

Recovery is Relational: Digital Support Needs for Patients and Supporters in Eating Disorder Recovery

Ryuhaerang Choi
School of Electrical Engineering
KAIST
Daejeon, Republic of Korea
ryuhaerang.choi@kaist.ac.kr

Xuhai Xu
Department of Biomedical Informatics
Columbia University
New York City, New York, USA
xx2489@columbia.edu

Seohyeon Yoo
Department of Data Science
Hanyang University
Seoul, Republic of Korea
seohyeonyoo@hanyang.ac.kr

Sung-Ju Lee
School of Electrical Engineering
KAIST
Daejeon, Republic of Korea
profsj@kaist.ac.kr

Abstract

Eating disorder (ED) recovery extends beyond therapy sessions, unfolding in vulnerable moments embedded in everyday life and relationships. Yet empirical understanding of how these moments arise, how supporters contribute, and how technologies might offer timely, contextual assistance remains limited. To address this gap, we conducted a design session and two-week diary study with 27 individuals with ED and 12 social supporters. Our analysis identified diverse *contexts* in which patients and supporters perceived support to be needed, and the forms of *support* they envisioned digital tools could offer. While many needs were mutually recognized, the actual practice of support often involved mismatches, suggesting opportunities for technologies to help mediate supportive engagement. Our study contributes empirical insight into everyday support moments in ED recovery and highlights opportunities to design digital interventions that provide context-sensitive assistance, empower supporters, and extend care beyond clinical settings.

CCS Concepts

• **Human-centered computing** → **Human computer interaction (HCI)**; **Empirical studies in HCI**.

Keywords

digital tools for health, eating disorder, interventions

ACM Reference Format:

Ryuhaerang Choi, Seohyeon Yoo, Xuhai Xu, and Sung-Ju Lee. 2026. Recovery is Relational: Digital Support Needs for Patients and Supporters in Eating Disorder Recovery. In *Proceedings of the 2026 CHI Conference on Human Factors in Computing Systems (CHI '26)*, April 13–17, 2026, Barcelona, Spain. ACM, New York, NY, USA, 19 pages. <https://doi.org/10.1145/3772318.3791262>

1 Introduction

Caution: *This paper discusses eating disorders and could potentially be a trigger to those dealing with eating disorders. Please use discretion when reading and disseminating this paper.*

Eating disorders (ED) are complex mental health conditions that profoundly disrupt everyday life for ED patients and those around them. Beyond their severe psychological and physical consequences, EDs also reshape social relationships, placing significant burdens on family members, partners, and peers [32]. Recovery is therefore inherently multidimensional, unfolding not only through clinical encounters with therapists or medical providers but also in everyday contexts such as shared meals, social gatherings, or online environments [18, 32, 53].

Formal treatments such as cognitive-behavioral therapy [50], family-based therapy [46, 68], and inpatient programs [67] are primary approaches in ED care. However, access to these treatments is limited, constrained by barriers such as stigma, financial burden, and limited service availability [6, 10, 17, 55]. Even when patients are engaged in therapy, recovery challenges frequently arise between therapy sessions where professional support is often absent [36, 39].

These limitations have motivated the exploration of digital health interventions as complementary support. Existing systems provide functionalities such as self-tracking, reflective journaling, and therapist-guided modules (e.g., web-based cognitive-behavioral therapy programs) [28, 42], helping individuals monitor symptoms and reflect on progress. Recent works have introduced chatbots [14] and food-related media moderation [15] that attempt to deliver support in situ outside the clinic. Such systems demonstrate progress toward more responsive forms of support attuned to users' immediate contexts and needs. Additionally, the rise of multimodal LLMs [37, 45] and personal tracking devices (e.g., wearables, smartwatches, smart glasses) [38, 66] suggests that digital health interventions are entering a new era that is increasingly intelligent, personalized, and adaptive [51]. However, an important gap remains; empirical knowledge is limited regarding (1) *when vulnerable moments arise in daily life* and (2) *how support might be delivered in those contexts*. This lack of understanding leaves open



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ACM ISBN 979-8-4007-2278-3/26/04
<https://doi.org/10.1145/3772318.3791262>

the question of how digital tools could more effectively support ED recovery [2, 33].

