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10-43: Be Advised...
with Doug Wyllie, PoliceOne Editor in Chief

How lack of sleep may cause deadly police errors

A recent study examined fatigue's effects on 53 officers' decision-making and reaction times when the officers were faced with deadly-force situations


Officers frequently suffer from high levels of fatigue due to lack of sleep, unusual shift schedules, and long hours awake. Fatigue impairs a person's mental functioning, especially in areas such as decision-making, reaction time, and memory.

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Human performance factors such as reaction time and decision-making — areas of mutual concern for pilots, truckers, and cops — can potentially lead to errors with deadly consequences.

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Dr. Bill Lewinski and the researchers at Force Science Institute have done excellent work regarding [exhaustion due to physical exertion](#), and Dr. Bryan Vila has conducted extensive research on the [negative effects fatigue has on officer safety](#).

A [new study](#) conducted by David Blake (MSc.) and Edward Cumella (PhD) has addressed the impact of fatigue on officers' performance in deadly-force situations. Blake and Cumella's research examined fatigue's effects on 53 officers' decision-making and reaction times when the officers were faced with deadly-force situations.

Impaired Decision-Making and Slowed Reaction Times

For one week, officers completed online tasks both before and after each of their shifts. Records included a history of their sleep patterns, total hours slept, total hours awake, shifts worked, and sleep quality. Officers then engaged in a series of simulated shoot/don't shoot scenarios using pictures of potential targets that use of force experts had

previously classified as warranting either a 'shoot or don't shoot' response or as ambiguous.

Blake — a [PoliceOne Contributor](#) and retired police officer — and Cumella — a professor of psychology at Kaplan University — found that many fatigue measures correlated strongly with officers' impaired decision-making and slowed reaction times within the deadly force situations. In particular, poor sleep quality, greater total time awake, more days worked, and working night or swing shifts all decreased the accuracy of officers' decisions to 'shoot or don't shoot' and also slowed their reaction times.

"These impacts occurred most frequently when officers were faced with the more difficult decisions within the 'don't shoot' and ambiguous scenarios," Blake explained.

In other words, compared to well-rested officers, fatigued officers chose to shoot more often when they should not have done so, and they took longer to decide on the appropriate action when faced with ambiguous situations. The study also indicated that the negative effects of fatigue increased throughout each work day, with officers' reaction times growing consistently longer from pre-shift to post-shift.

Blake added, "A surprising and concerning finding was that the officers had experienced only moderate levels of sleep deprivation and fatigue, yet even these moderate levels appeared to cause impairments in decision-making and reaction time. For example, the average total time awake per officer per day was 16 hours."

Blake continued, "A mountain of empirical evidence demonstrates that 17 hours of total wake time is equivalent to a .05 percent blood alcohol level (BAC); in the present study, officers' performance was shown to decrease with 16 hours of wake time."

Officers in the study averaged 6.4 hours of sleep per night, and slept only 20 minutes less per night on work days vs. days off. Although this may not seem like a large amount of sleep deprivation, [research has shown](#) that even small decreases in sleep below an average of eight hours per night create a cumulative sleep debt, the negative effect of which is added to the total hours awake.

Consequently, with the 6.4 hours of sleep per night reported by the officers in the study, participants' performance levels were impaired nearly to the same extent as someone with a .08 percent BAC.

Studying Fatigue in Policing: Should We Know More?

In a second phase of the study, 277 officers shared their opinions about the role of fatigue in law enforcement. The results were astonishing; with 69 percent of officers admitting that lack of sleep had caused a mistake or error in their police work. 92 percent believed that the law enforcement field does not adequately concern itself with safety issues arising from officer fatigue, and 95 percent felt the law enforcement field needs to formally explore the impact of sleep deprivation on officers' performance.

The results of the study parallel [other scientific research](#) about the effects of fatigue on human cognitive performance. Fatigue has been linked to industrial and motor vehicle accidents, causing human errors that have resulted in loss of life and property damage, usually because of impaired decision-making, attention problems, and slowed reaction times.

"These are clearly not factors which the public would want police officers to face, especially when those officers are making the most critical decision about whether or not to use force in a police encounter," Blake said. "The decision to take a life in the line of duty and the ability to make that decision quickly enough to save one's own life is an extremely important public and officer safety concern that cannot be underemphasized."

Blake contends that police executives, police unions, officers themselves, and other responsible persons should be concerned about the results of this study "because many have noted that the law enforcement industry often entails extremely fatiguing environmental conditions due to shift work, overtime, and long hours."

Because this study involved a relatively small sample of officers and used a computer simulation that has not yet been fully validated, a next step should include a follow-up study with a greater number of officers from a nationally representative sample of police departments. If the results of follow-up investigations reveal the same findings, proactive steps would appear to be warranted to ensure that officers are not sleep deprived or awake for too many hours while on duty.

For example, fatigue-mitigating measures can be enacted using simple adjustments, such as on duty nap periods for fatigued officers, circumscribed overtime rules and total work hours, and less frequent shift rotations.

"Continued research can more precisely determine at what point total hours awake and nightly sleep quantity begin to unacceptably impair officers' performance," Blake concluded.

This study indicates that performance deficits arise from even low levels of fatigue. If these findings are borne out, decisive and timely follow-up may be required to ensure that those who are sworn to protect and serve are able to do so at an optimal human performance level for the benefit and safety of themselves and the public.

For more information or inquiries, you can [contact David Blake via his PoliceOne email address](#).

About the author

Doug Wyllie is Editor in Chief of PoliceOne, responsible for setting the editorial direction of the website and managing the planned editorial features by our roster of expert writers. An award-winning columnist — he is the 2014 Western Publishing Association "Maggie Award" winner in the category of Best Regularly Featured Digital Edition Column — Doug has authored more than 800 feature articles and tactical tips on a wide range of topics and trends that affect the law enforcement community. Doug is a member of International Law Enforcement Educators and Trainers Association (ILEETA), an Associate Member of the California Peace Officers' Association (CPOA), and a member of the Public Safety Writers Association (PSWA). Even in his "spare" time, he is active in his support for the law enforcement community, contributing his time and talents toward police-related charitable events as well as participating in force-on-force training, search-and-rescue training, and other scenario-based training designed to prepare cops for the fight they face every day on the street.

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