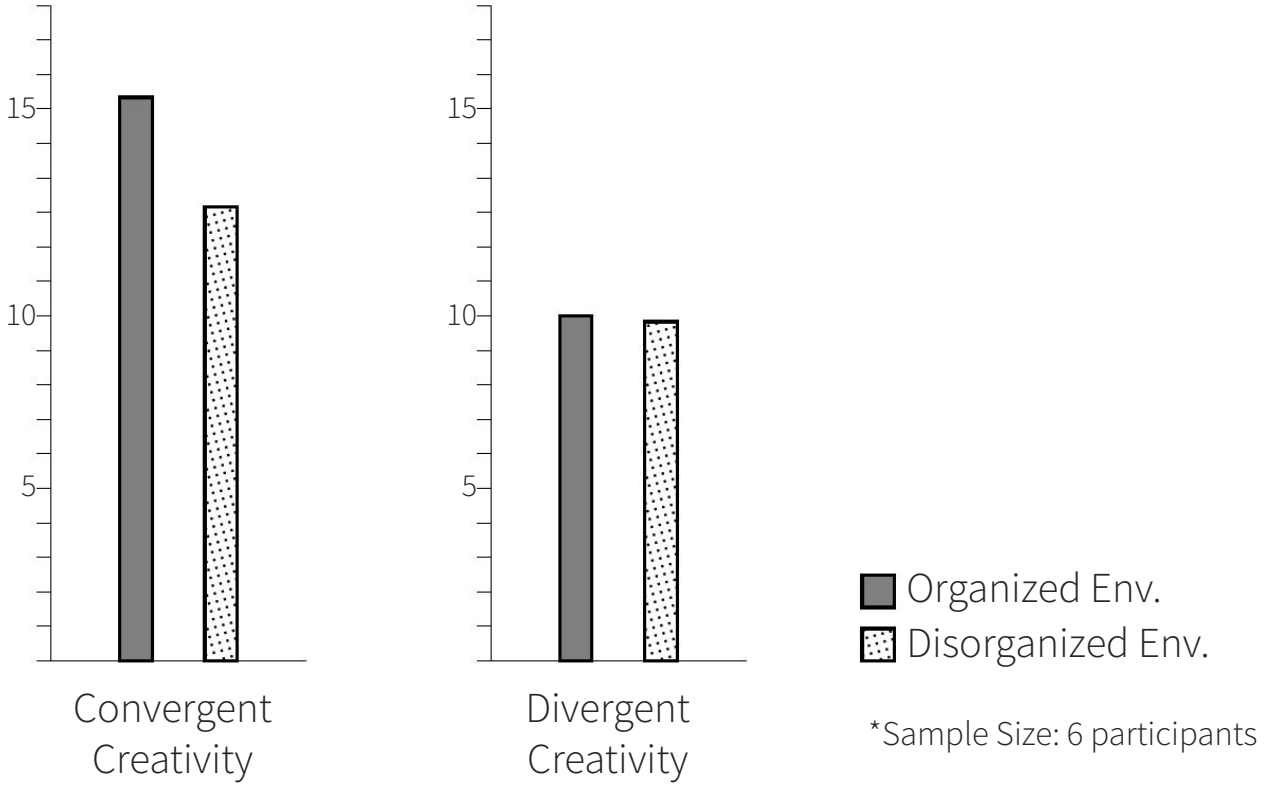
(leg-shoe)
(cheese-cat)
(mane-tiger)
(needle-string)
(spider-fisherman
(cup-beer)
(cradle-old man)
(wolf-wool)
(circus-house)
(ocean-sugar)
(lightning-noise)
(flower-nose)
(bean-tea)

(thumb-greeting)
(eggs-fox)
(heart-hate)
(light-wax)
(flour-wind)
(pastor-tower)
(scarf-giraffe)
(woman-uncle)
(hunger-heat)
(fir-easter)
(doll-boy)
(anvil-nail)
(summer-snow)
(bull-milk)

(stork-diaper)
(day-sleep)
(table-backrest)
(onion-grief)
(dog-mouse)
(bee-bread)
(fish-fire)
(youth-pension)
(moon-warmth)
(car-glasses)
(gun-ball)
(sand-time)
(desert-gravel)

Bridge-the-Associative-Gap Task (**BAG**)

Quantitative Results (Pilot*)



*Sample Size: 6 participants

Feedback - **Qualitative**

Qualitative **Research Question**

How do **minimalist vs maximalist** environments affect your **cognition** at **work**?

Descriptive Words

Maximalistic	**Minimalistic**
Distracting	Professional
How I talk	No personal items
Pictures on the wall	No identity
Personal items	Clean
Cluttered	Clinical
Everywhere	Focus
Cozy	Traditional work
Comfort	Plain
Creative	Not fancy
Fun	Single screen
Bright colours	Fire
Cool stuff	
Crafty stuff	
Water	

In the context of your workspace, what do the words “**minimalism vs maximalism**” mean to you?

Aesthetic style? Orderly/disorderly? Cultural response/identity?

“I would remove any cultural or religious symbols in my workspace because to me they're very **distracting**.”

“.. one laptop, **single** screen, I don’t connect external screens unless I need to view something on a bigger screen. And I **close out** of all my windows and tabs at the end ..”

“I prefer to have my workplace completely professional, and to keep my table clean… I should express my personality with how I talk, not with pictures hanging around me on the wall. Even if I had a completely private workplace just for myself, I still wouldn't have personal items. My workspace is *for work*, not for religious or family identity. **You can't just chop vegetables on your work desk**, it has to have meaning to it.”

Imagine that you've been hired as a remote worker and given a home office budget.

You're told to **create two different workspaces** for yourself for different kinds of tasks, and you're given a budget of $500 per workspace.

How do you spend it?

“Prior to this experiment, I would have built both workspaces to be the same (minimalistic). After this experiment, I am 20% inclined to make one of [my workspaces] more **cluttered**.”

“.. one is water [themed]. One is fire [themed].
Aquariums **everywhere** in the water workspace.”

“Realistically, I would want workspace to be more **cozy**, and the other to be more **clinical**. The cozy workspace should **comfort** me while I’m working, the clinical workspace should help me **focus**. The clinical one might have whiteboard walls. The cozy one would have carpets and couches.”

“With two workspaces, I'd make one for **traditional work** (computer, desk, chair, plain, nothing fancy), and another for **more creative, more *fun*** workspace for creative tasks (bright colours, cool stuff, creative tools, crafty stuff).”

Descriptive Words

Maximalistic	**Minimalistic**
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Cool stuff	
Crafty stuff	
Water	

Conclusion

Conclusion: **Future Research**

Full studies are needed with **adequate sample sizes**.

Further research is needed to parse apart **different aspects** of min/max outside of clutter: light, audio, movement/animation, colour.

Implications: **The Future of Virtual Workspaces**

Adaptable virtual office space for **creative vs focus mode**:
a first step towards virtual workspaces custom-suited to the different tasks of modern day knowledge work.

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