This incomplete understanding of *when* and *how* is further compounded by a narrow focus on the individual [29, 48], overlooking the critical, yet complex role of a patient's social network in recovery. ED recovery is deeply relational, shaped by interactions with family members, partners, peers, and others who provide encouragement or accountability in everyday life [5, 21], alongside treatment from clinicians. These social supporters often face uncertainty about when and how to intervene. Prior research has examined misalignments in collaborative treatment between patients and clinicians [61], but the everyday roles and challenges of non-professional supporters are underexplored in the ED context. This shortcoming highlights the need to investigate support needs not only in patients' individual contexts of vulnerability but also in relational contexts shaped by their interactions with non-professional supporters. By considering the perspectives of both patients and their social networks, digital interventions can support patients while simultaneously empowering supporters, easing caregiving burdens, and fostering more collaborative recovery.

We aim to address this void by investigating: (1) the everyday moments when ED patients and their social supporters perceive a need for support, along with the types of support they deem appropriate; and (2) how these needs and relational dynamics can shape the design of digital interventions that reflect the lived contexts and interpersonal dynamics of recovery. Importantly, our investigation encompassed not only patients' perspectives but also the supporters' own needs in their caregiving roles, which remain underexplored in prior work.

We conducted a design session and a two-week diary study, which included mid- and post-interviews, with 39 participants (Figure 1), composed of individuals with ED (i.e., Anorexia, Binge Eating Disorder, and Bulimia) and social supporters (e.g., family member, partner, friends, online self-help group moderator). First, a design session was held with two primary goals: to help participants reflect on the moments when they need support and to familiarize them with the structured journaling process that would be used in the subsequent in-situ diary study. Participants then completed a two-week diary study with mid- and post-interviews to capture their everyday support needs in-situ and reflect on their experiences. During the interviews, participants clarified their diary entries and discussed potential digital interventions by reflecting on them with the research team. This sequential study enabled us to combine in-situ capture of support needs with reflective elaboration and a participatory design session.

Our findings identified a range of everyday contexts in which support was perceived to be needed, along with the types of support patients and their social supporters considered helpful. While many needs were commonly recognized, challenges in enacting support often stemmed not from unawareness of support needs, but from difficulties in translating that shared understanding into timely appropriate action. Specifically, many patients' struggles involved internal experiences (e.g., ED behavior urges, guilt, or anxiety) that were not easily observable in everyday interactions, making it difficult for supporters to discern when support was needed. As a result, support was often delayed, absent, or misaligned with patients' momentary needs. These recurring misalignments shaped

how each group engaged with support: patients often became hesitant to ask for help or internalized the distress, while supporters described intensifying their involvement or feeling a heightened sense of responsibility. Amid these tensions, our findings point to opportunities for digital tools to support recovery by complementing interpersonal efforts and offering timely, situationally aware scaffolding where human support may be delayed, uncertain, or emotionally difficult to initiate.

Our research contributions are below:

- We present empirical accounts of the *when* and *how* of support needs in both individuals with eating disorders and their social supporters. Our study highlights the underexplored perspectives of social supporters in the context of eating disorder recovery.
- We reveal how misalignments in eating disorder recovery support arise not from a lack of shared understanding about support needs, but from uncertainties around when and what kind of support to offer. We further show how such misalignments shape divergent support engagement patterns between patients and their supporters.
- We offer design implications for digital interventions that complement human care by scaffolding support in vulnerable moments, adapting to diverse and evolving needs, and mediating communication challenges between patients and their social supporters.

Our work sheds light on how and when support, including clinically validated guidance (e.g., helping patients recognize and prevent everyday exercise from becoming compulsive), can be delivered as just-in-time support in everyday ED recovery for both ED patients and their non-professional social supporters.

2 Related Work

2.1 Eating Disorders: Anorexia, Binge Eating Disorder and Bulimia

Eating disorders (EDs) are serious psychiatric conditions characterized by persistent disturbances in eating behavior and maladaptive cognition about food, weight, and shape [23, 54]. These disorders are associated with high functional impairment (e.g., school and work absenteeism, social withdrawal), medical complications (e.g., electrolyte imbalance, cardiac irregularities, bone density loss), and elevated mortality. EDs are typically accompanied by intense preoccupation with body image and weight control strategies [11, 57, 58]. Body image disturbance refers to persistent dissatisfaction or a distorted perception of one's body, often accompanied by repetitive behaviors such as body checking or avoiding mirrors. Standardized assessments such as the Eating Disorder Examination (EDE-Q) [1] and Diagnostic and Statistical Manual of Mental Disorders (DSM-5) [4] capture these features across symptom domains, including dietary restraint (intentional restriction of food intake to control weight or shape), eating concern, and shape/weight concern.

