

Underfunding may prevent student from completing research

By ZENA MCBRIDE

A York psychology graduate student may be on the verge of solving a 25-year-old mystery, but lack of funding could prevent her from completing her research.

Emoke Jozsvai has been studying polydipsia, a drinking disorder whereby an animal engages in excessive, voluntary water intake, in an attempt to discover what causes the condition. The findings could have important repercussions for the study of stress and alcoholism in humans.

In Jozsvai's research, rats are artificially induced into polydipsic behaviour through extreme food regulation. The animals, which are used to eating whenever and as much as they like, are fed only 45 milligrams of food at one minute intervals. "After they receive the pellet, they start to drink a great deal," Jozsvai explained, "and in fact, in two hours, they drink three times as much as they would usually drink in a 24-hour period."

As of yet, nobody knows why the animals react in this way, Jozsvai said. "An animal does not usually do anything which is abnormal, they are supposed to be behaving in a rather homeostatic way," she added.

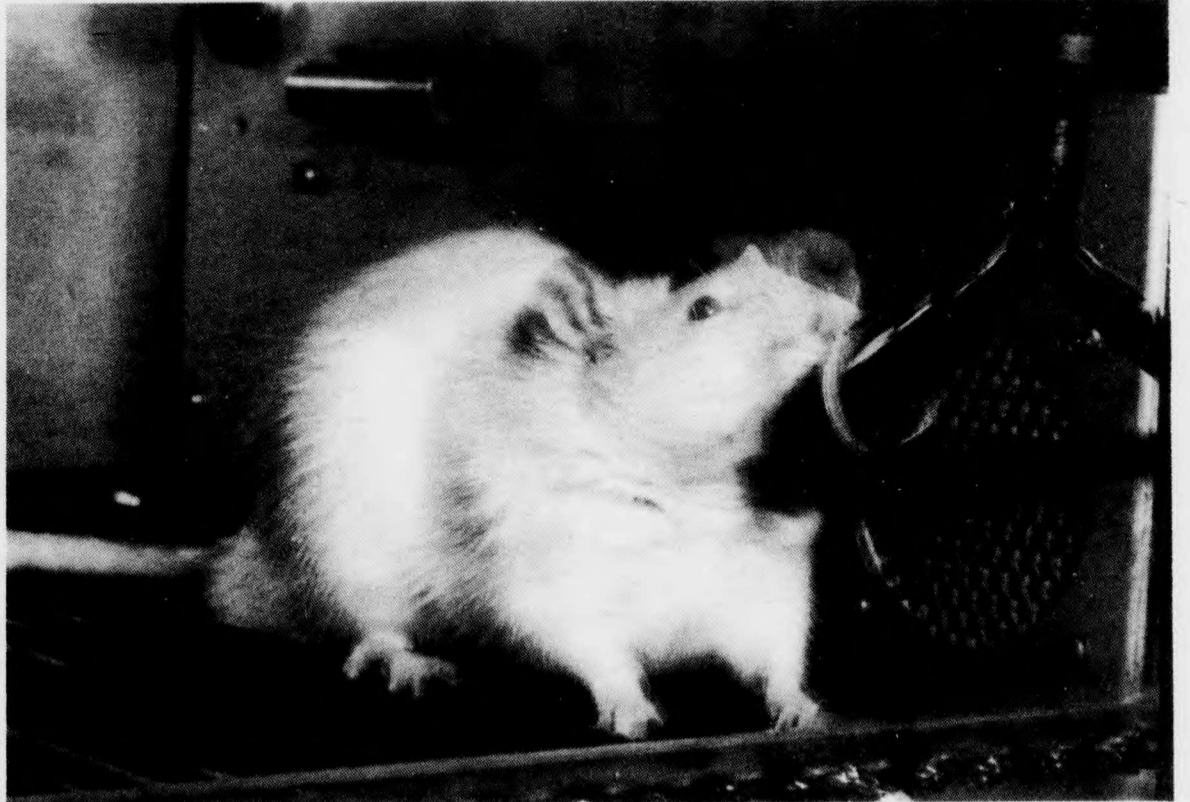
According to Jozsvai, polydipsia in animals "has a parallel with human behaviour, which is called psychogenic polydipsia. Basically, normal people go on a drinking binge, consuming a great deal of

water. In fact, they sometimes drink so much that they go into a coma and may die." Tests on such people, Jozsvai said, revealed that there is no physiological cause for the condition (such as a kidney disorder). "The patients say they feel less anxious if they drink a lot of water," Jozsvai said.

This overdrinking relates to excessive human alcohol consumption. "In fact," Jozsvai said, "when you train up an animal with the water and he already established his drinking habits, and if you switch to alcohol, he'll get drunk and become an alcoholic."

Jozsvai has observed that "as the exposure to the situation (polydipsia) continues day by day, the time before the animals start to drink after eating becomes shorter and shorter, which means that the behaviour becomes more and more stereotypical, like a habit type of a thing. And they are quite obsessive about it."

Researchers have been studying this problem for over 25 years, according to Jozsvai. During this time, various theories as to what causes polydipsia have been advanced and discarded. "Some people said that it is (due to) 'dry mouth': the animal eats dry food, his mouth is dry, and that's why it is drinking," Jozsvai explained. However, if this were so, she countered, why doesn't the animal drink even more excessively if it is allowed to



BEN HAS COMETH TO YORK: Emoke Jozsvai, a York psychology student, uses rats in her research of polydipsia, a drinking disorder.

eat as much as it wants? Another hypothesis, according to Jozsvai, was that the animals drink out of superstition. "The animal, once he is drinking, gets a pellet," said Jozsvai, "and he thinks that the drinking

produced the pellet." It would follow, then, that the drinking would occur directly before a pellet was delivered to the animal, Jozsvai explained. However, according to various studies done on the matter, the drinking occurs most often after the pellet has been received. "And also, the animal knows what it is doing," Jozsvai said. "It knows he can't press the bar (to get a pellet) and drink at the same time."

Jozsvai, however, thinks that she may have solved the phenomenon. "I thought that, because of the humans' claim that if they drink a lot of water they feel less anxious, then it must be relating to some kind of a stress and anxiety in the animal," she said. "Why is the animal stressed, or

why does it feel anxious? Because it's hungry, and it cannot have the food every second—it has to wait, and (that) gets on its nerves—it's stressful for it. In fact, if I give the animal a pellet every second, it won't drink."

Several studies done in the area of human and animal stress behaviour support Jozsvai's theory. In a research paper written in 1983 she cited examples of emotionally disturbed children who drank from such bizarre sources as toilet bowls, glasses filled with dishwater, puddles and hot-water faucets. Jozsvai also described polydipsic behaviour by monkeys when removed from their mother during the first hours of life and raised in total isolation.

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The Judaic Studies Option is a cooperative venture of the Faculty of Arts and the Faculty of Education at York University and the Toronto Board of Jewish Education. It is partly funded by a generous grant from the Leonard Wolinsky Foundation.

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