



# Independent research & further reading

**Guest:** Robert Greene

**Disclaimer 1:** The literature presented here, directly (or as closely as possible), looks at statements made by the guest. In order to fully understand each topic mentioned, an extensive literature review (beyond the scope of this document) would be required.

**Disclaimer 2:** The information provided in this podcast and any associated materials is not intended to replace professional medical advice. For any medical concerns, it is essential to consult a qualified health professional.

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## Howard Gardner, Frames of Mind

*“It's called the five frames of mind by Howard Gardner. I've actually been corresponding with him lately. He's very brilliant man. He's great writer. He's wrote other books about creativity. He's a professor at Harvard, and essentially the five frames of mind are, he's saying that they're five forms of intelligence.*”

Reference 1.

*“very famous psychologist named Alfred Adler from the 20s. He was a disciple of Freud. He thought this ability of always wanting to be better and superior to others was the most motivating factor of 90% of human behavior, that we always want to feel at least that we're superior in some way, and the sense that we're inferior creates what he calls an inferiority complex.”*

Adler viewed the drive for superiority as a means to overcome feelings of inferiority, which he considered universal in human nature.

References 2-5.

## Envy and comparing ourselves to others

*“we are very prone to envy genetically, by the way our brains operate. So it's known factor that chimpanzees are prone to feeling envy, right?”*

Envy is a multifaceted emotion driven by social comparisons and perceived inequities. It can manifest as either benign or malicious envy, each with distinct motivations and outcomes. Envy is influenced by a combination of genetic predispositions and environmental factors. Genetic interactions, particularly involving neurotransmitter-related genes, play a role in envy-related behaviours and neural responses. However, social and psychological factors, such as stable dispositional traits and social comparisons, are also crucial in shaping the experience of envy.

Chimpanzees demonstrate behaviours similar to envy, particularly in situations where their social bonds are at risk. This suggests that such emotions may have evolved to protect important relationships, highlighting their adaptive role in primate societies.

References 6-14.

*“So our brains are geared towards towards comparing”*

Research shows that our brains are wired to compare ourselves to others, especially in social situations. Different parts of the brain activate depending on what we're comparing. For example, when we compare physical traits like height, areas linked to spatial thinking light up. When we compare abilities like intelligence, regions involved in understanding others' thoughts are engaged. The same brain networks used for social comparison also help us put ourselves in someone else's shoes. Interestingly, even when we experience setbacks, we might still feel a sense of satisfaction when others face even greater challenges, our brain reacts to this in a way similar to how it responds to actual rewards. These findings highlight how deeply social comparison is built into our thoughts and emotions.

References 15-20.

*“they've noticed in hunter gatherer societies from back in 30,000 years ago, the few that still had existed the 20th century, that envy was a huge problem among them, and so that when one person was given a gift, everybody in the tribe was so upset and angry that the person who was given the gift had to give it to other people so that they wouldn't be the target of envy, because it could lead to being murdered, right? So envy is deeply ingrained in all of us.”*

Envy can play a role in gift-giving behaviours, with givers sometimes avoiding gifts that might provoke envy in themselves (21).

## **Loneliness**

*“people are lonelier than ever. Yeah, according to many of the stats, and look at the impact that' having on people, it's equal to smoking 15 cigarettes a day.”*

Social isolation can raise the risk of early death, possibly to a level comparable to smoking 15 cigarettes a day, highlighting its significant health risks. Drawing comparisons between social isolation, loneliness, and smoking has helped highlight their serious health effects. However, oversimplifying the evidence and emphasising individual treatment alone may fall short in addressing the issue on a broader, population-wide scale.

References 22-26.