Within this category, three predominant disorders are distinguished by their behavioral and cognitive profiles. Anorexia Nervosa (AN) [4] involves persistent restriction of energy intake leading to significantly low body weight, an intense fear of weight gain, and a distorted body image. AN has two subtypes: a restricting type,

and a binge-eating/purging¹ type characterized by recurrent binge episodes followed by compensatory behaviors, while still maintaining a significantly underweight status. Bulimia Nervosa (BN) [4] is defined by recurrent binge eating episodes accompanied by a sense of loss of control, followed by compensatory behaviors such as self-induced vomiting, misuse of laxatives or diuretics, or excessive exercise. Individuals with BN are typically within or above the normal weight range. Binge Eating Disorder (BED) [4] also involves recurrent binge episodes with marked distress, but crucially without regular compensatory behaviors, which often results in overweight or obesity. Across AN, BN, and BED, individuals demonstrate a heightened preoccupation with mood and body shape, but differ in how these concerns manifest behaviorally; extreme restriction in AN, binge-purge cycles in BN, and uncontrolled binge episodes without purging in BED.

2.2 Clinical Interventions for Eating Disorders

Clinical care for ED involves multiple modalities: psychotherapy [31, 35], medical monitoring (e.g., regular checks of weight, vital signs, and potential complications such as electrolyte imbalance or cardiac irregularities) [9], and, in severe cases, pharmacological treatment or hospitalization [25, 31]. Cognitive-behavioral therapy (CBT) is the most widely studied psychological approach, aiming to modify maladaptive thoughts about food, weight, and body image and foster healthier coping strategies [22]. Family-based therapy (FBT) is another well-established model, particularly for adolescents, where parents play an active role in mealtime support and recovery [46, 68]. For patients with severe medical complications or dangerously low weight, inpatient or day-treatment programs provide multidisciplinary care that integrates nutritional rehabilitation, medical supervision, and intensive therapy [30]. Taken together, these interventions show that ED management involves not only psychological and physical health but also social dimensions, such as the structured involvement of family members in therapy and the consideration of patients' broader social environments within clinical care.

However, access to these treatments is often limited. Many individuals face barriers such as stigma, cost, or long waitlists, leading to delays or drop-out from care [36]. Even for those receiving therapy, recovery unfolds largely in everyday life where professional support is absent, leaving voids during moments of vulnerability or crisis [36]. These limitations have motivated complementary approaches, including digital health tools that can extend support beyond the clinic [7, 13, 20, 28].

2.3 Digital Interventions for Eating Disorder Recovery

A growing body of research has explored digital interventions to complement traditional therapy and extend support beyond the clinic. Randomized controlled trials demonstrate that e-health programs can deliver structured self-help, psychoeducation, and

therapist-guided modules at scale, leading to improvements in adherence and symptom reduction, particularly for bulimia nervosa and binge-eating disorder [2]. In addition, mobile and web-based applications for the ED population that support food and mood journaling, symptom tracking, and automated feedback have been proposed, helping patients build awareness of disordered patterns and monitor progress over time [47, 52]. However, these approaches are restricted to self-monitoring and reflection, placing the burden of recovery largely on the individual.

Recent digital interventions have moved beyond tracking by offering real-time or context-aware features. Chatbots, for example, can engage in conversational support that responds to users' disclosures in the moment [14]. Another intervention filters triggering food-related media on smartphones and computers [15]. These systems demonstrate progress toward contextually responsive care. In addition, the rapid advances of multimodal LLMs [37, 45] and personal tracking devices, including wearables and smartglasses [38, 66], suggests that digital health interventions are integrating greater intelligence, personalization, and adaptivity, further amplifying the opportunity [51]. Yet, important gaps remain: there is still very limited understanding of when and how support should be provided in everyday vulnerable moments outside of the clinic, and thus, contextual just-in-time interventions remain significantly scarce [2, 33]. Our work addresses this void by investigating when and how patients and those around them perceive support to be needed in daily life.

