RSM Insight

Management Knowledge

08

4th Quarter 2011

ROTTERDAM SCHOOL OF MANAGEMENT, ERASMUS UNIVERSITY

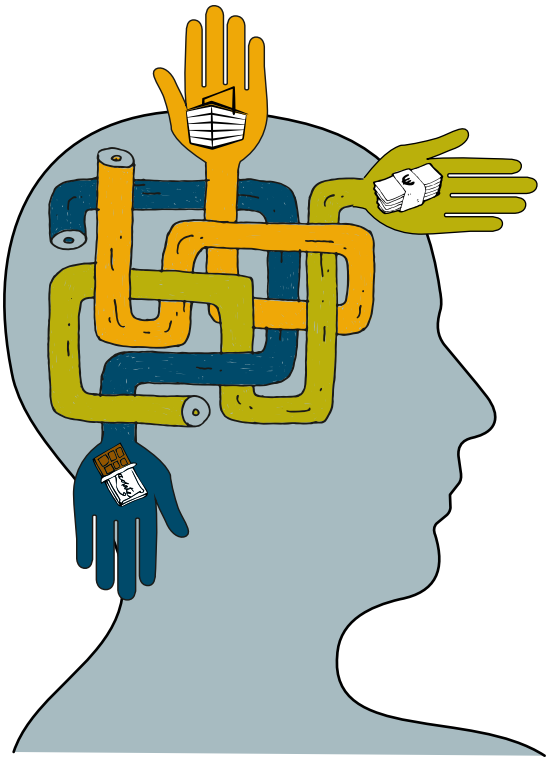
The business school that thinks and lives in the future

RSM Erasmus University

Embodied myopia and purchasing behaviour

by Bram Van den Bergh, Julien Schmitt and Luk Warlop

In conventional thinking, the mind controls the body. Our brains decide something and the body follows suit. However, in many ways this turns out not to be the case. Indeed, our research has found that even simple postures and gestures may be enough to influence our purchasing behaviour.



How our body influences our thought process, our attitudes, our decision-making processes is the science of *embodied cognition*. Using this approach, we see the body as an input system, feeding signals to the brain, influencing our actions. These insights have wide-ranging implications for understanding consumer behaviour.

The pioneering American psychologist and philosopher William James (1842-1910) was perhaps the first scientist to observe this phenomenon. He wrote: 'we do not run because we are afraid when we see a bear, we are afraid because we run'. In other words, first we have the physical manifestations, the bodily experiences, which are signalled to the brain. Only then will we feel a certain kind of emotion. We feel sad because we cry; we are afraid because we tremble – and not the other way around. The brain reacts to the physical responses. Since James' initial insight that bodily experiences affect mental processes, there have been many observations demonstrating how this phenomenon works.

In our research, we have studied how certain kinds of postures and other physical inputs affect one's decision-making processes in the context of purchasing decisions and impulsive consumption. In particular, we looked into what effect the position of a person's arms has on consumption. We wanted to see whether the way a person flexes their arms, either drawing something toward the body or pushing it away, affects their purchasing decisions. We bring things close to our bodies that we want (*approach motivation*) and push things away that we don't want (*avoidance motivation*).

We conducted an experiment with consumers, comparing those carrying shopping baskets versus those pushing shopping trolleys. By carrying a shopping basket in the crook of your elbow, with your arm flexed towards the body, you are engaged in approach motivation. When shopping with a trolley, you are continually pushing it in front of you, a signal of avoidance

"Could these simple movements affect the kinds of products that a person buys when shopping? Do these gestures influence the way we think? We discovered that yes, in many cases they do."

Embodied myopia and purchasing behaviour
(continued)

by Bram Van den Bergh, Julien Schmitt and Luk Warlop

motivation. We asked: could these simple movements affect the kinds of products that a person buys when shopping? Do these gestures influence the way we think? We discovered that yes, in many cases they do.

We followed shoppers while they were making purchasing decisions, noting how long they stayed in the store, what kind of products they bought, how many they bought, and so on. What we were particularly interested in was their likelihood to purchase so-called *vice products*, sweets, chocolate bars, chewing gum, for example, displayed in the checkout line.

We found that people with a shopping basket are much more likely to buy vice products while waiting in the checkout line than those with carts. Therefore, this confirms our prediction: engaging in approach movements leads to buying vice products. Of course, there may be other factors involved: the basket is smaller; the shopper is only making a few purchases and has more opportunity to act impulsively.

There are a number of differences between these two groups, but even if we control for them, the effect is still there: basket shoppers are more likely to buy vice products than cart shoppers. It would seem that simply flexing one's arm towards the body creates a desire for chocolate and other products that offer immediate gratification.

In another study, we removed the baskets and trolleys to see if arm posture alone induces the effect. We had subjects sitting at a table with either their hand under it, pushing lightly upwards, or on top and pushing lightly downwards. Subjects had to choose between hedonic and utilitarian goods or between immediate and delayed rewards.

"People with a shopping basket are much more likely to buy 'vice' products while waiting in the checkout line than those with carts."

