Digital wellbeing and design

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Abstract

The aim of the doctoral research is to develop the links between the development of digital media literacy (as practices for reducing exposure to online risks), digital well-being (as practices for creating a healthy relationship with technology) and different design theories and research methodologies.

The research focuses on the emotional effects of the cognitive, emotional, mental and physical effects of the digital media environment, and approaches the examination and processing of users' feelings related to the digital environment; on one hand, research on digital (media) literacy and online risk exposures (mainly with the device itself - overuse and data, artificial intelligence, privacy; and the risks associated with obtaining information: in relation to hate speech, disinformation and the information bubble phenomenon, and in connection with "new technologies". Can any kind of system be related to collective concepts such as security, trust, intimacy, and what results can be generalized from these in relation to the effects of the digital environment?

Industry must also take responsibility in this area; they need to review their existing approaches and practices; primarily in the areas of meeting the need for immediate fulfillment of needs, informing users, their freedom of choice, security, and the use of their data; and these are also design decisions. That's why a multi-stakeholder approach is a must.

The research will use a mixed method approach: qualitative data analysis (interviews, "love letter method"), developing a "Digital Wellbeing Questionnaire", and reflects on the research through a critical / speculative design university course.

In addition to the presentation of the theoretical framework, the preliminary, partial results of the research and the connection to the development of media literacy are also presented.

Author keywords

digital wellbeing; media literacy; self-determination theory; positive technology

Introduction

Living within the complexities of our information and media ecosystem is often challenging. We live in a world mediated by technology and information, we are surrounded by digital devices and applications, platforms and algorithms building and operate them. We are transformed by these media, whether we have invited them into our lives or not.

The main goal of the user-centered, technology-related design is to encourage use of digital media. Features that make digital technology or media useful (reliability, mobility, user-friendly approach, and fast processing) can endanger our productivity and innovations, foster involvement, immersion, and engagement. As we know, this content is often specifically and scientifically designed to attract users' attention. Design decisions – using the behavior model for persuasive design (Fogg, 2009) – are driven more by the commercial requirement for data and attention, than by consideration of user's best interests. That's why self-control in using digital technology is simply not enough for us to cope with side effects of information overload, also we must consider industry's responsibility.

The methodology of digital media literacy is based on the premise that the development of user awareness can provide protection against the "harms" (risks of using it) of digital technology; however, this approach is proving not to be enough in today's media environment. As Lewis (Lewis, 2021) explains, media literacy has focused mainly on developing the skills to access, analyze, evaluate, and create media messages, and has not focused sufficiently on the impact of the actual technological medium, how it enables and constrains both messages and media users. "A new dimension of digital skills is arising as a result of the massive diffusion of mobile connectivity and of the consequent availability of an overabundant number of information and social relationship options in daily life"(Gui et al., 2017).

The concept of digital wellbeing should give an approach to observe our relation to technology in the context of emotions and this should help "giving back the control" to the user. As self-control in using digital technology is simply not enough for us to cope with side effects of information overload (Lewis, 2021.), "We need to control digital stimuli and filter them so that they can serve our personal aims and well-being." The opportunities and risk exposure of young people in the online media environment is influenced by many factors. That's why we need to consider not only the types and amount of online media use and risk exposure, but also focus on the user's subjective experience (Feerrar, 2022; Gui et al., 2017). Rather than thinking about a right or wrong way to engage online, digital well-being "recognizes the nuance of individual experience and a range of possible choices" (Feerrar, 2022) and provides a new approach for users to understand media life (Deuze, 2011), also for media literacy education based on user's different experiences .

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ment; on one hand, research on digital (media) literacy and online risk exposures (mainly with the device itself - overuse and data, artificial intelligence, privacy; and the risks associated with obtaining information: in relation to hate speech, disinformation and the information bubble phenomenon, and in connection with "new technologies". Can any kind of system be related to collective concepts such as security, trust, intimacy, and what results can be generalized from these in relation to the effects of the digital environment?

Presentation of the doctoral research

Research questions

- How do users feel when using digital media devices and platforms? Are there specific needs and frustrations, is it possible to disperse these complex feelings?
- How do these emotions compare to known, online risk factors , anxiety-inducing or intangible?
- How does online emotion regulation would help to cope with online risks?
- What design practices and patterns can be recognized to support user awareness and digital well-being in mediatized spaces?
- How different stakeholders (users, designers, owners, regulators) think about digital wellbeing and the real needs and frustrations of digital media users?

