The science behind piracy—guilt portion of the brain fails to fire

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One third of Australians aged between 16 and 75 years watch movies and television shows downloaded illegally from the internet – further proof that Australians are among the biggest illegal downloaders in the world.

New research looking at the brain activity of people as they engage in illegal downloading reveals startling insights into why normally law-abiding people are comfortable breaking what is seen as intangible laws, such as piracy.

A comprehensive three-stage study published in *Social Neuroscience* by Robert Eres, a PhD student within the Social Neuroscience lab led by Dr Pascal Molenberghs at the Monash Institute of Cognitive and Clinical Neurosciences, investigates what happens in the brains of people when they pirate a TV show, for instance, compared to stealing a handbag.

The researchers initially conducted an online questionnaire to determine whether people are actually more likely to steal non-tangible items (such as software and mp3s) compared to tangible items (such as CDs and DVDs). They found that people report they are more likely to steal something if it has no physical presence, regardless of price, risk of getting caught or difficulty obtaining the item.

The researchers then conducted two brain imaging studies to better understand why people are more likely to steal intangible items.

The first brain imaging experiment revealed that people's brains were much more active when trying to imagine intangible compared to

tangible objects, which suggests people have more difficulty with representing intangible items.

During the second brain imaging experiment, volunteers had to imagine illegally or legally obtaining different entertainment types (e.g., films, music, books and software).

This study revealed that participants showed significant more activation in the area of the brain associated with guilt – the lateral orbital frontal cortex – when imaging stealing an item. Critically, this area was much more active for stealing tangible objects compared to intangible ones.

"The findings from the two brain imaging experiments suggest that people are processing the intangible and tangible objects very differently within their brains," Mr Eres said.

According to Dr Molenberghs, these findings suggest that people are more willing to break laws and moral rules surrounding intangible property because they have more problems with representing intangible objects. As a result, the brain feels less guilty when stealing them.

"Evolutionarily, we have interacted more with physical goods – particularly in respect to ownership so that is why we are hardwired to respect these more compared to intangible items such as ideas or software", he said.

Mr Eres thinks that the results also help explain why we typically feel less guilt about a range of other amoral non-physical behaviours, such as online bullying, illegal hacking, stealing ideas, digital espionage or mass surveillance.

Provided by Monash University