

Curbing crime with 3D avatars and intelligent design

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One way of preventing crime is to make public spaces—right down to park benches—harder for pickpockets to target. Credit: CC0 via Unsplash

Reducing everyday offenses may depend on harnessing the power of virtual reality, conscious design and community spirit.

Picture a young offender with a headset immersed in a virtual room, coming face to face with an avatar of his or her future self.

The person tells the avatar about his or her lifestyle, substance abuse, debts or time hanging out with delinquent friends. Then the person travels forward through a 3D representation to become a future self and give the younger one advice.

Facing the future

Enabling people to speak to their future selves and ask for advice could help them make better choices today, some scientists say.

"If people care more about their future selves, we think they will be less likely to engage in delinquent behavior in the present," said Jean-Louis van Gelder, a professor of criminology at Leiden University in the Netherlands. He is also director at Germany's Max Planck Institute for the Study of Crime, Security and Law.

Van Gelder and other researchers in the EU are taking inspiration from the world of gaming to help bring home to young offenders the longer-term consequences of their choices. Although the technology is still being tested, the early signs are that these 3D virtual representations could help change behavior for the better.

It's one of many crime-prevention techniques being developed across Europe.

People who live in a day-to-day survival mode are more likely to commit crime or to abuse drugs and alcohol. That's because these types of behavior deliver immediate, albeit small, benefits. The severe costs—including prison—are often in the distant future.

Such short-term mindsets can result from harsh or unpredictable parenting and exposure to delinquent friends or poor role models, according to Van Gelder.

Short-sightedness and impulsivity are often believed to become relatively fixed in children by the age of 10 years, and it is hard to change. But what scientists are beginning to discover is that it can in fact be worked on, opening up the potential to help people stop committing crimes.

Do-it-yourself advice

He tested the virtual-reality technology with 24 [young offenders](#) as part of a research project called [CRIMETIME](#), which runs through March 2024.

"The interesting thing is that people give themselves very sound advice generally," said Van Gelder, who coordinates the six-year project supported through the European Research Council. "People tend to tell themselves to stop committing crime or to be more disciplined or to look for a job."

Participants were asked about their behavior and attitudes in the week before and after the session. The majority reported less harmful or criminal behavior and greater awareness of their future selves after the session.

It's extremely difficult to change people's behavior, according to van Gelder.

"The changes were not large, but we saw a reduction, which tells us that we're on the right track," he said. "So our hope is that getting advice from themselves will be more convincing than getting advice from other

people."

The next step is to develop a mobile phone app that will give them a similar experience and could be used every day for several weeks.

"The more they do the exercise, the more vivid their future self becomes," said Van Gelder.

And the more connected they feel with their future selves, the more marked the impact on behavior.

Design deterrents

A project called [Cutting Crime Impact](#) (CCI), which ran for three years until the end of 2021, focused on more practical ways of preventing crime. These include making buildings, benches, bags and the like harder to target.

"You can actually design out crime," said Professor Caroline Davey, director of the Design Against Crime Solution Center at the University of Salford in Britain.

She coordinated CCI, which covered seven European countries: Estonia, France, Germany, the Netherlands, Portugal, Spain and the U.K.

Since the 1990s, theft from homes and cars has fallen with the design of more secure doors, windows and burglar alarms.

"We're always trying to encourage designers to think about the risks associated with their particular products," said Davey. "It's not rocket science—it's fairly easy to predict what will be attractive to potential offenders."

For example, the back of a bench that has gaps large enough to put two fingers through to reach someone's pocket or bag will encourage pickpockets. By contrast, designing buildings so that neighbors overlook each other deters burglaries.

Researchers have worked with Britain's Greater Manchester Police to develop a service to advise architects, [urban planners](#) and property developers on crime prevention.

"They highlight the risks in a particular area and advise them on how they can reduce those risks," said Davey.

Police tips

Similar approaches were crafted under CCI with law-enforcement agencies in most of the participating countries.

Police in Estonia's capital Tallinn took part. They report that crime has plummeted in Tondiraba Park—a large public space in the city—since it was revamped in cooperation with the police.

Kelly Miido, senior superintendent in charge of community policing in Tallinn's Mustamäe-Kristiine district, said she and her colleagues had to work hard to get local authorities and urban planners to think about potential security risks in their designs and ways to remove them.

"We had to constantly remind planners that we wanted to be part of the process," Miido said.

Now, however, planners and [local authorities](#) approach her team to ask for design help.

"They have found that, if they involve us, they have fewer problems in

the long run," Miido said.

Before the redesign, the local police had to send a patrol every day to the park during the summer. Now they are called out two or three times a week.

Local knowledge

One of CCI's most important results is a handover process for when community police officers are redeployed, according to Davey, who coordinated the project.

Such patrollers, who walk the streets and get to know locals, play an important role in preventing crime. Because people can talk to them informally, these officers learn a lot about neighborhood concerns and troubles, including in relation to social vulnerability and radicalization.

"Community policing is so important, but is often undermined by lack of funding and appreciation for what these officers do," said Davey.

That is reflected in the way that officers can be redeployed with no handover process. Relationships built up over years with a community can be lost overnight.

"The community aren't told about the change and often organizations the police officer works with—like social services and schools—don't know," said Davey. "This can have a significant impact on people's trust in policing and, ultimately, their quality of life."

A handover system addresses the matter with relative ease and at low cost. It involves the redeployed officer and his or her replacement walking the area together and meeting key people.

"It captures something very human and important, which is the relationships that exist between community police officers, local people and local organizations," said Davey.

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