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Being smart about using smartphones

Andree Hartanto and Yang Hwajin

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In recent years, smartphones have become a ubiquitous part of our lives. Their multi-functionality and portability have made our lives more convenient and efficient.

With a smartphone, a large range of activities, such as banking, shopping, e-mailing, networking, photographing and gaming, can be enjoyed any time, anywhere. Indeed, the smartphone has become a necessity rather than a luxury for many people the world over.

A survey conducted by the Pew Research Centre in the United States found that nearly half of the 2,188 respondents reported that they could not live without their smartphones. This percentage might be even higher in Singapore, since we have the highest smartphone adoption rate in the world.

Smartphones have drastically changed how we live. For example, checking smartphones upon waking up or before bedtime, and for socialising have become common habits reported by most Singaporeans, and the intensity of these habits is worrying.

A recent Straits Times article reported that Singaporeans spend over 12 hours on their gadgets daily. Although smartphones are less than a decade old, today's devices seem to offer us the most captivating experience of all.

As people become more dependent on, and involved with, their smartphones, their attachment to their smartphones has increased markedly. Numerous surveys from countries such as Britain, the US and South Korea have observed a phenomenon called "no-mobile- phone phobia" or "nomophobia", where people reported fear or anxiety when they were separated from their smartphones. For instance, a survey by tokenless authentication company SecurEnvoy found that 77 per cent of young adults in Britain reported heightened anxiety when they were away from their smartphones.

The phenomenon itself is intriguing as separation anxiety is typically manifested when individuals experience excessive fear, anxiety and stress about separating from their home or an attachment figure, such as a parent or significant other.

While non-living objects, like a keepsake, heirloom or photograph, can be the object of attachment in some extreme cases, there is nothing as pervasive these days as the attachment to one's smartphone.

In view of this phenomenon, we conducted a series of experiments with university students to examine both the consequences and implications of "smartphone separation" in Singapore.

In our first study, we randomly assigned our participants to either one of two conditions.

In the separation condition, participants gave up their smartphones to an experimenter to avoid any potential interruption during the study. In the non-separation condition, however, participants kept their smartphones.

We found that those who gave up their smartphones reported a significantly higher level of anxiety than those who did not, although participants in both the conditions did not differ in smartphone usage or smartphone addiction.

More importantly, smartphone separation substantially impaired participants' cognitive flexibility as measured by a computerised task-switching paradigm (indexed by the time taken to switch from one task to another), due to the heightened anxiety it produced.

To clarify whether the source of the anxiety was due to smartphone separation or simply having to relinquish a valuable possession to a stranger, we conducted another experiment. Here, some participants relinquished their smartphones, while others gave up their identity cards instead.

We replicated our previous findings. Participants without their smartphones reported a significantly higher level of anxiety, and experienced poorer attention spans and working memory as measured by a series of computerised tests.

These findings support our hypothesis that heightened anxiety incurred by smartphone separation significantly impairs cognitive performance, especially higher-order cognitive processes that govern conscious, deliberate and goal-directed actions.

Recent research has identified two important factors that explain the rise of smartphone separation anxiety.

The first is the fear of missing out, where people become worried, fearful and anxious when they feel out of touch with the events, conversations and experiences of those in their surroundings.

As the smartphone is the main window to these updates, it is not surprising that being unable to check our smartphones incurs heightened anxiety.

Moreover, anxiety can be triggered as many regard smartphones as a source of comfort, giving them temporary relief from impending anxiety or uncomfortable feelings that are easily triggered by various situations.

For example, it is common for people to use smartphones as a way to avoid awkwardness, such as having dinner with people they are uncomfortable with.

Knowing these negative consequences of smartphone dependency and smartphone separation, one might ask whether we should ban smartphones.

But a blanket restriction is not a practical solution. Smartphones are useful tools and even the fear of missing out is adaptive to some extent - to avoid social exclusion.

A more realistic solution would be to use them in moderation.

Allow for technology breaks. For example, when we are working, we can set a rule to check our smartphones only during a designated break period.

The frequency of this can vary depending on the situation and individual's needs, but the main idea is that we need to systematically regulate when to use smartphones and when to put them aside.

This habit will not only help us alleviate the fear of missing out, but channel this strong drive to access smartphones into more rewarding motivation such as working hard and achieving success.

Smartphones are beginning to control our lives. We need to be smarter, and radically change how we use them.

About the writers

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