Exploring Self-Reflection as a Collaborative Process

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Abstract

Self-reflection has long been studied as an individual activity. However, there are many collaborative and social activities that support the self-reflection process. To better understand the collaborative aspects of self-reflection, I shift our attention away from self-reflection as an individual practice and instead focus on *collaborative self-reflection (CSR).* In my dissertation, I plan to extend our knowledge of self-reflection by unpacking the collaborative activities of self-reflection and understanding how individuals interact with others during the self-reflection process. I examine these activities in the context of mental wellbeing. Self-reflection plays an important role in mental wellbeing as it helps individuals better understand their thoughts, feelings, and actions. My research identifies interactions that facilitate self-reflection. Based on my findings, I expand a model of self-reflection to represent the collaborative activities that support self-reflection. My dissertation will not only improve our conceptual understanding of the role that collaboration plays in the self-reflection process, but also identify ways we might redesign technology to better support these collaborative activities.

CCS Concepts

• **Human-centered computing → Collaborative and social computing**

Keywords

Collaborative self-reflection; mental wellbeing

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1 Introduction & Research Questions

Self-reflection has been a prominent focus of HCI because it can enhance self-awareness and motivate behavior change [3,10]. Self-reflection can be operationalized as the process of examining an issue, with the goal of understanding the issue better and what may have caused that issue [18]. Often, this process leads to problem-solving and developing solutions to the issue.

Within the HCI literature, self-reflection is often conceptualized as an individual activity, i.e. thinking and processing on one's own. Hence, prior research has focused on issues such as factors that affect how people individually self-reflect and what activities comprise individual self-reflection [7,8]. For example, expressive writing leads to individual self-reflection because the act of writing about one's prior experiences helps individual's reconstruct their experiences in meaningful ways [16].

While self-reflection is thought of as an individual process, there are many collaborative activities that lead to and support self-reflection. These activities range from exchanging experiences to probing questions [15]. We know in practice that individuals often turn to others during this process [13]. For example, in my preliminary work (described below), I found that self-reflection is improved by the conversations that the self-reflector has with their peers. However, the continuing focus on individual self-reflection has led to the design of self-reflection technology that is individually focused, such as privately journaling or emotion tracking [6].

These individually focused solutions may not be well suited to support the collaborative aspects of self-reflection that occur in daily life. The majority of tools for self-reflection do not incorporate collaborative activities [6]. While there have been a few researchers who have started to explore how technology can facilitate self-reflection through collaborative activities (e.g. [4,11]), this represents a relatively small body of work. In my dissertation, I will expand our understanding of how self-reflection unfolds collaboratively. A conceptual understanding of this process will allow us to design tools that support and facilitate the process.

Given the research gaps outlined above, my research questions are as follows:

RQ1: What are the activities and characteristics that comprise the collaborative self-reflection (CSR) process?

RQ2: How do we extend a current framework of self-reflection to capture the collaborative activities that occur?

RQ3: How might we redesign technology-mediated experiences to better support the collaborative activities that individuals engage in as they self-reflect?

To start to answer these questions, I consider CSR within the context of mental wellbeing. Self-reflection can enhance wellbeing through the development of self-insight [17]. In my preliminary study, discussed in greater detail below, I examined how CSR manifested itself in a mental wellbeing peer-run program. For my thesis study, I want to expand my research to examine CSR in daily life within the context of the mental wellbeing of emerging adults (ages 18-29 years). Emerging adulthood is a time of many transitions and instability, which can lead to stress and psychological distress [1]. Social support has been found to be an important protective factor in emerging adult's wellbeing [14]. Thus, emerging adults may particularly benefit from the collaborative activities of CSR.

In my dissertation, I explore how emerging adults engage in collaborative activities while self-reflecting within two settings: 1) a structured setting that facilitates collaboration, and 2) an unstructured setting where collaborations must be sought out. Through these settings, I will unpack the process of CSR and identify considerations for technologies that support this process.

2 Preliminary Study

My preliminary study investigated how collaborative self-reflection occurred within a structured peer program that specifically scaffolds collaborative activities that lead to self-reflection. Specifically, the program aims to help participants develop a personal narrative about a negative or stressful experience. In the program, participants develop the personal narrative by sharing their experience with their peers and receiving feedback on their interpretation of the experience. This is done as an iterative process. So, collaboration was encouraged in this setting.