2.4 Social Support and Relational Dynamics of Eating Disorder Recovery

While identifying ED individuals' moments of vulnerability is critical, recovery also unfolds within social relationships [5, 61]. Family members, partners, friends, and peers provide encouragement, accountability, or companionship, yet their involvement is complex: patients may experience it as supportive in some situations and intrusive in others.

Prior work has examined relational dynamics, mainly in clinical settings [26, 43]. A recent research identified disconnects between patients and clinicians, as well as across different care providers who often prioritize divergent treatment goals (e.g., prioritizing physical restoration over psychological recovery) [61]. However, little is known about how non-professional supporters, such as family members, partners, or peers, navigate their roles and challenges in everyday recovery outside the clinic [5, 21]. This limitation may be consequential because supporters often lack clarity about how to help and may require guidance to contribute effectively without unintended harm. Our study addresses this missing link by jointly examining the perspectives of patients and their informal supporters, shedding light on how support needs arise in everyday individual contexts and in relational contexts as understood through patient-supporter perspectives.

3 Method

3.1 Participant Recruitment

¹Bingeing refers to consuming an unusually large amount of food within a short period, accompanied by a sense of loss of control, while purging refers to compensatory behaviors, such as self-induced vomiting, misuse of laxatives or diuretics, or excessive exercise, intended to offset calorie intake.

²OC stands for Online Community.

Role	PID	Age	Gender	Occupation	ED Population				Digital Tools Used for ED Recovery	Stated Social Supporters
					Type	Diagnosis	Duration	EDE-Q		
ED Patient	P1	20	Female	Student	BN	Formal	4 yrs	5.77	OC ²	None
	P2	21	Female	Student	AN	Formal	7 yrs	2.34	OC	Parents
	P3	21	Female	Student	BN	Self	5 yrs	4.21	OC	Romantic Partner
	P4	23	Female	Student	AN	Self	4 yrs 6 mos	3.78	OC	None
	P5	24	Female	Student	BED	Self	5 yrs	2.46	OC	None
	P6	24	Female	Employed	BN	Formal	7 yrs	3.74	OC, Diet Tracking App, Chatbot	Parents
	P7	26	Female	Job seeker	AN	Formal	>2 yrs	5.18	OC	None
	P8	27	Female	Employed	BN	Self	1 yr	4.59	OC	None
	P9	27	Male	Student	BED	Self	4 yrs	2.34	OC	Romantic Partner
	P10	28	Female	Job seeker	AN	Self	1 yr	2.41	OC	Parents
	P11	28	Female	Employed	AN	Self	3 yrs 3 mos	2.80	OC, Diet & Mood Tracking App	Family
	P12	29	Female	Retired	AN	Formal	3 yrs	5.00	OC	None
	P13	29	Female	Freelancer	BED	Self	10 yrs	2.83	OC	Parents, Romantic Partner (S1)
	P14	30	Female	Student	BN	Formal	2 yrs	4.74	OC, ED Recovery App, Chatbot	None
	P15	32	Female	Employed	AN	Formal	10 yrs	4.53	OC, Diet & Mood Tracking App	Family, Friends
	P16	34	Female	Job seeker	BN	Self	5 yrs 6 mos	5.09	OC, Weight Tracking App	None
	P17	35	Female	Employed	AN	Formal	18 yrs	5.02	OC, Diet Tracking App	Parents
	P18	35	Female	Job seeker	BN	Formal	17 yrs	3.96	OC	Parents
	P19	36	Female	Job seeker	BN	Self	3 yrs	4.03	OC	None
	P20	37	Female	Homemaker	AN	Formal	3 yrs	2.24	OC, Diet & Mood Tracking App	Spouse
	P21	37	Female	Freelancer	BN	Formal	20 yrs	4.51	OC, Diet Tracking App	Romantic Partner
	P22	38	Female	Employed	BN	Formal	13 yrs	5.03	OC	None
	P23	39	Female	Employed	BN	Formal	9 yrs	4.35	OC, Diet & Mood Tracking App, Chatbot	Parents
	P24	41	Male	Employed	BN	Self	8 yrs	2.13	OC, Diet Tracking App	Family
	P25	43	Female	Freelancer	BED	Formal	6 yrs	4.82	OC, Calorie Counting App, Chatbot	Spouse
	P26	43	Female	Freelancer	BN	Formal	10 yrs	4.47	OC	Spouse
	P27	45	Female	Freelancer	AN	Self	5 yrs	5.14	OC, Diet Tracking App	Family
Role	PID	Age	Gender	Occupation	ED Patient Profile				Digital Tools Used for ED Recovery Support	Relationship to ED Patient
					Type	Diagnosis	Duration	EDE-Q		
Social Supporter	S1	21	Female	Student	AN	Formal	2 yrs and 10 yrs	–	OC, Chatbot	Friend
	S2	25	Female	Student	BN	Formal	2 yrs	–	None	Friend
	S3	27	Female	Student	BED	Self	3 yrs	–	None	Friend
	S4	28	Female	Student	BN	Self	1 yr	–	None	Friend
	S5	28	Female	Student	BN	Self	6 yrs	–	OC	Friend (Roommate)
	S6	29	Female	Freelancer	AN	Formal	2 yrs	–	Chatbot	Granddaughter
	S7	31	Female	Freelancer	AN	Formal	2 yrs	–	OC	Sister
	S8	31	Male	Employed	BED	Formal	10 yrs	–	OC	Romantic Partner (P13)
	S9	39	Male	Employed	BN	Self	2 yrs	–	OC, Chatbot	Community Member
	S10	40	Female	Employed	BED	Formal	12 yrs	–	OC	Sister
	S11	41	Female	Homemaker	AN	Formal	1 yr 8 mos	–	OC	Mother
	S12	41	Female	Employed	AN	Formal	6 mos	–	None	Mother

