International Volunteer Day: Donating time and money is all the same to us

In case you didn't know, today is International Volunteer Day, when we recognise individuals who give their *time* to a charitable cause. After all, it's much harder to spend the day working in a soup kitchen than it is to make a small cash donation, right? Actually, a quick scan of our brains shows that this distinction isn't so straightforward

No easy option

Donating money to charity, rather than time, is often considered to be the easier option. It requires less time and effort, you only have to get your wallet out. But does that also imply that the decision to donate money is different from that of donating time? In the field of neuroeconomics, there's increasing evidence that we determine the value of these choices in exactly the same way. Even in the same area of our brain.

Comparing apples to oranges

Whenever we make a decision, we evaluate our options by determining how rewarding each choice is likely to be and picking the one with the highest value to us. This decision might be simple if the two alternatives are easily comparable. For example, when hungry for a snack, it's relatively

easy to choose between a bag of crisps or a pretzel. But the choices we face aren't always so simple. When deciding between donating money or volunteering, we're not comparing like-with-like. Instead, we have to weigh the value of money against the value of social interaction.

Now, we all have a sense of what money means to us, as long as it is in the currency that we are familiar with. For some, money is worth a lot, for others not so much. In contrast, the expected reward of social acts such as volunteering can be rather difficult to quantify. Think of gratitude, social status or a warm glow. We certainly don't measure the value of this by way of the money in our pockets. As an analogy, one could argue that the value of these social options is measured in some sort of foreign currency. So if we decide between two alternatives that are very different in nature, as in the decision between donating time or money, does the brain also use different 'valuation currencies'? Neuroeconomics provides the answer.

One area of the brain

Growing evidence suggests that the brain uses a "common neural currency" - an abstract neural value signal that is independent of the nature of the option. In other words, the brain uses a single scale to compute and compare the expected value of options, regardless of whether the reward is quantified in money, time or social interaction. And even more fascinating, this all happens in the same area of the brain.

Several studies have identified the exact part of the brain which is activated when we try to evaluate different options. Measuring brain activity in an fMRI scanner, researchers have found that the ventral medial prefrontal cortex (vmPFC) plays a key role in decision-making, from how much money people are willing to donate to charity to decisions about food, social rewards and risk.

The higher the willingness to give and the higher the amount of the donation, the stronger the vmPFC activity at the time of the decision. Similarly, the higher the predicted pleasure of eating food, the stronger the activity in this part of the frontal lobe. Thus, the subjective value signals for distinct options appear to be encoded in a common area of the brain.

What is even more surprising is that the vmPFC activity related to charitable donations strongly correlates with self-reported engagement in real-life volunteer work. This means that the predicted value of donating money to charities, as reflected in the brain, is highly related to pro-social behaviour in the form of donating time. So even if monetary donations are an easy way out, the act of giving still indicates valuable pro-social behaviour in the brain.

Since no brain is equal to another, more research is required to find out whether donating money is more valuable to some than volunteering. For now, let International Volunteer Day inspire you to be generous, in whatever 'currency' you prefer.

Fig. 1 Activation in the brain when we think of how much we value social options (left) or monetary options (middle). Clearly, there is one brain area that is active in both choices: the ventral medial prefrontal cortex (right). Evidence suggests that this area is involved in determining how much we like each option, regardless of the category to which it belongs or in which "currency" its value is measured.