Exploring the Effects of AI-assisted Emotional Support Processes in Online Mental Health Community

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Motivation

- **Online mental health communities (OMHCs)** have become a prevalent medium of promoting mental wellness through collaborative interactions among people
- Here, ensuring active emotional support-sharing processes among users is particularly crucial to maintaining thriving OMHCs, yet often considered challenging
    - Providers
        - burdensome and overwhelming to be emotionally engaged, leading to their dropouts
        - providers have difficulty in converting their empathetic thoughts in a text-based form
    - Seekers
        - difficult to ensure that they disclose their experiences concretely to help providers better understand seeker's experiences and react emotionally

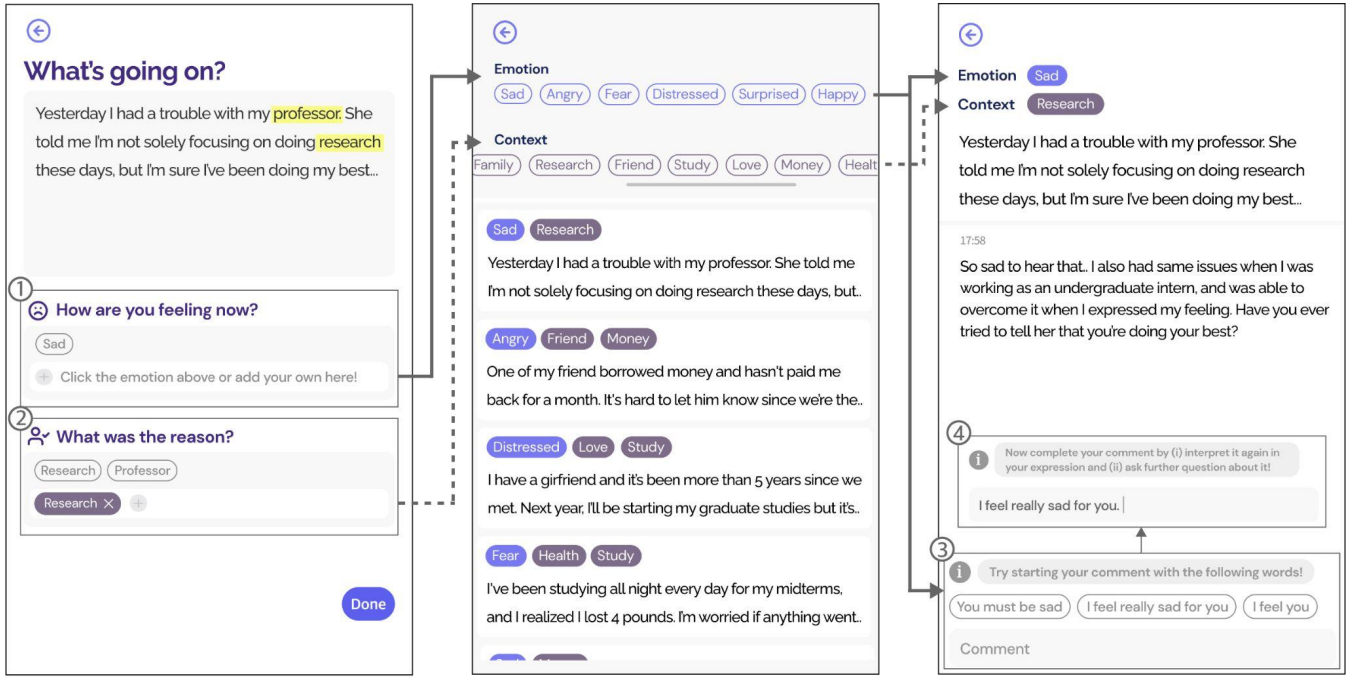
Previous studies

- Previous studies have devised theoretical guidance to support individuals to learn how to react emotionally in text-based settings
- Recent studies have begun to feature the role of AI in supporting emotional reaction processes
- Still, such an approach is limited in that the quality of the seeker's posts (e.g., concreteness) is also a crucial factor that affects the emotional supports

