

TALK

## THE IMPRINT OF ANCESTRAL AND MODERN THREATS IN THE HUMAN MIND - THE EXPERIENCE OF FEAR, DISGUST AND ANGER

**Eva Landová<sup>1,2\*</sup>, Šárka Peléšková<sup>1</sup>, Jakub Polák<sup>1,3</sup>, Markéta Janovcová<sup>1</sup>, Aleksandra Chomik<sup>1</sup>, Kristýna Sedláčková<sup>1,2</sup>, Tereza Hladíková<sup>1</sup>, Iveta Štolhoferová<sup>1</sup>, Daniel Frynta<sup>1</sup>**

<sup>1</sup>Department of Zoology, Faculty of Science, Charles University, Prague, Czech Republic

<sup>2</sup>National Institute of Mental Health, Klecany, Czech Republic

<sup>3</sup>Department of Economy and Management, Ambis University, Prague, Czech Republic

\*[evalandova@seznam.cz](mailto:evalandova@seznam.cz)

### ABSTRACT

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Threats to human life are often posed by the environment in which humans have evolved or live today. Animal and human ancestors developed complex physiological and behavioural response systems to cope with two types of threats: immediate physical harm from predators or conspecifics, triggering fear, and the risk of infections from parasites and pathogens leading to the evolution of the behavioural immune system (BIS) with disgust as the key emotion. Previously, we explored the emotions (disgust and fear) evoked by snakes representing the ancestral threat in the human mind. Here we asked whether BIS has adapted to protect us today from pandemic risks or poisoning by modern toxic substances.

We have developed a survey comprised of 60 vignettes describing threats evoking fear and disgust belonging to one of the three main categories of threats: (1) ancestral, (2) modern, and (3) pandemics of airborne disease. Each vignette was evaluated on a 7-point Likert scale based on fear, disgust, and anger.

The results show that the strongest fear is triggered by modern threats (electricity, car accidents), while the highest disgust is evoked by ancient threats (body waste products, worms). Disgust does not respond to modern threat stimuli such as toxic substances or radioactivity as these evoke mainly fear and anger. Finally, distinct response pattern was found for pandemic threats, in which both fear (disease and death) and disgust (used face masks) are employed. Ancestral threats are not always more powerful stimuli than adequate threats of the modern type, but they function specifically.