Determining boundary conditions of the weapon focus effect

The project aims to inform considerations of eyewitness evidence when the crime involved a weapon by examining potential boundary conditions of the weapon focus effect.

Key details

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Police region	Scotland
Collaboration and partnership	Pia Pennekamp (QMU), Matthew Gibson (QMU), and other undergraduate and master's level students.
Level of research	Professional/work based
Project start date	September 2015
Date due for completion	June 2025

Research context

Prior research demonstrates that the presence of weapons can negatively affect an eyewitness' memory for the perpetrator of a crime (that is, the weapon focus effect). When a weapon-involved crime occurs, eyewitnesses often provide less detailed descriptions of the perpetrator than when no weapon was involved.

However, much of this research has focused on why the effect occurs (due to the unusualness of a weapon/object vs. the threat it represents). Little work has considered the conditions under which the effect is found.

To better apply this work to practice, it is important to understand the variety of conditions under which the weapon focus effect occurs (that is, boundary conditions).

Aim

To inform considerations of eyewitness evidence when the crime involved a weapon or an object used as a weapon, by examining potential boundary conditions of the weapon focus effect.

Objectives

This project has four main objectives.

1. The types of objects that produce a weapon focus effect (for example, a Millwall brick).
2. Whether the visibility of an object influences the weapon focus effect (for example, a gun brandished vs. holstered).
3. Whether how objects are used influences the weapon focus effect (for example, shooting compared to hitting with a gun).
4. how witnessing conditions influence the weapon focus effect (for example, how long the criminal was in view for).

Research methodology

This project comprises a series of experiments which broadly use the same experimental method and are typically conducted in the lab or online. Participants first view a mock-crime (typically a video). Following the video, they are asked to describe the actors and the event, and then to answer questions about the actors and event. After a delay, they make a lineup decision and indicate how confident they are in their decision. Lineups contain either a guilty suspect or an innocent suspect.

In the first experiment, the mock-crime video depicted a bank robbery. The researchers manipulated the type of object held by an actor (gun, knife, flamingo, or binder) as well as the duration of the mock-crime video (long, short) and how 'busy' the background was (lots of eye-catching objects, few eye-catching objects).

Memory for the robber and event was poorer when the robber wielded a weapon (gun, knife) or a flamingo (that is, an unusual object) than when the robber wielded a binder. Furthermore, when the robber wielded a weapon, guilty suspects were less likely to be identified from the lineup than when the robber wielded a flamingo, with both less accurate than when the robber wielded a binder. The duration of the event had a complex effect on performance. You can read more in the published paper.

One experiment, recently concluded, focused specifically on how objects are used. In this experiment, we varied the object held by an actor (newspaper or gun) and how the object was used (in an expected or unexpected way). Analyses of these data are ongoing.

An ongoing experiment is exploring whether the weapon focus effect for a holstered or concealed gun is similar to that for a gun that is brandished or waved.

Interim reports or publications

Mansour, J. K., Hamilton, C.M., & *Gibson, M. T. (2019). Understanding the weapon focus effect: The role of threat, unusualness, scene complexity, and duration. Applied Cognitive Psychology, 33(6), 99-107. https://doi.org/10.1002/acp.3515
This paper is freely available at https://eresearch.qmu.ac.uk/handle/20.500.12289/9582