I interviewed 10 past participants of the personal narrative program. The interviews focused on the process of collaborative self-reflection by understanding what the participants did during the program to develop their personal narrative and how they collaborated with their peers. I thematically analyzed the interviews and discussed the emerging themes and findings with the research team throughout the analysis process [5].

I identified three key interactions that helped individuals conduct information work about the self, which led to new insights. Engaging in those interactions and conducting the information work make up a CSR process. Throughout the program, participants interact with their peers as they developed, revised, and refined their personal narrative. Participants perceived three types of interactions to be meaningful to the CSR process: 1) being asked probing questions by their peers about the experience, 2) receiving feedback from their peers about the experience, and 3) receiving emotional validation from their peers. The interactions helped the participants conduct information work, which consisted of 1) collecting information (e.g. considering additional context that could be relevant to reflecting on the experience), 2) sorting information (e.g. reorganizing thoughts about their experience or identifying themes or connections between experiences and emotions), and 3) interpreting information (e.g. uncovering and acknowledging true feelings about experiences. The results helped me start to extend Atkins and Murphy's Model of Reflection (see Figure 1) [2] to incorporate collaboration. My findings make clear that collaboration is also part of this process.

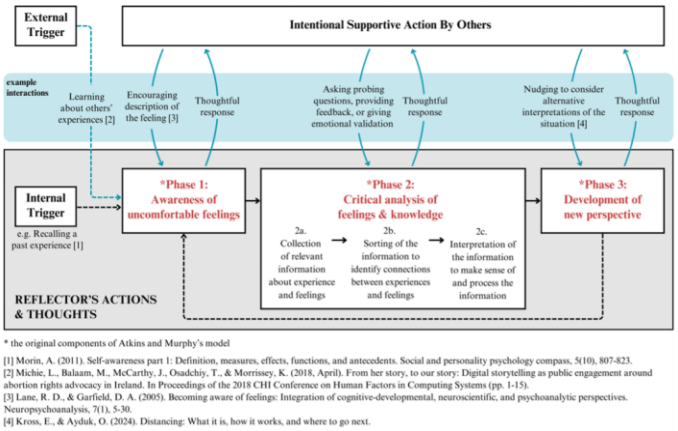

Figure 1: Extending Atkins and Murphy's Model of Reflection to incorporate collaboration (original components in red text).

First, talking to others can trigger the awareness of uncomfortable feelings. For example, a peer could make a comment that helps one realize they have uncomfortable feelings that need to be explored. On the other hand, being aware of uncomfortable feelings could prompt one to seek out others to help them reflect. For example, one could realize they have uncomfortable feelings and seek out help from others to help them analyze those feelings. Second, turning to others can help one to critically analyze their feelings and existing knowledge. As I saw in the mental wellbeing peer-led program, peer interactions helped participants engage in critical analysis through helping them conduct information work. Engaging in critical analysis led the participant to the development of a new perspective.

Third, the interactions can lead to the development of a new perspective. Within the structured setting, I saw two features of the interactions that supported the development of a new perspective. First, there was an intentionality to the interactions; the peers were specifically trying to help the participant think about their experience. Second, the interactions were iterative. The participant talked through their experience multiple times, which gave the peers context to engage constructively. The results of my preliminary study, along with results from other studies (e.g. [12]), have started to highlight the collaborative aspects of self-reflection.

3 Work in Progress

My preliminary study identified several collaborative activities that individuals engaged in when self-reflecting within a

structured setting that scaffolded and supported these interactions. For my main study, I want to better understand how the CSR process unfolds in daily life, including what interactions trigger the collaboration or how reflection can trigger collaborations, how interactions impact critical analysis of one's feelings and knowledge, and how interactions support one developing a new perspective. Additionally, I am interested in the role that technology plays in supporting these activities. Currently, I am in the early stages of data collection about how emerging adults collaboratively self-reflect on their wellbeing in daily life. I use semi-structured interviews to explore the concept of CSR in depth and elicit rich information about personal experiences and perspectives [9].

