**研究证实：狗可以闻出你是否紧张**

**Ruff day? Dogs can detect if people are stressed, research finds**

狗鼻子可以灵敏到什么地步？狗狗不但能闻出糖尿病，闻出药品和毒品，还能闻出人类情绪的变化。新研究证实，狗可以通过嗅觉来识别一个人是否精神紧张。

Whether it’s a tricky maths problem or an unexpected bill, daily life is full of stressful experiences. Now researchers have found that humans produce a different odour when under pressure – and dogs can sniff it out.

无论是棘手的数学题还是意想不到的账单，日常生活中总是有各种事让人压力山大。如今研究人员发现，人类在压力下会产生一种不同的体味，而狗狗可以嗅到这种味道。

While previous studies have suggested canines might pick up on human emotions, possibly through smell, questions remained over whether they could detect stress and if this could be done through scent.

先前的研究表明，狗可以识别人类的情绪，可能是通过气味，但是对于狗狗能否通过气味识别人的精神压力还未有定论。

"This study has definitively proven that people, when they have a stress response, their odour profile changes,” said Clara Wilson, a PhD student at Queen’s University Belfast, and first author of the research.

该研究的第一作者、贝尔法斯特女王大学的博士生克拉拉·威尔逊说：“这项研究明确证实了人们在应对压力时体味会改变。”

Wilson added the findings could prove useful when training service dogs, such as those that support people with post-traumatic stress disorder (PTSD).

威尔逊说道，这一研究结果在训练服务犬尤其是协助创伤后应激障碍患者的狗狗时会很有用。

Writing in the journal Plos One, Wilson and colleagues report how they first constructed a stand bearing three containers, each topped by a perforated lid.

这份发表在《公共科学图书馆期刊》上的研究报告中写道，威尔逊和她的同事搭建起一个放着三个容器的台子，每个容器的盖子上都有孔。

The researchers report they were able to train four dogs to indicate the container holding a particular breath and sweat sample, even when the line-up included unused gauze, samples from another person, or samples from the same person taken at a different time of day.

研究人员报告称，他们训练四只狗识别装有特殊气味和汗液样本的容器，其他容器中则盛放着没用过的纱布、另一个人的气味和汗液样本，或在不同时间段从同一个人身上采集的样本。

Then the team turned to breath and sweat samples collected from 36 people asked to count backwards from 9,000 in units of 17. The participants reported feeling stressed by the task and, for the 27 who carried it out in the laboratory, their blood pressure and heart rate rose.

然后研究团队要求36个人从9000开始以17为单位倒数并从他们身上采集了气味和汗液样本。参与者报告称这个任务让他们感到紧张，其中在实验室执行任务的27人的血压和心率都有所上升。

The dogs were taught to pick out samples taken just after the task from a line-up that included two containers holding unused gauze.

在任务结束后，研究人员让狗从三个容器中挑出装有样本的容器，另外两个容器装的是没用过的纱布。

The researchers then tested whether the dogs could do the same when the line-up included not only unused gauze but samples taken from the same participant just before the task, when they were more relaxed. Each set of samples was shown to a single dog in 20 trials.

接着，研究人员又测试了这些狗能否在其他容器不止装有未用纱布的情况下还能挑出有目标样本的容器。研究人员在装有未用纱布的容器中放入了同一个参与者在执行任务前精神较为放松时被采集的样本，然后用每一组样本对每只狗进行了20次测试。

The results reveal that the dogs chose the “stressed” sample in 675 out of the 720 trials.

结果显示，狗狗们在720次测试中共有675次选择了“压力”样本。

The team say while it was unclear what chemicals the dogs were picking up on, the study shows humans produce a different odour when stressed.

研究团队表示，尽管尚不清楚这些狗嗅到了什么化学物质，但是研究表明，人类在情绪紧张时确实会产生不同的体味。