

COMPUTER SCREEN

Is Uniquely Known To Associate Increase Anxiety In Adolescents



AGENCIES

WASHINGTON: More the time spent on the mobile phone, computer screen, more it leads to a rise in anxiety symptoms among adolescents, says a new study. However, the study published in the Canadian Journal of Psychiatry, has kept video games out of the list, revealing that television viewing, computer use and not video game playing, is linked to an increase in anxiety symptoms.

It also pointed out that a higher than average frequency of social media use, television viewing and computer use over four years predicts more severe symptoms of anxiety over that same time frame. The study demonstrated that if a teen experienced an increase in his social media use, television viewing and computer use in a given year which surpassed their overall average level of use, then his or her anxiety symptoms also increased in that same year.

Furthermore, when adolescents decreased their social media use, television viewing, and computer use, their symptoms of anxiety became less severe. Thus, no lasting effects were found. Thus, it appears that computer use is uniquely associated to increase in anxiety, potentially in relation to using the computer for homework activities, but this needs further research, explained study's lead author, Elroy Boers, a post-doctoral researcher at UdeM's Department of Psy-

chiatriy.

Also, this study could have important implications for how youth and families choose to regulate digital screen time in order to prevent and reduce symptoms of anxiety. Researchers followed almost four thousand Canadian teenagers from age 12 to 16 that were part of the Co-Venture Trial. Each year of high school, teens were asked to self-report time spent in front of digital screens and specified amount of time spent engaging in four different types of screen time activities -- social media, television, video gaming and computer use.

The teenagers completed self-reported questionnaires on various anxiety symptoms at ages 12 to 16. Then, after data collection, state-of-the-art statistical analyses were performed to assess the between-person, with-person, and lagged-within person associations between screen time and anxiety in adolescence.

These analyses augment standard analyses by modelling the year-to-year changes of both sets of problems, thus, taking into account possible common vulnerability and possible natural developmental changes in each set of behaviours or symptoms.

"These findings suggest that one way to help teens manage anxiety could be to help them limit the amount of time they spend in front screens", said senior author Dr Patricia Conrod, Professor of Psychiatry at the University of Montreal and CHU Ste Justine

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Hookah Smoking Linked To Increased Risk Of Stroke, Heart Attack: Study

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Tobacco smoke from a hookah may form blood clots, and can increase the risk of heart attack or stroke, according to a first-of-its-kind study in mice.

The study, published in the journal Arteriosclerosis, Thrombosis and Vascular Biology, found that tobacco smoke from a hookah caused blood clots to form within an average of about 11 seconds, compared to five minutes for clotting without an exposure.

"Hookah smoking, which is becoming more popular in Western countries, is perceived as less harmful than cigarettes, yet hookahs carry a toxic profile that is thought to be comparable or to even exceed that of traditional cigarettes," said study co-author Fadi Khasawneh from The University of Texas at El Paso in the US.

Based on earlier studies, Khasawneh said the smoke emitted from one hookah tobacco smoking



episode contained significantly more harmful chemicals compared to a single cigarette.

In the study, the scientists exposed mice to hookah smoke from a machine that mimicked real-life smoking habits. The smoking machine used 12 grams of commercially available, flavoured tobacco.

These included tobacco, glycerin, molasses and natural flavour along

with nicotine and tar.

Comparing the platelet activity among the exposed and the unexposed mice, the researchers found that hookah smoking was as unhealthy -- if not more so -- than traditional cigarettes.

"Smoking a hookah, cigarettes, e-cigarettes or other forms of tobacco all increase your risk for heart disease and stroke," Khasawneh said.

