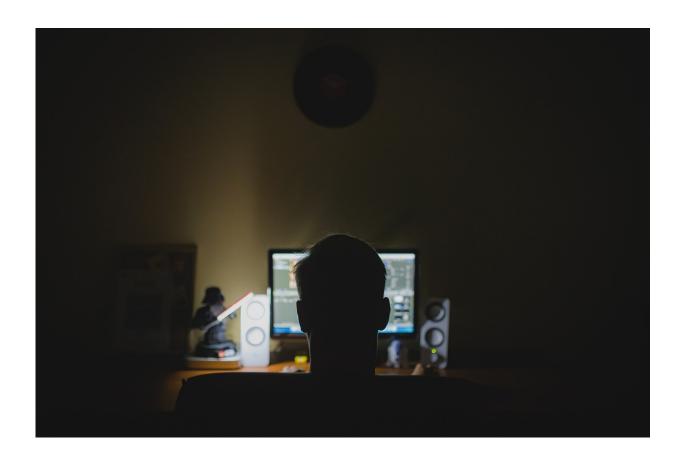# Medical Xpress

De-coding the character of a hacker

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Hackers more likely to show autistic-like traits. Credit: Pixabay

Malicious hacking online costs the private and corporate sectors up to $575 billion annually, according to internet security firm McAfee. While security agencies seek out "ethical" hackers to help combat such attacks, little is known about the personality traits that lead people to pursue and excel at hacking. A recent study published on *Frontiers in Human*

Neuroscience now shows that a characteristic called systemizing provides insight into what makes and motivates a hacker.

"We found a positive association between an individual's drive to build and understand systems—called 'systemizing'—and hacking skills and expertise," says Dr. Elena Rusconi of the Division of Psychology at Abertay University in Dundee, UK, "In particular, we found that this drive is positively and specifically correlated with code-breaking performance."

In this study, Dr. Rusconi's group found that volunteer "ethical" hackers performed far above average on a series of code-breaking challenges designed to assess their systemizing skills. According to a cognitive and behavioral survey, these hackers also self-reported characteristics that indicated a strong tendency towards systemizing.

Systemizing is also frequently associated with autism and so Rusconi additionally profiled participants for other autistic-like behaviors and skills. Although none were actually autistic, hackers self-reported higher scores for attention to detail, another autism-like trait. Interestingly, stronger systemizing scores, but not attention to detail, correlated with more skillful code-breaking. In contrast, participants with higher attention to detail performed better on a detail-oriented task such as X-ray image screening.

These results give insight into the psychology and skillset that might predispose an individual towards a variety of security professions. Such information could be used to improve training programs, job candidate profiling, and predictions of job performance. Furthermore, the finding that some autism-associated skills can benefit security operations may open new employment opportunities to autistic individuals.

"We are finding evidence that the positive traits of autism can predict

better performance in security tasks," says Rusconi. "This suggests a new way to inform personnel selection in security jobs and to improve the match between individual predispositions and job assignment."

According to a National Autistic Society estimate, only 15% of autistic individuals have full-time employment, although many are both willing and able to work. Although it remains to be seen how well autistic people would perform in similar studies, Rusconi's findings call for further exploration of the potential benefits of security occupations for these individuals, as well as the conditions that would best help them succeed.