The semi-structured interview includes questions about their experiences interacting with others when self-reflecting. For example, I ask them to think about the last time an interaction led them to think about their mental wellbeing and how that interaction unfolded. I ask questions about how collaborations impact becoming aware of uncomfortable feelings, critically analyzing those feelings and knowledge, and developing a new perspective. This will allow me to extend, alter, and/or confirm the model of CSR developed from my preliminary study. I also ask about challenges that arose in order to consider how technology could potentially alleviate the pain points. Finally, I ask specifically about technology features that might better support the process. I ask participants what type of feature(s) would help them better communicate with others about their mental wellbeing and how those features could support them in self-reflecting.

As discussed in the introduction, current systems support individual self-reflection but do not account for collaboration that may occur when someone is reflecting [6]. Based on the findings of my interviews, I plan to redesign features of technology-mediated experiences to better support collaborative activities that individuals engage in as they self-reflect. I will then present these designs to participants and collect feedback on their perceptions, such as how they would envision using the features, what features would be more helpful, or what they would change. The goal of collecting feedback on the design is to identify and refine a set of features that support CSR, and gain a deeper understanding of how and why those feature support the process of CSR.

4 Expected Contributions

My primary contribution will be conceptually expanding our understanding of collaborative self-reflection. I will do this by developing a model of self-reflection that incorporates the interactions and collaborative activities that individuals engage in when self-reflecting. As a secondary contribution, I am also interested in exploring ways we might redesign technology to support collaborative self-reflection. Time permitting, I would like to design a set of features that support collaborative activities that facilitate self-reflection. By better understanding the process of collaborate self-reflection, we can better support an individual's collaborative self-reflection work and inform future design. I expect my work to uncover features that support the process of collaborative self-reflection and alleviate existing barriers of completing this work. I expect that my work will help the HCI and CSCW community to better understand the process of collaborative self-reflection and identify questions for further investigation.

5 Benefits of the Doctoral Consortium

The 2024 CSCW Doctoral Consortium will provide me the opportunity to receive useful feedback on the results of my main dissertation study and the framing of my overall dissertation. At the time of the consortium, I will be in the process of analyzing and writing the results of my main thesis study. Thus, the consortium will allow me to consider the results from different perspectives, improve my articulation and arguments of the thesis, and discuss the limitations and future directions of this research area. Particularly, I would like to ask the members of the consortium: How I can frame my conceptual contribution in a way that accurately represents the contribution? Are there additional components of the model and process that should be considered? In turn, I will contribute constructive and engaging feedback and questions to my peers. I hope to add my experiences and enthusiasm to the Doctoral Consortium.

References

[1] Jeffrey J. Arnett, Rita Žukauskiene, and Kazumi Sugimura. 2014. The new life stage of emerging adulthood at ages 18-29 years: Implications for mental health. *The Lancet Psychiatry* 1, 7 (2014), 569–576. DOI:https://doi.org/10.1016/S2215-0366(14)00080-7

[2] Sue Atkins and Kathy Murphy. 1993. Reflection: a review of the literature. *J. Adv. Nurs.* 18, 8 (1993), 1188–1192.

[3] Eric P.S. Baumer, Vera Khovanskaya, Mark Matthews, Lindsay Reynolds, Victoria Schwanda Sosik, and Geri Gay. 2014. Reviewing reflection: On the use of reflection in interactive system design. *Proc. Conf. Des. Interact. Syst. Process. Pract. Methods, Tech. DIS* (2014), 93–102. DOI:https://doi.org/10.1145/2598510.2598598

[4] Andrew B L Berry, Catherine Y Lim, Calvin A Liang, Andrea L Hartzler, Tad Hirsch, Dawn M Ferguson, Zoë A Bermet, and James D Ralston. 2021. Supporting Collaborative Reflection on Personal Values and Health. *Proc. ACM Hum.-Comput. Interact.* 5, CSCW2 (October 2021). DOI:https://doi.org/10.1145/3476040

[5] Virginia Braun and Victoria Clarke. 2006. Using thematic analysis in psychology. *Qual. Res. Psychol.* 3, 2 (2006), 77–101. DOI:https://doi.org/10.1191/1478088706qp063oa