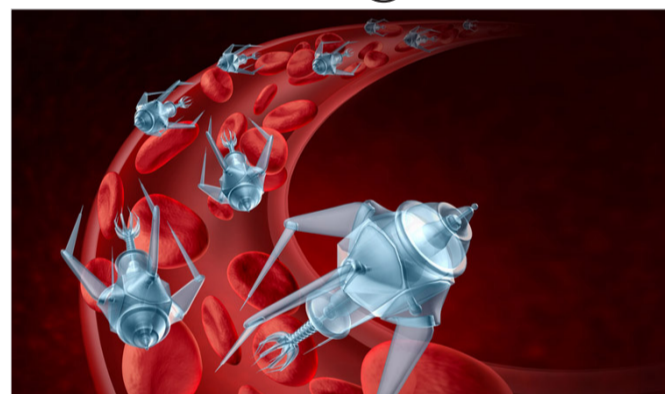
First Ever 'Living Robots' Built, May Advance Drug Delivery: Study

PRESS TRUST OF INDIA

Researchers have built the first ever "living robot", or xenobot, by engineering frog embryos in the lab to behave like "living, programmable organisms," an advance that may lead to computer-designed life forms capable of delivering drugs in the human body.

The xenobots were millimetre-wide robots, designed by stitching together different cell types from a frog embryo in specific ways so that they could move towards a target on their own, and also based on how the cells interacted with each other, the study, published in the journal PNAS, notes.

The bots were also engineered to pick up a payload—like a medicine that needs to be carried to a specific place inside a patient—and could heal themselves after being cut, ac-



ording to the researchers.

"These are novel living machines. They're neither a traditional robot nor a known species of animal. It's a new class of artifact: a living, programmable organism," said study co-author Joshua Bongard, a computer scientist and robotics expert at the University of Vermont in the US.

According to the researchers, the xenobots may lead to novel machines in a wide range of fields like detecting toxic contamination in the environment, gathering microplastic in the oceans, and also scrapping out blocks in blood vessels.

The scientists developed a complex algorithm which could self-

learn and evolve to create thousands of candidate designs for the new life-forms.

The algorithm reassembled a few hundred simulated cells into myriad forms and body shapes, over and over, in an attempt to achieve a task assigned by the scientists—like locomotion in one direction.

It ran on basic rules about the physics of what single frog skin, and cardiac cells can do.

The researchers said that the computer, after a hundred independent runs of the algorithm, selected the most promising designs for testing.

They then transferred the computer designs into life.

To achieve this, the research team first gathered stem cells—an unspecialised mass of cells with the potential to develop into any organ—from the embryos of African frogs, the species *Xenopus laevis*.

Cortical Arousals Can Assist In Healthy Sleep



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Washington: A new research on rats has shown that cortical arousals and brief awakenings during sleep exhibit non-equilibrium dynamics and complex organisation across time scales, which are necessary for spontaneous sleep-stage transitions and for maintaining healthy sleep.

The study by Prof Plamen Ch Ivanov of Boston University and his colleagues has been published in the journal of Computational Biology.

Sleep is traditionally considered to be a homeostatic process that resists deviation from equilibrium. In that regard, brief episodes of waking are viewed as perturbations that lead to sleep fragmentation and related sleep disorders.

While addressing aspects of sleep regulation related to consolidated sleep and wake and the sleep-wake cycle, the

homeostatic paradigm does not account for the dozens of abrupt sleep-stage transitions and micro-states within sleep stages throughout the night.

Ivanov and colleagues hypothesised that while sleep is indeed homeostatic at time scales of hours and days, non-equilibrium dynamics and criticality underlie sleep micro-architecture at shorter time scales.

To test this hypothesis, the researchers collected electroencephalogram (EEG) recordings of brain activity over multiple days in normal rats and in rats with injuries to the parafacial zone, a brain region that helps regulate sleep.

"Paradoxically, we find that the 'resting' state of healthy sleep is maintained through bursts in cortical rhythm activity that obey similar temporal organisation, statistics, and mathematical laws as earthquakes," Ivanov says.

Women In Top Roles Face More Sexual Harassment

AGENCIES

Power in the workplace does not stop women's exposure to sexual harassment. On the contrary, women with supervisory positions are harassed more than women employees, a new research has found.