They were asked questions such as: would you prefer an apartment with a great view or one close to your work? Another example: would you prefer €16 tomorrow or €30 in 35 days? Again, we discovered that flexing one's arm, rather than extending it, makes people more likely to pick the hedonistic reward rather than the delayed one. Arm flexion induces what we called *embodied myopia*. People become short-sighted, preferring immediate gratification and disregarding long-term consequences.

Why is this the case? We know from neuroscience studies that the same area of our brain processes rewards; we have what you might call a general reward system. We have learned that if you stimulate desire in one domain, people may seek gratification in completely unrelated areas: in previous studies, heterosexual male subjects were exposed to sexual cues that increase libido. It was found that men exposed to these cues were likely to opt for instant gratification, preferring one euro today instead of two euros tomorrow; one soft drink now instead of two tomorrow, and so on. The sexual cues stimulated their reward centre, spurring them to seek and approach all kinds of gratifying rewards.

However, it must be added that this behaviour is not universal; it occurs only in people who have a sensitive reward system. We can test for this by asking certain questions. For example: does the good prospect of obtaining money motivate you strongly to do some things? Do you often meet people that you find physically attractive? Do you often do things in order to receive praise? Are there a large number of objects or sensations that remind you of

pleasant events? People answering yes to such questions are likely to have a more sensitive reward system. What we find is that arm flexion especially affects people who respond to rewards with approach behaviour; it doesn't occur with everyone.

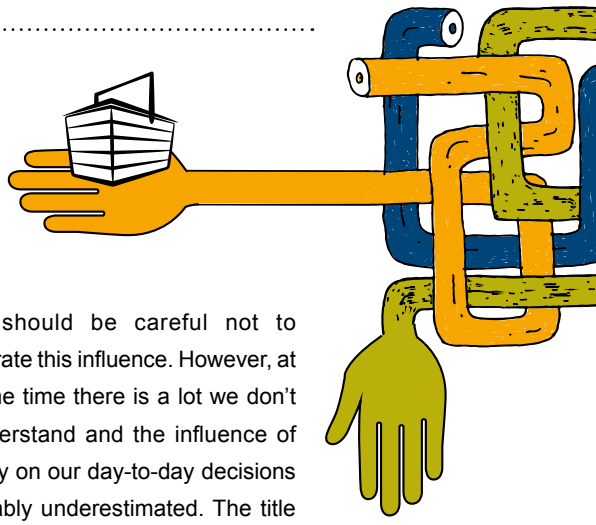
At this point, we might ask: what is going on here? Why does arm flexion lead to approach motivation? It has been argued that a lifetime of experience is needed in which these motor actions are associated with the consumption of desired stimuli for this phenomenon to arise. If someone paralyzed at birth were later in life able to move their arms, they would probably not be prone to these effects.

We know, for example, that leg flexion does not yield the same effect as arm flexion, due to the absence of a learning process. After all, we don't eat with our feet. Likewise, we see a difference between the dominant and non-dominant arm. The dominant arm we use much more frequently, hence it has undergone a more significant learning process. Indeed, it is only when the dominant arm is flexed that we see these myopic preferences.

It is therefore probably not an accident that when playing a slot machine in a casino, you have to pull the lever towards you rather than push it away, and why the lever is on the right side of the machine, since that is the dominant arm for most of us. Our insights into embodied cognition suggest that the physical movement of pulling the lever will induce short-term thinking: you concentrate on the present, on instant gratification (the thrill of possibly winning), not of the bills to pay next month and whether you can actually afford to keep feeding coins into the machine.

Recent market research has also shown the people who use iPads and other tablets tend to spend more when shopping online. If you are holding a tablet, you are probably flexing your arm, whereas on a laptop or a desktop PC you are more likely to extend your arm. Could this affect your online purchasing behaviour? We don't know for sure, but it is a real possibility. Embodied cognition may also play a role in the huge popularity of game consoles, such as the Wii or Xbox Kinect, which players control by bodily actions.

We tend to think of our bodies as irrelevant to our thought processes; that they are simply output mechanisms. Research, such as ours, into embodied cognition demonstrates that body movements, gestures and posture have profound influences on our decision-making processes. In any situation where you think the body is completely irrelevant, you should probably think again.



We should be careful not to exaggerate this influence. However, at the same time there is a lot we don't yet understand and the influence of our body on our day-to-day decisions is probably underestimated. The title of a recent story in *Wired* may not be so far fetched after all: 'Nintendo is hacking our brains.' ■

Bram Van den Bergh is Assistant Professor, Department of Marketing Management, Rotterdam School of Management, Erasmus University. Email: bbergh@rsm.nl

Julien Schmitt is Assistant Professor, Aston Business School, Aston University. Email: j.schmitt@aston.ac.uk

Luk Warlop is Professor of Marketing, Faculty of Business and Economics, Katholieke Universiteit Leuven. E-mail: luk.warlop@econ.kuleuven.be

This article is based on the research paper Embodied Myopia, which was published in the Journal of Marketing Research, Vol XLVIII (December 2011), 1033-1044.