[6] Janghee Cho, Tian Xu, Abigail Zimmermann-Niefield, and Stephen Voida. 2022. Reflection in Theory and Reflection in Practice: An Exploration of the Gaps in Reflection Support among Personal Informatics Apps. *Conf. Hum. Factors Comput. Syst. - Proc.* (2022). DOI:https://doi.org/10.1145/3491102.3501991

[7] Eun Kyoung Choe, Bongshin Lee, Haining Zhu, Nathalie Henry Riche, and Dominikus Baur. 2017. Understanding Self-Reflection: How People Reflect on Personal Data through Visual Data Exploration. In *Proceedings of the 11th EAI International Conference on Pervasive Computing Technologies for Healthcare* (PervasiveHealth '17), Association for Computing Machinery, New York, NY, USA, 173–182. DOI:https://doi.org/10.1145/3154862.3154881

[8] Janet E Dyment and Timothy S O'connell. 2010. The quality of reflection in student journals: A review of limiting and enabling factors. *Innov. High. Educ.* 35, (2010), 233–244.

[9] Andrea Fontana and James H Frey. 2000. The interview: From structured questions to negotiated text. *Handb. Qual. Res.* 2, 6 (2000), 645–672.

[10] Ian Li, Anind Dey, and Jodi Forlizzi. 2010. A Stage-Based Model of Personal Informatics Systems. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (CHI '10), Association for Computing Machinery, New York, NY, USA, 557–566. DOI:https://doi.org/10.1145/1753326.1753409

[11] Lena Mamykina, Elizabeth D. Mynatt, Patricia R. Davidson, and Daniel Greenblatt. 2008. MAHI: Investigation of social scaffolding for reflective thinking in diabetes management. *Conf. Hum. Factors Comput. Syst. - Proc.* (2008), 477–486. DOI:https://doi.org/10.1145/1357054.1357131

[12] Ine Mols, Elise van den Hoven, and Berry Eggen. 2016. Technologies for Everyday Life Reflection: Illustrating a Design Space. In *Proceedings of the TEI '16: Tenth International Conference on Tangible, Embedded, and Embodied Interaction* (TEI '16), Association for Computing Machinery, New York, NY, USA, 53–61. DOI:https://doi.org/10.1145/2839462.2839466

[13] Ine Mols, Elise Van Den Hoven, and Berry Eggen. 2016. Informing design for reflection: An overview of current everyday practices. *ACM Int. Conf. Proceeding Ser.* 23-27-Octo, (2016). DOI:https://doi.org/10.1145/2971485.2971494

[14] M. Pilar Matud, Amelia Díaz, Juan Manuel Bethencourt, and Ignacio Ibáñez. 2020. Stress and psychological distress in emerging adulthood: A gender analysis. *J. Clin. Med.* 9, 9 (2020), 1–11. DOI:https://doi.org/10.3390/jcm9092859

[15] Michael Prilla, Oliver Blunk, and Irene Angelica Chounta. 2020. How Does Collaborative Reflection Unfold in Online Communities? An Analysis of Two Data Sets. *Comput. Support. Coop. Work CSCW An Int. J.* 29, 6 (2020), 697–741. DOI:https://doi.org/10.1007/s10606-020-09382-0

[16] Carey S Pulverman, Ryan L Boyd, Amelia M Stanton, and Cindy M Meston. 2018. Childhood Sexual Abuse Following Expressive Writing Treatment. 9, 2 (2018), 181–188. DOI:https://doi.org/10.1037/tra0000163.Changes

[17] Daniel Stein and Anthony M. Grant. 2014. Disentangling the relationships among self-reflection, insight, and subjective well-being: The role of dysfunctional attitudes and core self-evaluations. *J. Psychol. Interdiscip. Appl.* 148, 5 (2014), 505–522. DOI:https://doi.org/10.1080/00223980.2013.810128

[18] Keisuke Takano and Yoshihiko Tanno. 2009. Self-rumination, self-reflection, and depression: Self-rumination counteracts the adaptive effect of self-reflection. *Behav. Res. Ther.* 47, 3 (2009), 260–264. DOI:https://doi.org/10.1016/j.brat.2008.12.008