Theoretical framework

- **Digital media literacy:** The ability to understand, access, evaluate, and analyze information created online or digitally, to communicate and participate in civic life as competent media consumer, contributor, and creator of media in the online community. (Chilsen, 2018; Smith & Livingstone, 2017)
- **Digital wellbeing:** Digital wellbeing is a term used to describe the impact of technologies and digital services on people's mental, physical, social, and emotional health. (Betham, 2015), "The impact that digital technologies, such as social media, smartphones, and AI, have had on our well-being and our self-understanding of what it means to live a life that is good for us in an increasingly digital society" (Burr & Floridi, 2020).
- **Positive psychology / Self-determination theory:** Self-determination is a broad theory of human motivations, both intrinsic and extrinsic. A core tenet of the theory is the existence of three basic psychological needs for competence, autonomy, and relatedness that energize human behavior across domains (Ryan & Deci, 2000).
- **Positive computing** is a technological design perspective that embraces psychological wellbeing and ethical practice, aiming at building a digital environment to support happier and healthier users, based on self-determination theory (Calvo & Peters, 2017).
- **Critical and speculative design:** It confronts commercial and traditional design practice. Through the design of critical objects and speculative narratives. "Instead of thinking about appearance, user-friendliness or corporate identity, industrial designers could develop design proposals that challenge conventional values." (Dunne & Raby, 2013)

Data collection and analysis method

- **"Love and breakup letter method"** (Martin & Hanington, 2012) This method is especially useful for usability research, where it reveals the kind of emotional relationship people have with their technological device. This is a qualitative method which enables the researcher to receive an in-depth description of emotional experiences. The data collection provides rich data, which will be processed by content analysis, using the Atlas.ti software. With this, the "mapping" of hidden and often contradictory feelings should be revealed, and probably connected to prior knowledge about online risk and possibilities, digital media control methods. Asking about the user's experience on "behavior", "communication" and "knowledges sharing" would like to connect the results with terms as "trust", "gratitude", or feelings as FOMO, concerns as body image or privacy.
- Developing a **"Digital Wellbeing Questionnaire"** based on Self-Determination Theory's Basic Need and Frustration Scale (Vansteenkiste et al., 2020) for teens and adults. It should be connected to other scales measuring digital media use and feelings (FOMO, social media anxiety) and with a media use questionnaire. Assessing the subjective sense of digital well-being can contribute to understanding user's motivations and frustrations. The Basic needs and frustrations sub-theory of Self-determination theory plays an important role in research on the uses and effects of interactive media (Rigby & Ryan, 2018). Stimuli of digital media can lead to both satisfaction and frustration of basic psychological needs (Schneider et al., 2022).
- **Critical design course** at the MOME-Budapest University to be part of a creative, artistic research-based approach to the results.

Preliminary results

Love and breakup letters – mapping feelings about digital technology

In the first phase of the research, the measuring instrument was completed, and the survey was completed in three focus groups among 39 people, mostly women aged 40-60, who rarely use online platforms. Several basic feelings (joy, gratitude, anger, pride) were identified in the text. Digital devices (phone, laptop) are mostly seen as partners, while platforms cause more frustration. Several phenomena of technology stress have been identified, such as information overload, acceptance anxiety, nomophobia, FOMO, and availability stress. The research will continue with the involvement of additional target groups.

Digital wellbeing among 12-14 years old

The goal of this research phase is to examine the possible relations between the factors of satisfaction and frustration and online risk; also, to validate the Digital Wellbeing Scale. In this research, we used the Basic Psychological Need Satisfaction and Frustration Scale (BPNDFS) (Vansteenkiste, M. et al. 2020)., translated and adapted to the digital environment. Using data from a cross-sectional survey of 300 Hungarian pupils (age 12-14), the theoretical model demonstrated adequate reliability and validity. Five clusters were set up: "satisfied", "average", "not interested", "rollercoaster" and "com-

petence-frustrated". The results show that the degree of satisfaction is mainly shaped by the feeling of competence, but frustration is by the lack or poor quality of connectedness. Connections can be explored between satisfaction/frustration and online risk exposures, such as social anxiety and higher levels of frustration.

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