

Lack of stimulation in the workplace, dirty working environment can have a long-term cognitive effects

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A new study by a Florida State University researcher shows that both a lack of stimulation in the workplace and a dirty working environment can have a long-term cognitive effect on employees.

"Psychologists say that the brain is a muscle, while industrial hygienists point to chemicals in the work environment that may cause decline," said Joseph Grzywacz, the Norejane Hendrickson Professor of Family and Child Sciences and lead researcher on the study. "There are real things in the workplace that can shape cognitive function: some that you can see or touch, and others you can't. We showed that both matter to cognitive health in adulthood."

In the past, researchers had been divided on whether it was working in an unclean workplace—facing exposure to agents such as mold, lead or loud noises—or working in an unstimulating environment that took the biggest toll on brain health as people aged.

This new study is significant because it showed both can play an important role in long-term cognitive well-being.

Grzywacz's findings are published in the June issue of the *Journal of Occupational and Environmental Medicine*.

Grzywacz and his team obtained cognitive function data from working

adults participating in the Midlife in the United States study. Their results had two major takeaways: One was that greater occupational complexity—that is the learning of new skills and taking on new challenges—resulted in stronger cognitive performance particularly for women as they aged.

The second result was that men and women who had jobs that exposed them to a dirty working environment saw a cognitive decline.

"Both of these issues are important when we think about the long-term health of men and women," said Grzywacz, who also serves as the chair of the Department of Family and Child Sciences.

Grzywacz and colleagues analyzed the data to examine individuals' workplaces and their ability to maintain and later use information they learned. They also looked at their executive functioning skills such as their ability to complete tasks, manage time and pay attention. Additionally, the data included responses from participants asking them about any memory issues they were experiencing.

"The practical issue here is cognitive decline associated with aging and the thought of, 'if you don't use it, you lose it,'" Grzywacz said.

"Designing jobs to ensure that all workers have some decision making ability may protect cognitive function later in life, but it's also about cleaning up the workplace."

The data included 4,963 adults ages 32 to 84 from the 48 contiguous states. The sample was 47 percent male and 53 percent female.

More information: Joseph G. Grzywacz et al. Workplace Exposures and Cognitive Function During Adulthood, *Journal of Occupational and Environmental Medicine* (2016). [DOI: 10.1097/JOM.0000000000000727](https://doi.org/10.1097/JOM.0000000000000727)

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