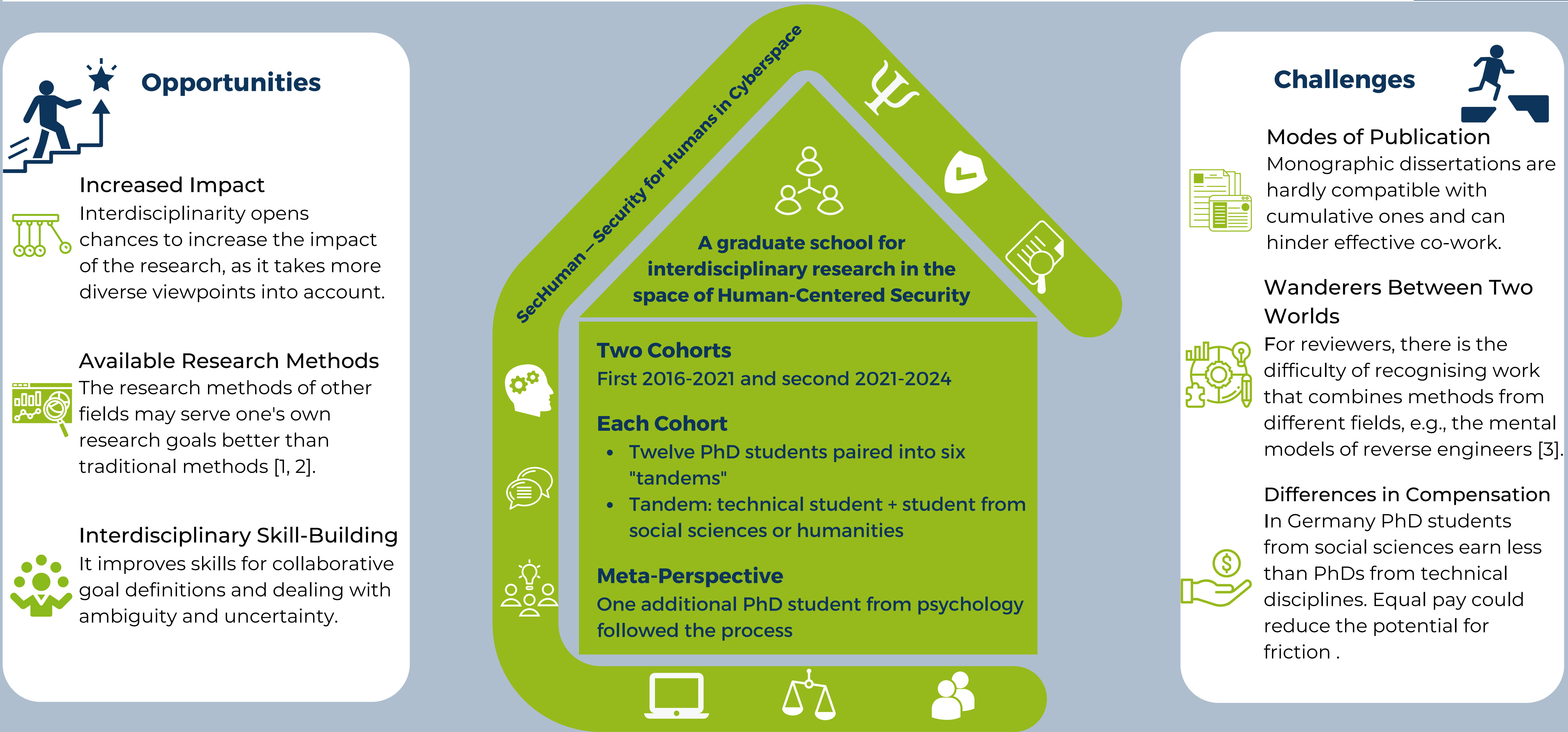


Interdisciplinary Human-Centered Security Research: Learning From Opportunities and Challenges of a German Graduate School

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Opportunities

Increased Impact
Interdisciplinarity opens chances to increase the impact of the research, as it takes more diverse viewpoints into account.

Available Research Methods
The research methods of other fields may serve one's own research goals better than traditional methods [1, 2].

Interdisciplinary Skill-Building
It improves skills for collaborative goal definitions and dealing with ambiguity and uncertainty.

Challenges

Modes of Publication
Monographic dissertations are hardly compatible with cumulative ones and can hinder effective co-work.

Wanderers Between Two Worlds
For reviewers, there is the difficulty of recognising work that combines methods from different fields, e.g., the mental models of reverse engineers [3].

Differences in Compensation
In Germany PhD students from social sciences earn less than PhDs from technical disciplines. Equal pay could reduce the potential for friction.

Takeaways

Human-Centered Security (HCS) research is built on interdisciplinary work. However, true integration of knowledge [4] is hard. The key to success is methodological guidance to integrate diverse knowledge. An interdisciplinary HCS graduate school can facilitate such integration and can increase the impact of the research in various scientific communities. The biggest challenges lie in the (publication) traditions of each discipline.

[1] WICHMANN, A., SASSE, A., AND PAAR, C. IT-Sicherheit ist mehr als Technik. *Datenschutz und Datensicherheit* 43, 11 (Nov. 2019), pp. 673–674.
[2] KLEIN, J. T. Interdisciplinarity and Transdisciplinarity: Keyword Meanings for Collaboration Science and Translational Medicine. *Journal of Translational Medicine & Epidemiology* 2, 2 (Aug. 2014), 1024.
[3] BECKER, S., WIESEN, C., ALBARTUS, N., RUMMEL, N., AND PAAR, C. An Exploratory Study of Hardware Reverse Engineering — Technical and Cognitive Processes. *Proceedings of the Sixteenth Symposium on Usable Privacy and Security (SOUPS 2020)*, pp. 285–300.
[4] BROMME, R. Beyond One's Own Perspective: The Psychology of Cognitive Interdisciplinarity. In *Practicing Interdisciplinarity*, P. Weingart and N. Stehr (Eds.), University of Toronto Press, 2000, pp. 115–133.

