

Ethical Design for Wellbeing and Affective Health

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Abstract

Emotional wellbeing and mental health are topics of much social significance, which are also reflected in the growing HCI work aimed to support them. Research in this area covers a broad space from affective computing to affective interaction approach, and the ethical design of wellbeing and mental health technologies has become much needed. This talk will provide design exemplars of technologies for wellbeing and mental health, with an emphasis on the importance of supporting emotional awareness and regulation. The talk will also highlight the value of existing research for articulating novel design implications for ethical wellbeing and mental health technologies.

CCS CONCEPTS

- Human-centered computing → Human computer interaction (HCI); Interaction design

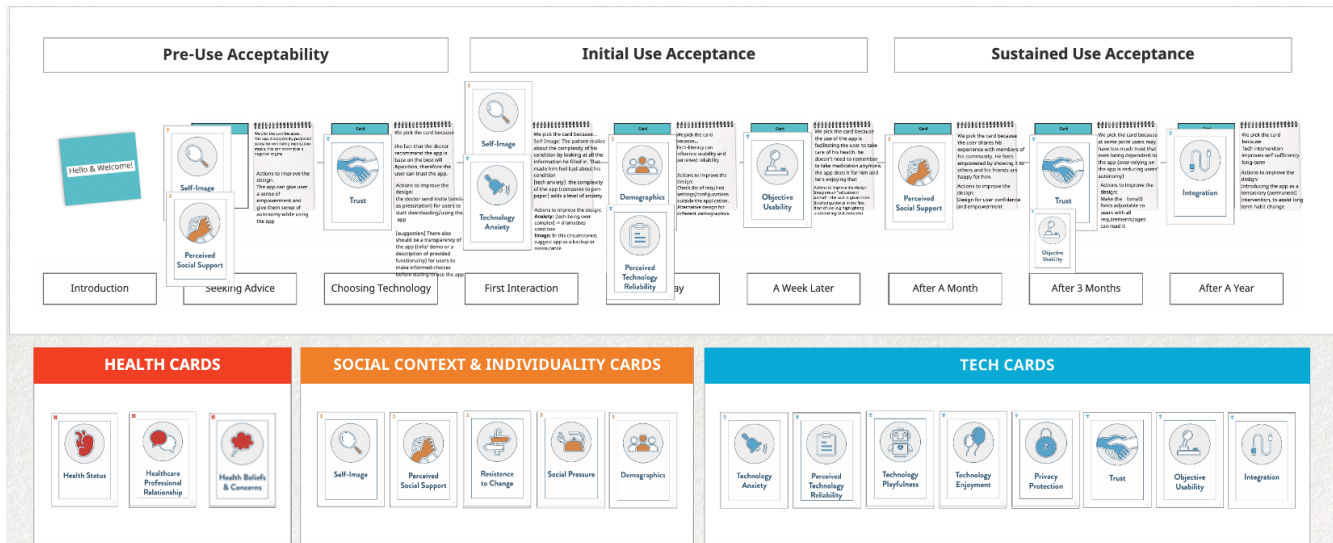


Fig 1. Novel tools to design for user long term acceptance of health technologies (top), and prototypes for emotional awareness and regulation based on smart-materials, 3D printed food & large displays (bottom). Images credited to Camille Nadal, Muhammad Umair, Tom Gayler and Paul Rowley

KEYWORDS

Affective Health, Emotion Regulation, Smart Materials, Mobile Apps, 3D Food Printing, Large Displays

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Introduction

The last decade has shown an increased HCI interest in wellbeing and affective health, reflected in the rich and diverse range of technologies as well as design approaches supporting them [11]. Within the third wave HCI, such interest has extended from how emotions impact user experience to how they can be better leveraged and supported for users' wellbeing, and how we can better design for such experiences.

In this space, the efforts to prioritize emotions as resource for design can be grouped in those supporting emotional awareness [10][13][16] and emotion regulation [7][12][15] with applications to a range of domains from digital wellbeing [1] or affective health [2][3][8][9] to aging [7] or dementia [12].

The different technologies explored by HCI researchers interested in affective health range from traditional mobile or wearable interfaces providing mostly mood tracking functionalities [2][3][10] to less employed ones such as large displays [12] or novel materials such as thermochromic paints [13][16] (Figure 1). Grounded in the long-acknowledged relationship between food and emotions, and the growing interest in human-food-interaction [4], novel food-based expressions of emotions based on 3D food printing technologies [5][6][7] have also started to be explored.

Ethics is particularly important in the design of technologies in general, and even more so for those aimed to support affective health [11]. A growing body of work has looked at ethical challenges related to digital wellbeing and affective health technologies such as mobile apps [1][2][3]. Design approaches better leveraging the body [5][6][14] and to support long term user acceptance of health technologies [25] have also started to be explored.

The outstanding challenges include the need for more robust theoretical framing and operationalization of emotion regulation theories for interaction design, multisensory interaction for capturing and representing emotions, and increased sensitivity towards the ethics of working with emotions as a resource for design.

While theoretical framing of emotions in HCI has focused mostly on discrete and circumplex models, the integration of physiological, subjective, cognitive and behavioral aspects of emotions have been limited, with most research prototypes prioritizing merely one of these aspects. Related to such limited integration of various aspects of emotions, we have also seen restricted capture and representation of emotion, targeting mostly visual or textual modality and less so richer multisensory interactions. Not at least, the ethics of emotion research is complex, especially when dealing with negative emotions of vulnerable users living with wellbeing or affective health challenges. With the increasing adoption of AI in HCI and its specific ethical challenges, we expect that more work will focus on developing ethical frameworks for affective health technologies, and on novel design tools to support the articulation in the form of design guidelines of often abstract ethical principles.

Author Bio

Corina Sas is a Professor of Human-Computer Interaction with the School of Computing and Communications at Lancaster University, UK. Her research focuses on designing and evaluating technologies for wellbeing, mental health, memory support, creative and reflective thinking in design, as well as novel tools for designing such technologies. Corina is an ACM Distinguished Speaker, serves as Technical Program Co-Chair for CHI 2024, Doctoral Consortium Co-Chair for DIS 2023, and has been General Co-Chair for the C&C 2021, 2022, and for

British HCI Conference 2007. Corina is member of the Editorial Boards of the ACM Transactions in Human-Computer Interaction, and Taylor & Francis Human Computer Interaction journals. She has published over two hundred papers, and her work received extensive media coverage as well as 5 Best Paper and Honorable Mention Awards. She also received 4 Awards for excellence in research leadership and has been investigator on grants totaling over £15 million, including the lead of two prestigious EC-funded Marie Curie Innovative Training Networks.

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