

# Just 60 Seconds of Combat Impairs Memory

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Just 60 seconds of all-out physical exertion in a threatening situation can seriously damage the memories of those involved for many details of the incident, according to a new study of police officers.

Police officers, witnesses and victims of crime suffer loss of memory, recognition and awareness of their environment if they have had to use bursts of physical energy in a combative encounter, according to scientists.

Researchers, led by Dr Lorraine Hope of the University of Portsmouth, found that less than 60 seconds of all-out exertion, as might happen when an officer is forced to chase-down a fleeing suspect or engage in a physical battle with a resistant criminal, can seriously impair their ability to remember details of the incident – or even identify the person who was involved. Even officers in top condition are not immune to the rapid drain of physical prowess and cognitive faculties resulting from sustained hand-to-hand combat.

The findings, published in [Psychological Science](#), a journal of the [Association for Psychological Science](#), are a stark warning to police officers, police chiefs and the courts, according to Dr Hope, a Reader in applied cognitive psychology of the university's Department of Psychology.

She said: "Police officers are often expected to remember in detail who said what and how many blows were received or given in the midst of physical struggle or shortly afterwards. The results of our tests indicate it may be very difficult for them to do this.

"As exhaustion takes over, cognitive resources tend to diminish. The ability to fully shift attention is inhibited, so even potentially relevant information might not be attended to. Ultimately, memory is determined by what we can process and attend to.

"The legal system puts a great deal of emphasis on witness accounts, particularly those of professional witnesses like police officers. Investigators and courts need to understand that an officer who cannot provide details about an encounter where physical exertion has played a role is not necessarily being deceptive or uncooperative. An officer's memory errors or omissions after an intense physical struggle should not unjustly affect his or her credibility."

The research, conducted on police officers in Winnipeg, Canada was coordinated and funded by the Force Science Institute. The research team in Canada included Dr Lorraine Hope (University of Portsmouth), Dr Bill Lewinski (Force Science Institute) and specialists from the Metropolitan Police in the UK.

Researchers recruited 52 officer volunteers (42 males, 10 females), with an average of eight years on the job. All officers were fit and healthy and engaged in regular exercise.

During an initial briefing, the officers were given background information about a recent spate of armed robberies in the city. The briefing included details of how the robberies were conducted and witness descriptions of the perpetrators. Half of the officers then engaged in a full-force physical attack on a 300lb hanging water bag and the others (a control group) were assigned as observers. Officers selected their own “assault movements” on the bag attack — punches, kicks, and/or palm, elbow, and knee strikes—and were verbally encouraged by a trainer during the task. They continued the assault on the bag until they no longer had strength to keep going or until they were breathless and struggling to continue.

The next part of the test required the officers to approach a trailer that a “known criminal” was suspected of occupying. On entering the trailer, the officer found themselves in a realistic living area where a number of weapons, including an M16 carbine, a revolver, a sawn-off shotgun and a large kitchen knife were visible. After a short delay, the “target individual” emerged from another room and shouted aggressively at the officer to get out of his property. The individual was not armed, but several of the weapons were within easy reach.

Dr Hope found those who had been asked to exert themselves physically remembered less about the target individual and made more recall errors compared to the control group of observers. The officers who had been exerted also recalled less about the initial briefing information and what they did report was less accurate. Officers who had been exerted also reported less about an individual they encountered incidentally while en route to the trailer. While more than 90 per cent of non-exerted observers were able to recall at least one descriptive item about him, barely one-third of exerted officers remembered seeing him at all.

Everyone remembered seeing the angry suspect in the trailer, but non-exerted observers provided a significantly more detailed description of him and made half as many errors in recall as those who were exhausted. These observers were also twice as likely to correctly identify the suspect from a line-up.

However, another striking aspect of the findings showed that exerted officers were able to register threat cues in the environment to the same degree as non-exerted officers.

These new findings reveal that although exerted officers were able to pay attention to the threatening aspects of the scene, their ability to then process other aspects of the interaction was affected. As a result of this, some information may only have been processed weakly or not at all – resulting in an impaired memory for many details of the encounter.