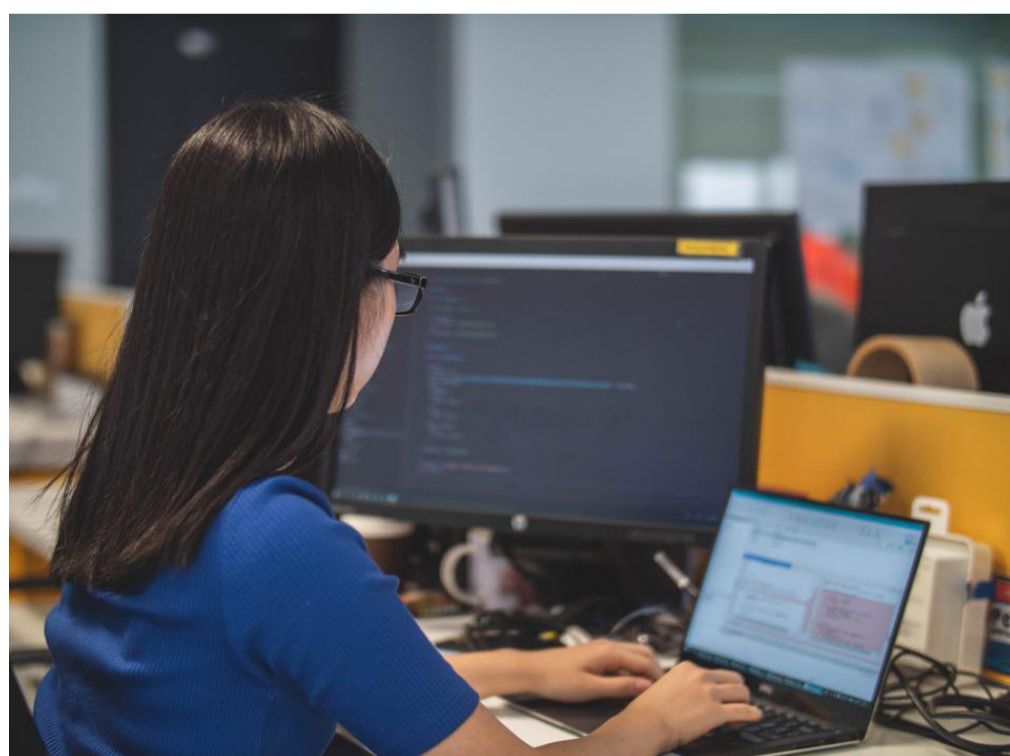
"When we first started to study sexual harassment, we expected a higher exposure for women with less power in the workplace. Instead, we found the contrary," said researcher Johanna Rickne from Stockholm University in Sweden.

"When you think about it, there are logical explanations: a supervisor is exposed to new groups of potential perpetrators. She can be harassed both from her subordinates and from higher-level management within the company," Rickne added.

More harassment from these two groups is also what we saw when we asked the women who had harassed them, the researchers said.

By analysing the responses from three surveys, researchers at Stockholm University, together with fellow American and Japanese researchers, have studied the prevalence of sexual harassment across the organisational hierarchy.

The results come from five waves of the Swedish Work En-



vironment Survey, a nationally representative dataset collected biannually by Statistics Sweden (1999, 2001, 2003, 2005, and 2007) and with a total of 23,994 female respondents.

In the US and Japan, the research

team collected new survey material during 2019.

The US sample included 1,573 employed female citizens, whereof 62 per cent had supervisory positions, while the Japanese sample included 1,573 respondents, of

which 17 per cent of the women were in supervisory positions.

Apart from questions about sexual harassments, respondents were asked about perpetrators, how they reacted to the harassment, and what social and profes-

sional consequences followed the victimisation.

The study, published in the journal *Daedalus*, shows that women with supervisory positions experienced between 30 and 100 per cent more sexual harassment than other women employees.

This was true across the US, Japan, and Sweden, three countries with different gender norms and levels of gender equality in the labour market.

Comparing levels of leadership, exposure to harassment was greatest at lower levels of leadership, but remained substantial and similar to the level of harassment for the highest positions, the research said.

In all three countries, women with supervisory positions were subject to more harassment when their subordinates consisted of mostly men.

"Additional survey data from the US and Japan showed that harassment of supervisors was not only more common than for employees, but was also followed by more negative professional and social consequences," said study researcher Olle Folke.

"This included getting a reputation of being a 'trouble maker' and missing out on promotions or training," Folke added.