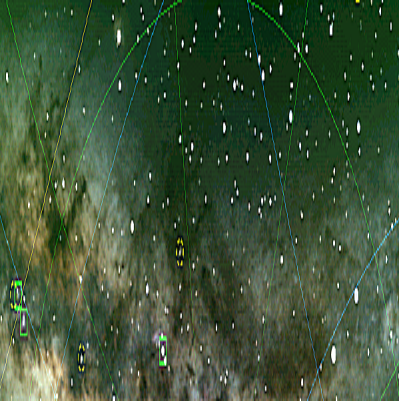




Accentuate the negative

Description

Protesters are demonstrating against plans to build on Gezi Park in Istanbul ([Financial Times](#)). Commentators say the park issue is just a trigger for the expression of widespread discontent. But it is a trigger for the expression of widespread discontent in an outdoor space.



A recent article on the BBC Science [website](#) says, “Being

physically active can bolster good mental health and help you manage stress, anxiety and even depression. It’s good to get out into parks, the countryside, to exercise, eat lots of vegetables, grow plants, and surround yourself with friends. There’s lots of evidence in support of these propositions, including some that we uncovered ourselves (see [Brain in the city](#)).

Whether or not everyone practices these principles of healthy living, very few people believe the converse – that being physically active outdoors is bad for you, or that the state of our mental health is indifferent to whether or not we are physically active.

Many people believe strongly that physical activity is positively related to mental health. Few would search for evidence that supports the opposite case. But from a logical point of view, if rigorously pursued, the failure to find such negative evidence would actually support the positive case even more. (This is one corollary of what Karl Popper asserted about *falsification* in scientific inquiry.)

Confirmation bias

There are several reasons why people don't tend to look for evidence that might disconfirm their beliefs. It's hard work. It's less work, cognitively, to look for confirming evidence. The positive proposition already contains the information we need to work with.

Is being physically active good for mental health? It's relatively easy to say "yes," and find supporting evidence. The proposition suggests where to look for the evidence. As it happens, physical activity is also something you can see. You can look for people who are physically active (sportspeople, joggers, ramblers) and even identify people with good mental health (responsible parents, teachers, etc). The statement contains less information about, or encouragement to seek out, its converse: lack of physical activity. What is it to be physically inactive: lying in bed all day, watching tv, driving everywhere? What are people in poor mental health like?

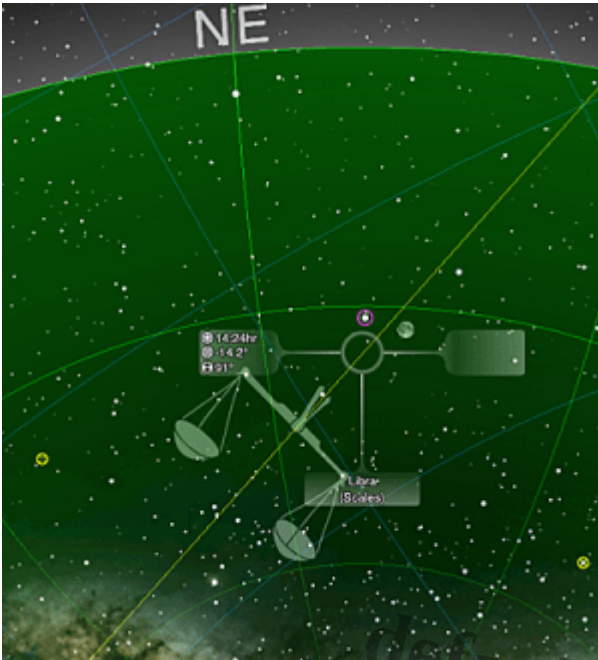
Like those survey and referendum questions that incline people towards a particular answer, the proposition linking physical activity to good mental health pushes in the direction of confirmation. There's more cognitive load in pursuing the negation, as you have to imagine the converse to what's in the proposition. Negatives are more complicated to process anyway, and negatives get easily compounded: what's not to like about not accentuating the negative? See what I mean.

In the above paragraphs I've attempted to combine a couple of the many arguments that explain why confirmation bias exists. These are outlined in full in a seminal paper by psychologist Raymond Nickerson. As individuals we cherish our beliefs, whether positive or negative, and don't give them up easily. It's actually efficient to be conservative to some degree, and to resist changes. Imagine the condition we would be in if we changed our beliefs immediately every new bit of evidence came to light.

Any counsel to guard against confirmation bias is actually advice to consider both sides of any argument, to weigh up evidence for and against. Theories about confirmation bias tell us why this is so difficult.

Against mood

I'm researching mood and ubiquitous digital technologies, starting with the assumption that there is a connection, or a series of connections between the two (mood and digital technologies). There's lots of direct and indirect evidence from psychological studies, with much of this available online. But maybe I should look for evidence that there is **no** connection, or that our moods are indifferent to the digital technologies we deploy and how we deploy them.