Our method

- We aim to explore the feasibility of AI in augmenting the overall workflow of empathetic communication by considering both seeker and provider sides in OMHCs
- Specifically, we designed an AI-infused mental health community app, which supports the scaffolded interactions (writing posts, exploring posts, and reacting to posts) specialized to facilitate empathetic communication in OMHCs with the aid of AI

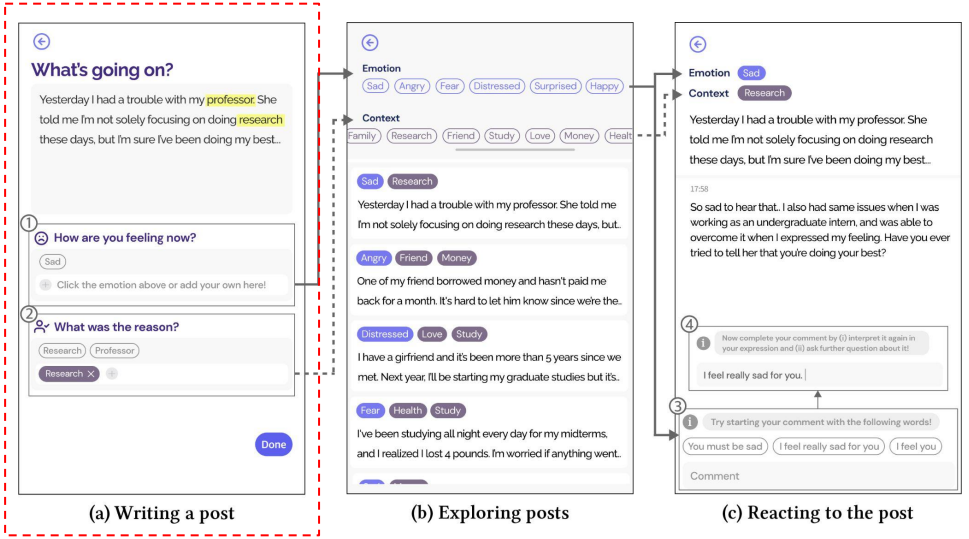
Design of our interface



(a) Writing a post (b) Exploring posts (c) Reacting to the post

Design of our interface: (a) Writing a post

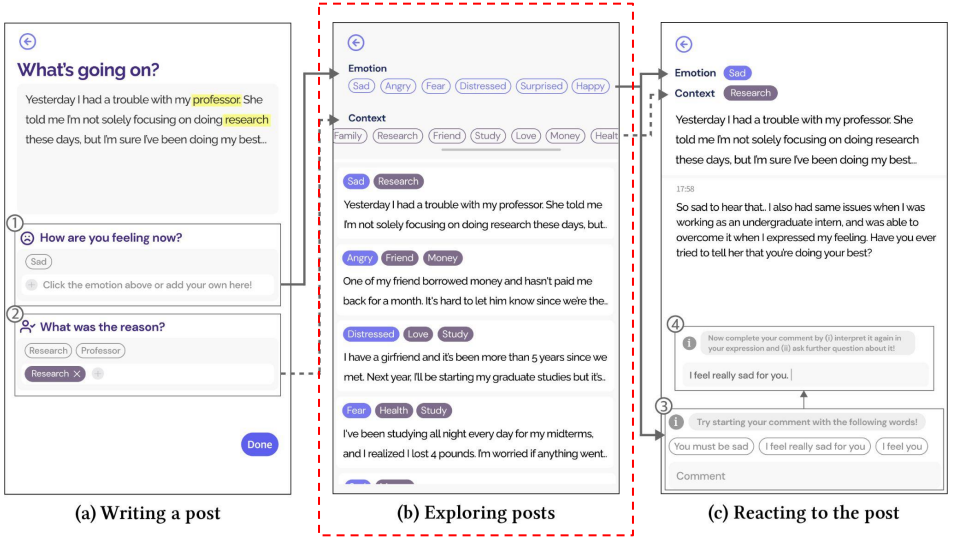
1. Providers leave their experience that aroused their emotion
2. The interface automatically elicits the ① emotion and ② contextual keywords from the post
3. To ensure user agency and accuracy, the system lets users to iterate over writing the post to get new recommendation, and manually add keywords



