

The age effect on making decisions



We're all familiar with the ever-growing evidence from behavioural science that we are highly prone to different cognitive biases that affect our thinking, judgement and decision-making – from optimism bias and present bias to framing and anchoring effects. But scientists are also beginning to understand how our susceptibility to certain biases changes throughout our life, from childhood to old age.

Contrary to what people sometimes think, our brains do not fully mature until our mid-20s. Then, as we enter our 30s, some functions in our brain – our reasoning ability and logical problem solving – begin a slow decline. Happily, for the most part these declines are offset by our increasing knowledge and experience of the world. In fact, some argue that we have the capacity to make our best decisions in middle-age (*The Age of Reason*, Agarwal, S, Driscoll, JC, Gabaix, X, Laibson, DI).

Neuroscience research suggests that our brains continue to develop until we are in our 40s, and that the brain is always plastic, and highly adaptable to our surroundings and current context.

By our 60s and 70s, though, an overall decline in cognitive function is unavoidable, and this feeds into several other changes in our thinking and decision-making. This means that we may be more affected by certain cognitive biases – for better and worse – at different times of our lives.

There are two key findings from the latest research on ageing and the brain, and the differences age can make to judgement and decision-making.

The older we become, the less adaptable we are as thinkers

It is now well established that younger people tend to rely more on their analytical and reasoning skills – known as fluid intelligence – to make decisions, whereas as people age they tend to draw more on their knowledge and experience – known as crystallised intelligence – to make decisions. But how do these processes affect their decision-making? Who makes the 'better' decisions?

New research published in 2019 found that for simple decisions, the experience-based processes and shortcuts older people draw on to make their choices are a good match for the more analytical processes younger people usually draw on. However, for more complex decisions, younger people are at an advantage (Brocas *et al*).

This reliance on experience and routine can also make older people less open to finding new solutions. A study by a team (Harris, MA, Wolbers, T) at Edinburgh University found that older people (aged 61-79) were far less likely than young adults (aged 18-29) to switch from following learned routes to finding novel shortcuts in a virtual town environment scenario. Older people also took much longer initially to learn routes.

The older we are, the more we tend to look on the bright side of life

While our thinking might become less adaptable, researchers have found upsides to ageing. A 2018 review by Laura Carstensen and Marguerite DeLiema at Stanford University collated many findings that suggest that as people get older, they are more drawn to positive information. It is now understood, though, that what we are probably seeing is a fading of what is known as negativity bias as we age.

Younger people – even infants and children – tend to be drawn to negative information, which is thought to serve us well as we explore, figure out and make our own way in the world. Negativity bias helps to alert us to threats so we can avoid or confront them. Preferring positive information – known as the positivity effect – tends to occur in middle to late adulthood.

This effect has been observed in experiments in many different important contexts including attention to emotional faces, recall of facial expressions, memory for health information, focusing more on positive than negative old age stereotypes, and how socially ambiguous situations might be interpreted. Overall, it can affect our attention, short-term memory, autobiographical memory and working memory.

While the studies above were often lab-based hypothetical situations, a new study by Daisy Burr and Gregory Samanez-Larkin and colleagues measured the presence of the positivity effect in real life. The research team messaged 122 participants aged from 20 to 80 years old for 10 days, three times a day – in the morning, afternoon and evening – but at random times. Each message asked how they were feeling at that moment.

Participants were asked to what degree they were feeling each of eight different emotions: happy, relaxed, enthusiastic, sad, sluggish, fearful, quiet or surprised. Older adults experienced lower levels of negative emotions and more intense positive emotions. They also experienced fewer volatile emotions, being more emotionally stable during the day.

Scientists have put forward a number of hypotheses to explain this effect, but the most plausible explanation says that as we age, our motivations alter from the striving, exploration and learning motivated goals of our youth to a motivation to savour life, and find emotional meaning and satisfaction as our years draw to a close.

Known in science as the socioemotional selectivity theory, researchers have also found that what drives this effect are our perceptions of time horizons. When we are young, life stretches far ahead of us, but as we grow older time horizons shrink and, as a result, our goals focus on those realised today and in the immediate future.

Implications

- There are powerful implications for how we frame information; that is, if we want to get the attention of older people, we might be more effective if we present them with positive information and positive stimuli. Conversely, to get the attention of young adults, we might do better with negative stimuli
- When researching, wipe your mind of any pre-formed stereotypes. The vast wealth of research says that the older we get the more emotionally stable we are, and the more drawn we are to the brighter side of life
- If older people do tend to have a more positive outlook, or indeed look at things through rose-tinted spectacles, researchers will also need to be aware of this bias – particularly when asking questions retrospectively
- When conducting research on younger generations, it is equally important to be aware of a slight negativity bias and volatility of emotion among this age group
- Finally, if older people struggle more with complex decision-making, we need to make provisions for that, trying to find ways to make a decision simpler and easy, or perhaps designing the decision-making process so that they can easily fall back on tried and tested experience.

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