Then the question becomes: why would anyone think there ought to be a connection. What establishes such beliefs or disbeliefs in the first place? This is a cultural question.

The connection between colour and mood provides a simpler example. There is little if any evidence that a room painted [yellow](#) makes us feel happier than being in a gray room. But why do some people even entertain the possibility that it could? Perhaps several centuries of practice by painters, something about spring and bees, and a host of golden metaphors wandering like clouds through fields of daffodils.

Digital equipment is a bit like yellow. There are deeply embedded reasons for at least entertaining the possibility that technology could provide positive and negative benefits to people's emotional lives, and make them more contented, happy, sad or anxious. Several centuries of industrial development, and utopian and dystopian thinking might come into play here. The *possibility* that mood and computers are connected is sufficient to legitimate the study, even if the evidence were inconclusive.

Contrary evidence

Here are some candidates for evidence *against* the proposition that mood and digital technologies are linked in some way, and here *evidence* and *argument* get conflated.

1. People get emotional about people and their relationships with them. Computers are not people, and don't communicate emotions.
2. Giving a severely depressed person a smartphone does not take them out of their depression.
3. Events and life circumstances trigger emotional states: succeeding at a task, being proud of a member of the family, loss, disempowerment, or abuse. These override the effects of any technology.
4. Everything in the world around us is somehow complicit in the way we feel: cars, books, teacups, and postage stamps. So asserting the same of ubiquitous computers really tells us very little.

In light of such contrary *evidence* (or at least *assertions*) it's difficult to resist marshalling counter evidence. Here are some candidates for counter evidence (and arguments) to each of these negative points.

1. Agreed, but computers are channels for people to communicate with one another.
2. Neither do severely depressed people necessarily become happy when in the company of happy people.
3. The effect of ubiquitous digital media on moods can be subtle. That the effects might be overwhelmed by life circumstances does not constitute evidence against the proposition.
4. Ubiquitous digital media are a growing, expensive, and pervasive category of objects, technologies and systems. The primary proposition that they affect our moods subdivides into other useful questions: in what ways, how do we deploy the link effectively, how do we resist, etc?

As Nickerson says of the beliefs that matter to people, evidential *facts* don't really settle the matter: "They tend rather to be beliefs for which both supportive and counterindicative evidence can be found, and the decision as to whether to hold them is appropriately made on the basis of the relative weights or merits of the pro and con arguments" (209).

This post on confirmation bias was triggered by a colleagues insight that our recent study using EEG is *unlikely* to be refuted by others. Researchers are less likely to invest effort to discount the results from an experiment that confirms what everyone wants to believe anyway. "New study shows that there is no link between physical activity and mental health" that's an unlikely headline, and not one that many researchers would necessarily want to develop, except perhaps lobbyists who want to build on parkland. Research is political after all.

References

- Nickerson, Raymond S. 1998. Confirmation bias: A ubiquitous phenomenon in many guises. *Review of General Psychology*, (2) 2, 175-220.
- Popper, Karl Raimund. 2002. *Conjectures and Refutations: The Growth of Scientific Knowledge*. London: Routledge.

Notes

- Also see [Interpretation by design](#), [Universities as interpretive communities](#), [Interpretive communities](#), and [Conservative hermeneutics](#).
- On EEG, outdoor environments and digital devices see [The brain in the city](#), [Are you aware of your brain?](#) [Soft fascination](#) and [Digital mood modifiers](#).
- On the difficulty we have with arguments based on negatives: Perhaps this is why people find Derrida so difficult, with his emphasis on *difference* and *otherness*.
- Note that Nickerson's argument follows an analytical line of inquiry. He assumes that reason is ultimately arbitrated by logic, from which human reasoning deviates. The phenomenological perspective of Heidegger, Gadamer and others is that human reason (or more accurately *understanding*), starts with prejudice, and we can't do without it.
- The usual example of confirmation bias is that of horoscopes and fortune tellers able to capitalise on people's tendency to confirm what they want to believe on the slimmest of evidence. Horoscopes are a legitimate area of academic study, especially if we ask why it is that many people start off with the assumption that the stars can influence life events. There are deeply

developed cultural reasons for the putative connection.

- Nickerson also makes the strong point that the initial evidence in a sequence of evidence usually exerts the strongest influence on our beliefs. So arriving in Amsterdam for the first time on a cold, wet day, will trigger the belief that Amsterdam is cold and wet, even if it is warm and sunny on subsequent visits. It takes a long time for the initial impression to dissipate. As anyone who has attended a job interview knows, first impressions are important.

Category

1. Research related

Tags

1. affect
2. body
3. hermeneutics
4. interpretation
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rcoyne99

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