(a) Writing a post (b) Exploring posts (c) Reacting to the post

Design of our interface: (b) Exploring post

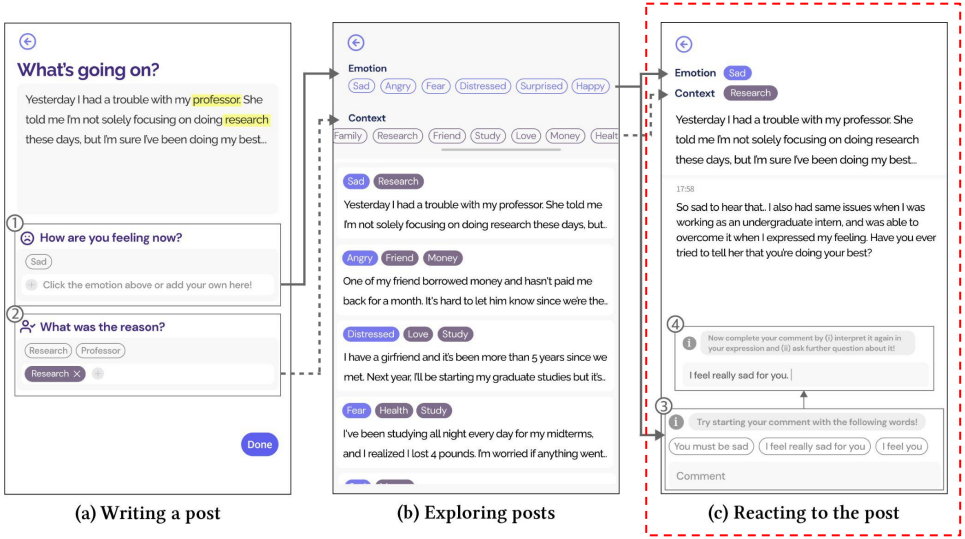
1. Emotion and contextual keywords from (a) serve for the providers as filters, which help providers to find posts of their interest



(a) Writing a post (b) Exploring posts (c) Reacting to the post

Design of our interface: (c) Reacting to the post

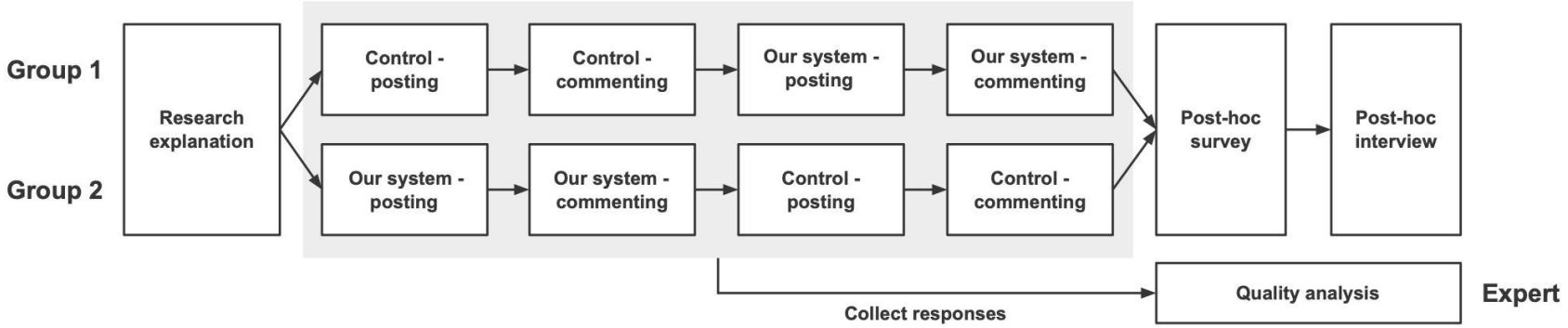
1. Finally, once provider clicks the post from (b), the interface shows up the post, along with the emotion and contextual keywords of it
2. Plus, the system helps providers to leave empathetic comments with triggers and prompts, which are automatically setup based on the detected emotion of the post