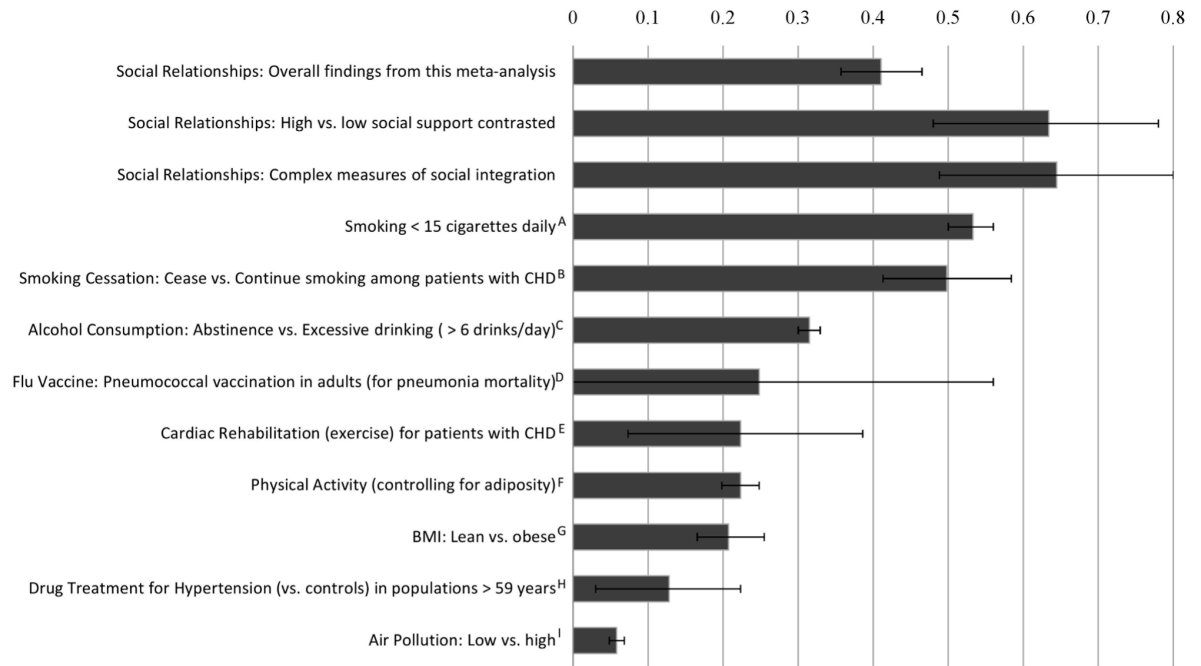


Image from Holt-Lunstad et al. (2010), using data from a meta-analysis (see paper for full references). Caption from Holt-Lunstad et al. (2010): “Comparison of odds (lnOR) of decreased mortality across several conditions associated with mortality. Note: Effect size of zero indicates no effect.”

## Addiction, social media and mental health

*“According to some studies as well, they're more addicted than ever before. Yeah, class that in a number of ways, chemical addictions, but social media addictions and other things. And that's the state of especially young men.”*

### Addiction prevalence in young men

Young men, especially those aged 20-29, show the highest rates of addiction, with a significant majority being male.

References 27, 28.

## Social Media

Spending a lot of time on social media is linked to higher stress levels, especially for female college students who feel more stressed when using it for more than two hours a day. The connection between social media and mental health goes both ways—frequent use can worsen anxiety and depression, and those already struggling may turn to social media more often. How women engage with social media also matters; actively searching for information versus passively scrolling can affect anxiety levels differently. Unrealistic beauty standards and the competitive nature of social media can increase anxiety and dissatisfaction with body image. More long-term studies are needed to determine if social media directly causes anxiety in women. Future research should also look at different platforms and user habits across various groups to better understand these effects.

References 32-38.

*“You know, it's young women too who are having their own struggles, especially with anxiety and the comparisons and those kinds of things we've talked about.”*

Several studies have found that females tend to have higher social media addiction scores compared to males. This is often linked to the use of social media for maintaining social connections and communication, which is more prevalent among females. Young men are more likely to be addicted to internet gaming rather than social media. This suggests that while social media addiction is prevalent, it may not be as significant among young men compared to other forms of internet addiction.

References 29-31.

## **Suicide**

*“But young people, generally, and especially young men, are killing themselves at higher rates than ever before. Suicide, as you know, is one of the biggest killers of young men.”*

Globally, the mean suicide rate for adolescents aged 15-19 has been shown to be higher in males (10.5 per 100,000) compared to females (4.1 per 100,000). Despite some progress, challenges

remain in addressing suicide among young men. The lack of comprehensive data on risk factors and effective interventions hinders the development of targeted prevention strategies.

References 39-42.

## **Pessimism vs optimism**

*“Darren Brown, the illusionist, that show certain types of people are pessimistic towards opportunity. And when you do studies where you and there's one particular study where they have a newspaper and they give it to one group of people who I think are pessimists, and one group of people that are optimists, and the researchers say, when you find the 100 pound voucher or \$100 voucher, just come back to us, and what happens is, they scroll through the newspaper, and the pessimists never find it. But on the first page of the newspaper, it says, Stop, this done. Stop. Go to the researchers. Now you've won \$100 the optimists find it. And Dan Brown did a similar thing”*

Research has found that in gambling scenarios, optimists tend to maintain positive expectations and continue gambling after losses, while pessimists are more likely to disengage. While optimism generally confers benefits, its effects are not universally positive, and pessimism may sometimes lead to more adaptive outcomes in specific situations.

References 43-45.

## **Pornography**

*“the studies show that about 80% of men and about 40% of women in the United States use pornography”*

Research shows that more than 80% of adult men have viewed pornography at some point, with 40-70% doing so in the past year. One study found that 91.5% of men and about 60.2% of women had watched pornography in the past month. Other research suggests that around 35% of women have viewed pornography in the last year.

References 46-50.

