

Sleep may help eyewitnesses from choosing innocent suspects

September 6 2017, by Kimberly Fenn , Andy Henion



'Sleep may not help you get the right guy, but it may help you keep an innocent individual out of jail,' says Kimberly Fenn, Michigan State University researcher. Credit: Michigan State University

Sleep may influence an eyewitness's ability to correctly pick a guilty person out of a police lineup, indicates a study by Michigan State

University researchers.

Published in *PLOS ONE*, the research found that eyewitnesses to a [crime](#) who sleep before being given a lineup are much less likely to pick an innocent person out of a lineup - at least when the perpetrator is not in the lineup.

Some 70 percent of wrongful convictions in the United States are related to false eyewitness accounts. This study is the first scientific investigation into how sleep affects eyewitness [memory](#) of a crime, said lead author Michelle Stepan, a doctoral student in psychology.

"It's concerning that more people aren't making the correct decision during lineups; this suggests our memories are not super accurate and that's a problem when you're dealing with the consequences of the criminal justice system," Stepan said. "Putting someone in jail is a big decision based on somebody's memory of a crime."

Stepan and Kimberly Fenn, associate professor of psychology and director of MSU's Sleep and Learning Lab, conducted an experiment in which about 200 participants watched a video of a crime (a man planting a bomb on a rooftop) and then, 12 hours later, viewed one of two computer lineups of six similar-looking people. One lineup included the perpetrator; the other lineup did not.

Some participants watched the crime video in the morning and viewed a lineup that night, with no sleep in between. Others watched the crime video at night and viewed a lineup the next morning, after sleeping.

When the perpetrator was not in the lineup, participants who had slept identified an innocent person 42 percent of the time - compared to 66 percent for participants who had not slept.

"This is the most interesting finding of the study - that individuals are less likely to choose an innocent suspect after a period of sleep when the perpetrator is absent from the lineup," Fenn said. This is relevant, she added, because false convictions too often stem from an incorrect eyewitness identification of a suspect who did not commit the crime.

When the perpetrator was in the lineup, there was essentially no difference between the sleep and no-sleep groups' ability to choose the guilty man. Both groups correctly identified the perpetrator about 50 percent of the time.

"In other words," Fenn said, "sleep may not help you get the right guy, but it may help you keep an innocent individual out of jail."

The results could reflect both changes in memory strength and decision-making strategies after sleep.

The researchers believe participants who slept were more likely to use an "absolute [strategy](#)," in which they compare each person in the lineup to their memory of the suspect, while participants who didn't sleep were more likely to use a "relative strategy," in which they compare the people in the lineup to each other to determine who most resembles the perpetrator relative to the others.

Using a relative strategy is believed to increase false identifications relative to an absolute strategy in perpetrator-absent lineups, Stepan said.

"These findings tell us that sleep likely impacts memory processes but that it might also impact how people search through a lineup, and those search strategies might be a critical factor when the [perpetrator](#) is not in the lineup," she said.

Fenn noted that the key findings of the study have since been replicated.

The MSU team is conducting research that further explores how sleep may directly or indirectly affect eyewitness memory.

Provided by Michigan State University

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