Virtual reality project gauges citizens' faith in law enforcement in the face of gang violence

May 14 2019, by Leda Zimmerman

A survey team led by grad student Andrew Miller displays use of the virtual reality equipment, which helped elicit feedback on providing information about crimes in Lagos, Nigeria. Credit: Andrew Miller

To a resume rich in policy and security studies, work experience, and publications, Andrew Miller may now add the unlikely skill of video production. While investigating the impact of gang violence on Lagos, Nigeria, the sixth-year political science doctoral candidate came up with an innovative research tool: immersive, virtual reality (VR) videos.

"This was the first time VR was deployed in a large-scale field survey," says Miller, a Ph.D. candidate in the MIT Department of Political Science. "Using VR video vignettes, we could immerse respondents in hypothetical scenarios, which helped elicit their real-world emotions when answering questions about these scenarios."

Miller's foray into production evolved as part of his multi-year doctoral study into the ways criminal organizations wield influence in communities.

"Deaths from criminal violence likely equal deaths from civil war, terrorism, and interstate war combined," he says, "and those responsible often operate with quasi-impunity." In the Americas, for instance, for every 100 murders, only about 25 people are convicted, Miller notes. "It's not just a problem for developing countries; even in some major American cities, people who commit murder are much more likely to get away with it than be arrested or convicted."

Miller has a master's degree in foreign service and security from Georgetown University, and has held international development and security positions with Deloitte Consulting and the Council on Foreign Relations. After spending significant time on the ground in places like Iraq, Afghanistan, Bosnia, and Kosovo, he became keenly aware of "criminal organizations operating in many of these places under the surface," and of frequent collusion between criminal groups and governments.

"You could have a government with all the resources, the trappings of legitimacy and legal frameworks, and still have small, illegal organizations that exercise a surprising degree of control in communities," he says.

In the daily lives of citizens in so many of the places he visited, the most meaningful security issues involve "problems with underground economies, real or perceived corruption of the police, and threatened and actual violence by criminals trying to control these economies," Miller says.

Concerned by this pervasive problem, which is only likely to grow in significance as urban areas expand in population, Miller set out to investigate the relationships between citizens and law enforcement. He decided to focus specifically on how and why people in communities afflicted by gang violence decide to cooperate with police. "If someone sees a shooting or hears about somebody involved in a shooting, what determines if that person shares information with the police?" Miller wondered.

Trust issues

Hoping to develop a broadly applicable theory, Miller chose two very different locales as research sites: Lagos, Nigeria, and Baltimore, Maryland. The former, home to more than 10 million people and the economic and cultural hub of West Africa, has pockets of the city beset with groups that extort shopkeepers, along the lines of Sicily's mafia. Baltimore is afflicted with gang violence around drug trafficking and one of the highest murder rates in the United States. What unites both cities, says Miller, is "a strained relationship between many residents and the police."

Miller began in Lagos, with its densely populated markets, to explore

this distrust. His research had built-in constraints: He could not run real-world simulations of violent incidents to test witness responses.

So Miller devised the notion of VR vignettes played on mobile phones to engage subjects and make it a more realistic experience for them. Hiring a Lagos production team and actors, he filmed a series of staged fights, with more than a dozen variations changing the circumstances of the fight or police response. Shown these different videos, 1,025 people completed surveys about their willingness to share information with the police.

After 11 months in Nigeria, Miller has begun to glean insights from his fieldwork. Among them: The central constraint to reporting incidents to police is "a deep-seated perceived retaliation risk from gangs, which are regarded with both antipathy and fear," says Miller. (One possible remedy to this hurdle that he identified through his research: expanding access to anonymous police tip lines—not currently available in Lagos.)

His survey data also revealed that even if citizens witness police using excessive force, violating the rights of suspects, they still believe sharing information is important.

"It was surprising to me that, even in cases where police are widely perceived as corrupt, citizens hold an enduring faith in their ability to bring law and order, as long as it doesn't jeopardize personal safety," he says. "People show amazing resilience in the face of their problems."

Baltimore and beyond

Miller has now turned his focus to completing the Baltimore phase of research. He's donning his production hat once again—this time for video segments of local news stories designed for an online survey. Both the work in Lagos and Baltimore will feature in his thesis on cooperation

between citizens and the police in communities with gangs.

Although Miller has given himself little time off, he managed to slip away to northern Italy recently and was able to indulge in his favorite pastimes of travel and food.

While he once pursued a future in development and humanitarian assistance, he has fully committed to a life in academia. "I really love digging into issues deeply, and I enjoy teaching, especially the undergraduates at MIT," he says. He also cites the fruitful support and friendships he found in the political science department "that proved instrumental at all stages of the research process, from developing ideas to writing up the results."

A faculty position in a comparable environment that enables him to continue this work would be ideal, says Miller. "It's important that my work both contributes to academic theory and is relevant to people's lives," he says. "People in the communities where I have been working have emphasized to me that research like this needs to be done, so I hope it will be useful."

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Provided by Massachusetts Institute of Technology

Citation: Virtual reality project gauges citizens' faith in law enforcement in the face of gang violence (2019, May 14) retrieved 16 June 2024 from https://phys.org/news/2019-05-virtual-reality-gauges-citizens-faith.html