

Reply

# Reply to Semin et al. Can Humans Discriminate Horse ‘Fear’ Chemosignals from Control Chemosignals? Comment on “Sabiniewicz et al. A Preliminary Investigation of Interspecific Chemosensory Communication of Emotions: Can Humans (*Homo sapiens*) Recognise Fear- and Non-Fear Body Odour from Horses (*Equus ferus caballus*). *Animals* 2021, 11, 3499”

Agnieszka Sabiniewicz <sup>1,2,\*</sup>, Michał Białek <sup>1</sup> , Karolina Tarnowska <sup>1</sup>, Robert Świątek <sup>1</sup>,  
Małgorzata Dobrowolska <sup>3</sup>  and Piotr Sorokowski <sup>1</sup>



**Citation:** Sabiniewicz, A.; Białek, M.; Tarnowska, K.; Świątek, R.; Dobrowolska, M.; Sorokowski, P.

Reply to Semin et al. Can Humans Discriminate Horse ‘Fear’

Chemosignals from Control Chemosignals? Comment on “Sabiniewicz et al. A Preliminary Investigation of Interspecific Chemosensory Communication of Emotions: Can Humans (*Homo sapiens*) Recognise Fear- and Non-Fear Body Odour from Horses (*Equus ferus caballus*). *Animals* 2021, 11, 3499”. *Animals* 2022, 12, 1498. <https://doi.org/10.3390/ani12121498>

Academic Editor: Monica Battini

Received: 13 April 2022

Accepted: 6 June 2022

Published: 9 June 2022

**Publisher’s Note:** MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



**Copyright:** © 2022 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

- <sup>1</sup> Institute of Psychology, University of Wrocław, 50-527 Wrocław, Poland; [michal.bialek3@uwr.edu.pl](mailto:michal.bialek3@uwr.edu.pl) (M.B.); [k.a.c.tarnowska@gmail.com](mailto:k.a.c.tarnowska@gmail.com) (K.T.); [mrswiatek@wp.pl](mailto:mrswiatek@wp.pl) (R.Ś.); [sorokowskipiotr@yahoo.co.uk](mailto:sorokowskipiotr@yahoo.co.uk) (P.S.)
- <sup>2</sup> Department of Otorhinolaryngology, Smell and Taste Clinic TU Dresden, 01307 Dresden, Germany
- <sup>3</sup> International Center for Interdisciplinary Research, Silesian University of Technology, 44-100 Gliwice, Poland; [malgorzata.dobrowolska@polsl.pl](mailto:malgorzata.dobrowolska@polsl.pl)
- \* Correspondence: [a.sabiniewicz@gmail.com](mailto:a.sabiniewicz@gmail.com)

Whereas several recent studies demonstrated that some animal species are able to recognize human emotions based on information from body odor [1–4], our study [5] was the first to demonstrate that the ability to recognize emotions from body odor cues of other species might be reciprocal between animals and humans. In their critical comment [6], Semin and colleagues suggest that the study’s methodology should be changed. We would like to underline that the methodology of the first study in any field is always an initial attempt based on the researchers’ best knowledge and intentions and can be certainly improved in further studies.

We value the transparency of our data, which allow other researchers to discuss all of the typical methodological problems regarding studies in the field of odor-based interspecies communication. We are aware of the weaknesses of our study, as was pointed out in the manuscript itself. At the same time, even considering that the intensity of the odor samples partially modulated our findings, it should be noted that the intensity of odors is encoded in sweat [7]. To conclude, we invite other researchers to replicate our study.

**Funding:** This research received no external funding.

**Conflicts of Interest:** The authors declare no conflict of interest.

## References

1. D'Aniello, B.; Semin, G.R.; Alterisio, A.; Aria, M.; Scandurra, A. Interspecies transmission of emotional information via chemosignals: From humans to dogs (*Canis lupus familiaris*). *Anim. Cogn.* **2018**, *21*, 67–78. [[CrossRef](#)] [[PubMed](#)]
2. D'Aniello, B.; Fierro, B.; Scandurra, A.; Pinelli, C.; Aria, M.; Semin, G.R. Sex differences in the behavioral responses of dogs exposed to human chemosignals of fear and happiness. *Anim. Cogn.* **2021**, *24*, 299–309. [[CrossRef](#)] [[PubMed](#)]
3. Sabiniewicz, A.; Tarnowska, K.; Świątek, R.; Sorokowski, P.; Laska, M. Olfactory-based interspecific recognition of human emotions: Horses (*Equus ferus caballus*) can recognise fear and happiness body odour from humans (*Homo sapiens*). *Appl. Anim. Behav. Sci.* **2020**, *230*, 105072. [[CrossRef](#)]
4. Semin, G.R.; Scandurra, A.; Baragli, P.; Lanatà, A.; D'Aniello, B. Inter- and intra-species communication of emotion: Chemosignals as the neglected medium. *Animals* **2019**, *9*, 887. [[CrossRef](#)] [[PubMed](#)]
5. Sabiniewicz, A.; Białek, M.; Tarnowska, K.; Świątek, R.; Dobrowolska, M.; Sorokowski, P. A preliminary investigation of interspecific chemosensory communication of emotions: Can humans (*Homo sapiens*) recognise fear- and non-fear body odour from horses (*Equus ferus caballus*). *Animals* **2021**, *11*, 3499. [[CrossRef](#)] [[PubMed](#)]
6. Semin, G.R.; Gomes, N.; D'Aniello, B.; Sabiniewicz, A. Can Humans Discriminate Horse 'Fear' Chemosignals from Control Chemosignals? Comment on Sabiniewicz et al. A Preliminary Investigation of Interspecific Chemosensory Communication of Emotions: Can Humans (*Homo sapiens*) Recognise Fear- and Non-Fear Body Odour from Horses (*Equus ferus caballus*). *Animals* **2021**, *11*, 3499. *Animals* **2022**, *12*, 1489. [[CrossRef](#)]
7. De Groot, J.H.; Kirk, P.A.; Gottfried, J.A. Encoding fear intensity in human sweat. *Philos. Trans. R. Soc. B* **2020**, *375*, 20190271. [[CrossRef](#)] [[PubMed](#)]