

Confessions of a Cognitive Personal Informatics Skeptic

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ABSTRACT

Cognitive Personal Informatics (CPI) is a cool vision, taking advantage of advances in passive brainwave sensing. But I have skepticism around its practical benefit. Given that, I'm excited to discuss and reflect with the CPI community, sharing observations from my decade of research in other personal informatics domains.

1 ATTENDEE ABSTRACT

Personal Informatics is my primary research area, I have been publishing in the space for over a decade. I am primarily interested in understanding how people experience tracking technology, positively or negatively, in their everyday lives. I am often best known for contributions like the Lived Informatics Model, where we characterize how lived experience influence people's adoption, use, and abandonment of tracking technologies [2], and a systematic review of the personal informatics literature, unpacking foci of the research community and less-explored areas [1]. While our mapping review does not explicitly recommend CPI as an area for future focus, it fulfills a need to broaden the scope of Personal Informatics, particularly beyond physical activity. My exposure to CPI is fairly limited, though I have dabbled in representing EEG signals in digital meditation [3].

That said, I am skeptical that most people will find the technology useful. I have no doubt that some will, particularly those into deep self-measurement and optimization. But coming from a lived informatics perspective, I am less sure that CPI will make the jump from power users to the widespread use and interest that we have seen in some forms of personal informatics like physical activity, personal finances, food journaling, menstruation and fertility, productivity, and sleep.

First, **CPI lacks a clear metric that it maps onto**. Other forms of personal tracking inherit some agreement around what a particular metric "is", and that the metric was worthwhile. Taking steps as an example, society had an agreed-upon definition of what a "step" is long before sensors came along to try to detect them, there had been a history of research arguing that steps were a metric worth promoting for overall wellbeing, and there was a long history of products which manually recorded how long someone walked. Second, **CPI does not readily fit into self-tracking's typical goal-setting and monitoring framework**. My sense is that people view cognitive processes as more of a means rather than an end, with few specific self-improvement goals, but interest in how they might contribute to other goals like productivity or sleep quality. Third, **CPI technology has the potential to be exploited**. People potentially using CPI to develop self-understanding is nice, but I fear that the bigger use case for this technology is for powerful institutions (like employers) to require its use of subordinates (like workers) as part of monitoring or evaluating performance.

That said, I am excited to spend time with community members who thought more about the potential for this technology than I have. I look forward to having open-ended discussion and reflection, with the intent of identifying opportunities as well as drawbacks for CPI technology.

ACKNOWLEDGMENTS

My research is supported in part by the National Science Foundation under award IIS-2237389.

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