(a) Writing a post (b) Exploring posts (c) Reacting to the post

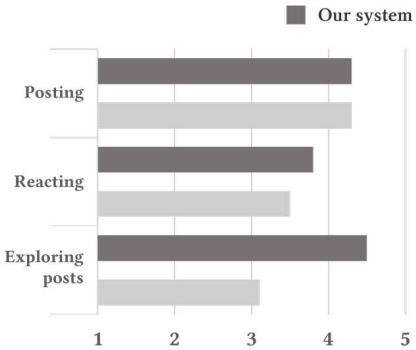
User Study: Logistics

- We recruited 10 participants by posting an announcement on the online college community websites
- Each user was asked to post their emotional experience (N=2) and comment (N=2) using both our interface and control interface (interface without any recommendation), where half of participants used our interface first, and others for control interface
- After completing the procedure, users completed post-hoc survey and interview, and the posts and comments that they generated were sent to university mental health counselor to rate how much they induce/offer empathy

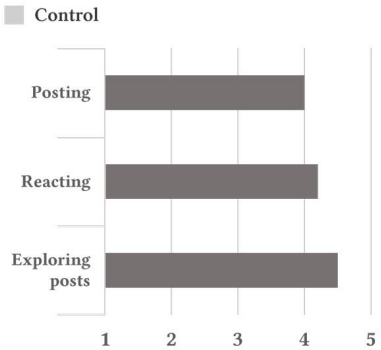


User Study: Quantitative Results

- Participants rated the ease of using our interface higher than that of control interface for every interaction
- In addition, they rated the satisfaction on assist of AI high (>= 4.0)
- From the quality analysis of mental health counselor, users left more empathetic comments while using our system compared to control interface. Yet, our interface was not shown to increase the level of inducing empathy in posts



Ease of using



Satisfaction on assist of AI

	Interface	Mean	SD	t	p
Empathy (comments)	Our	4.55	0.51	-4.4316	< .0001
	Control	3.25	0.92		
Level of inducing empathy (posts)	Our	4.45	0.89	-0.1787	0.43
	Control	4.40	0.88		

[Result of the quality analysis]

User Study: Qualitative Results

- We open-coded responses from the post-hoc interview sessions, and identified several benefits and concerns regarding the interactions of our interface

Writing a post	Reacting to the post	Exploring posts
Clarifying emotion and circumstance one faced	Opportunity to learn how to empathize with others	Showed unanimity on the efficiency of the filtering system in terms of exploring posts
Help express their thoughts as a form of text	Fostering a healthy community	
Emotional reliance toward the system	Improved understanding towards posts	
Increased awareness of others	Limiting the style of overall supports	
Reluctance toward a feeling of being ‘diagnosed’ by AI	Burden of comment-writing process	

Benefit Concern

Discussion & Future Works

- Throughout the study, we could identify the feasibility of AI-assisted writing processes in supporting interpersonal interactions in OMHCs, as well as its feasibility of forming a healthier community environment
- Leveraging AI-driven emotion/contextual keyword elicitation was reported to induce seekers to clarify expression for AI to better understand, ultimately assisting the writing process to be more concrete
    - However, from the expert analysis, we realized that such concreteness did not necessarily lead to emotional support
    - Thus, further design iteration would be required to connect from such concreteness to inducing empathetic reaction
- We are planning to extend this work by running an in-the-wild study with more participants to ensure generalizability and obtain more lively experience of our interface

THANK YOU!

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