## Dopamine

*“a couple of psychologists on my podcast before have alluded to on this subject is that they told me about a study with rats, where they with the part of the rat brain that is responsible for causing dopamine, yeah. And then when they put food in front of the rat's mouth, if the rat was like six inches from the rat's mouth, the rat would starve to death because they had impacted the rat's dopamine so it no longer had Motivation.”*

When dopamine levels drop in certain brain areas, like the ventrolateral striatum, it affects feeding in several ways—it reduces food intake, slows eating, and disrupts movements like forepaw use while feeding. Similarly, when dopamine is depleted in the nucleus accumbens, rats press levers less often for preferred food, showing a decline in motivation to obtain it. This suggests that dopamine plays a key role in both the drive to seek food and the physical actions needed to obtain it.

References 51-53.

*“Exposure to high dopamine activities can lead to dopamine desensitization or deregulation of dopamine receptors, and then this can lead to a significant reduction in your motivation. And there's multiple studies here that point in this direction”*

Dopamine receptor dynamics, particularly involving D2 and D3 receptors, play a significant role in regulating motivation. D2 receptors (D2R) are widely distributed in the brain and are crucial for maintaining motivation. They undergo processes like phosphorylation and endocytosis to recycle and resensitize, which helps maintain motivation levels. In contrast, D3 receptors (D3R) are more prone to desensitisation after repeated exposure, which can lead to behavioural sensitisation and potentially reduced motivation.

References 54-56.

## Children's manipulative behaviours

*“when you're three years old, you're already acting, right? You're crying because you're trying to get your parents attention. You're making trouble with your siblings because you're trying to get something that you want. You're learning to be manipulative. Children are very manipulative. Children are consummate actors”*

Children may display manipulative behaviours, influenced by a mix of social, psychological, and environmental factors. Those with strong Machiavellian traits are more likely to engage in manipulation, often using these strategies effectively to achieve their goals. In young children, particularly preschoolers, manipulation can reflect dynamics observed in adult relationships and is often a means to gain an advantage. The family environment plays a crucial role in shaping these tendencies. In households where cooperation is lacking and self-interest is prioritised, children may learn to use others to meet their needs. Overall, research suggests that manipulative behaviours emerge in various situations and develop through both personal traits and external influences.

References 57-60.

## Testosterone

*“on X there was a study that shows that when the more testosterone you have, again, which we can use as like a proxy for masculinity. In studies, you're more likely to think for yourself. So they had two groups of two groups of people, and they gave one group of people testosterone. I think it was a group of men testosterone. They both had to do this test, and the ones who had the higher testosterone levels had been given, like the artificial testosterone, they were less likely to cave in to external social expectations”*

The link between testosterone and independent thinking is complex and not fully understood. While testosterone influences cognitive functions and decision-making, there is no clear evidence that higher levels directly lead to more independent thought. It plays a role in learning, memory, and neuroprotection, particularly in ageing men, with deprivation linked to memory decline and replacement improving spatial cognition. However, its impact on cognitive differences between sexes remains unclear. Higher testosterone levels are associated with lower risk aversion and a higher tolerance for conflict, fear, and stress, which may lead to more utilitarian decision-making, especially



in situations involving aggression or social costs. Overall, testosterone's effects on cognition and decision-making are complex, shaped by multiple factors beyond hormone levels alone.

References 61-64.

## Christopher Columbus

*“I have this story in there of Christopher Columbus, who was like the son of like a grocer somewhere in like Portugal or whatever. But he convinced all of the Kings of Spain that he came from nobility. And they it was a total con game, and they believed to be but he carried himself like that. He believed it, and they gave him all this money to go and explore America.”*

*“The thing is, the best way to to to cultivate it is to actually have results that that show, to actually have a record to go upon so you can kind of fake it like Columbus did, but Columbus already had achieved some things when he did that, he'd already had some naval skills, I believe. Don't quote me on that,”*

Christopher Columbus was the eldest son of Domenico Colombo, a wool worker and merchant from Genoa, Italy. Columbus began his maritime career in the Portuguese merchant fleet when Portugal was Europe's leading naval power. There, he gained expertise in navigation, mapmaking, and Atlantic wind patterns. His voyages to West Africa provided valuable seafaring experience, shaping his goal of discovering a westward sea route to Asia.

References 65, 66.

## William James and the effect of smiling on happiness

*“William James, the great American psychologist, talked about as if strategies, and it's a very important concept in psychology from the early 20th century. If you believe as if you are confident, as if you are powerful, it will tend to be read that way, right? And so, like he had the analogy, if you smile, even though you don't feel like smiling, you'll end up kind of maybe feeling kind of happy. So the physical action will create the psychological action was his belief, because he was very much believer in the body, things starting from the body. So if you believe physically and bodily embodied, that you are great, that you deserve this, it will kind of become part of your psychology, and it will radiate outward.”*

William James, a renowned psychologist and philosopher, posited that the act of smiling can positively influence our mood, making us feel happier even if we initially do not feel like smiling. This idea has been supported by various psychological studies.

References 67-69.

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