

New Study: Stress, Training, and the Objective Reasonableness Standard

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By Dr. Simon Baldwin

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It is well-settled that a police officer's use of force must be reasonable. It is equally well-established that reasonableness is to be judged from the perspective of the officer on the scene. This "on scene" perspective properly requires agencies and courts to consider the influences that emotional arousal and stressors, like time compression, may have on these use-of-force decisions.

In my role as the manager of the Operational Research Unit for one of the largest police agencies in North America, it has become clear that the unpredictability, general dangers, and stressful nature of policing are well recognized.¹ Where we hope to advance an evidence-based understanding is how stress might reasonably be expected to influence the cognitive and perceptual processes (and subsequent decisions and actions) of officers on the scene.

In a [2019 study](#), I joined a team of scholars to track officers' stress responses during calls for service and use of force encounters. In this most recent 2022 study, I led a research team which again captured a realistic picture of human performance under stress, this time asking to what extent current police training and experience might improve performance.²

The Study

In [A Reasonable Officer: Examining the Relationships Among Stress, Training, and Performance in a Highly Realistic Lethal Force Scenario](#), we assessed 122 active-duty police officers during a scenario that we developed after a review of the agency's officer-involved shootings. We examined whether decision-making and performance were affected by the officer's 1) level of operational skills training, 2) years of police service, and 3) stress reactivity.

We designed the scenario to be complex, dynamic, and stress-inducing. It required officers to conduct continuous risk assessments, and force decisions while multitasking crisis communication, problem solving, and physical tactics—including the need to engage potentially deadly threats.

We observed that the scenario produced elevated heart rates (i.e., 150 beats per minute), as well as perceptual and cognitive adaptations, including tunnel vision. The influences we observed and measured corresponded with those observed in naturalistic use of force encounters.³⁴ Combined, the scenario provided realistic conditions under which to study performance in highly stressful real-world police encounters.

To assess the officers' performance, we enlisted a team of eight use-of-force subject matter experts trained to assess performance using a sophisticated performance matrix. The performance matrix was compiled from: (1) the Deadly Force Judgment and Decision-Making (DFJDM), Tactical Social Interaction (TSI), and Crisis Intervention Team (CIT) metrics, (2) the agency's performance metric, (3) the Scenario Training Assessment and Review (STAR) scale, and (4) lethal force errors.

Notable Results

- The average performance rating from the scenario was 59%, with over a quarter of officers making one or more lethal force “errors” during the scenario.
- Lethal force errors included decision-making errors (7%), mistake of fact errors (16%), and a combination of the two (4%).
- The level of training produced no effect on cardiovascular stress reactivity, or the extent of perceptual and cognitive adaptations experienced.
- Elevated stress reactivity predicted poorer performance (13% decrease) and increased lethal force errors (6 times higher).

- Level of training and years of police service had mixed effects on both performance and lethal force errors.
- **Greater levels of training** improved overall performance in the scenario, while **years of police service** was **negatively associated with performance**.
- More **advanced training**, as well as **higher years of police service**, also predicted **increased** lethal force decision-making **errors**.
- While proper training may significantly improve overall performance, **threat-induced performance deficits and lethal force errors in police officers are persistent**, even with training. For example, the sample of highly trained tactical officers in this study had performance scores of 74%, and **14% made lethal force errors under stressful conditions**, despite having a quarter of their shift time devoted to training.

Moving Forward

The question before our communities and courts is how reasonable officers can be expected to perform under stress. Here's what we learned. First, while consistent training can significantly improve outcomes, flawless performance is improbable given the limits of human performance under stress. That said, we observed several behaviors that were highly associated with positive performance. These behaviors included, assessing the situation, accurately interpreting threat cues, competence with intervention options, effective de-escalation, and maintaining tactical advantages (e.g., time, distance, cover, concealment).

I was able to discuss the full study with [Von Kliem](#), Director of Consulting at Force Science. Von observed, "You made an important observation in the full study where you highlighted that perceptual and cognitive adaptations to stress may not be helpful in certain aspects of performance—like situational awareness—but may be beneficial for other aspects, like officer safety." Von continued, "We recognize that tunnel vision for example is something we all experience whether we are under stress or not. It may help us focus on important information for survival, but it can be at the cost of missing out on other, sometimes equally important, details. These research-based observations are valuable as we still have attorneys and academics arguing that tunnel-vision either doesn't apply to police or is just a convenient excuse that allows officers to lie about their use-of-force decisions."

[Dr. Bill Lewinski](#), Executive Director of Force Science, remarked, "This study advanced some important research into human performance, particularly officer performance, under stress. The section on Training and Experience Under Stress deserves careful attention. Your team observed that when an officer evaluates a threat based on a quick diagnosis of the situation—like a suspect's movements, body position, speed, and similarity to past dangerous conduct—the officer might then respond to the presentation of a cellphone as though it were a firearm. Although these types of responses are fast and often involve the most reasonable and expected types of decision-making during force encounters, they are imperfect. What

law enforcement and the courts might call a reasonable mistake-of-fact, our communities may just see as an error. Your study highlights the prevalence of these types of reasonable but imperfect judgments made under stress.”

A Recommended Read

[Dr. Baldwin](#) was able to present findings from this research at the 2022 Force Science Conference. Still, readers are encouraged to consider the full peer-reviewed article, which can be accessed for free by clicking the button below.

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This study advances the study of officer performance under stress and provides an excellent primer on the psychophysiological threat response and considerations for evidence-based training.

Questions, comments, and recommendations for further research in this area can be sent to [Dr. Baldwin](#).

About The Author

Lead researcher Simon Baldwin has a Ph.D. in psychology at [Canada’s Carleton University](#) (Police Research Lab) and is Manager of the [Royal Canadian Mounted Police’s Operational Research Unit](#). He is a graduate of the [Advanced Force Science Specialist Course](#) and was joined in this study by [Dr. Craig Bennell](#), [Dr. Judith Andersen](#), and retired partnering Force Science instructor, [Mr. Chris Lawrence](#).

1. Klinger, D., and Brunson, R. (2009). Police officers’ perceptual distortions during lethal force situations: informing the reasonableness standard. *Crimino. Public Policy*. 8, 117–140. doi: 10.1111/j.1745-9133.2009.00537.x []
2. Baldwin S, Bennell C, Blaskovits B, Brown A, Jenkins B, Lawrence C, McGale H, Semple T and Andersen JP (2022) A Reasonable Officer: Examining the Relationships Among Stress, Training, and Performance in a Highly Realistic Lethal Force Scenario. *Front. Psychol.* 12:759132. doi: 10.3389/fpsyg.2021.759132 []
3. Baldwin, S., Bennell, C., Andersen, J. P., Semple, T., and Jenkins, B. (2019). Stress-activity mapping: physiological responses during general duty police encounters. *Front. Psychol.* 10:2216. doi: 10.3389/fpsyg.2019.02216 []
4. Artwohl, A. (2008). Perceptual and memory distortion during officer-involved shootings. *FBI Law Enforcement. Bull.* 71, 18–24. []

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