Table 1: ED patients and social supporters: demographics, ED information, digital tools, and social support relations. The “Stated Social Supporters” column indicates the current social supporters of each patient. Entries shown in gray denote patient–social supporter relationships that existed previously but were inactive at the time of the study.

We recruited 39 participants (aged 20–45, mean=31.6 years; 35 identified as female, 4 as male) through advertisement posts on online social support communities for individuals with ED [16, 34] and university bulletin boards, with permission from community moderators. We additionally used snowball sampling, inviting participants, if they felt comfortable, to share our study information with people in their personal networks who had experience supporting someone with an ED. Table 1 summarizes participants’ demographics and ED-related information. Among the participants, 27 were ED patients and 12 were social supporters. The sample included one patient–supporter pair (P13 and S8), whereas the remaining supporters participated independently. One social supporter served as a community moderator who provided peer-based emotional and informational support within an online ED community, rather than direct relational caregiving. Although this role differs from that of family members, partners or friends, we included it alongside other informal supporters to reflect the diverse, non-professional forms of support that can occur in ED recovery.

Recruiting social supporters posed particular challenges. Many individuals with EDs hesitate to disclose their conditions to others [60], which constrained direct recruitment through patient–supporter pairs. In addition, there are few established communities or recruitment channels dedicated specifically to social supporters of individuals with EDs, limiting access to a broader supporter pool. As a result, we relied on a combination of snowball sampling and independent recruitment, yielding a supporter group with varied roles and caregiving experiences both ongoing and retrospective forms of support.

Eligibility criteria required to (1) be over 18 years old and either (2a) self-identify or have a clinical diagnosis of an eating disorder, or (2b) be a social supporter who is currently supporting or had previously supported someone with an ED. Participation as a patient–supporter pair was optional due to limited access to such pairs. Because many individuals with ED do not seek or continue formal treatment [19, 63], eligibility was not contingent on a clinical diagnosis; instead, self-identification was requested. This approach enabled us to include individuals whose challenges are often

overlooked in clinical settings. All participants provided informed consent prior to the study. Each participant received compensation of approximately USD 92-115, with the exact amount determined by their level of engagement (i.e., the number of submitted diary entries).

3.2 Study Procedure

This study was reviewed and approved by our institution's Institutional Review Board. We conducted all study procedures individually rather than in groups, given that individuals with ED often experience social stigma [6, 36, 55]; individual sessions also helped encourage participation. All individual sessions and interviews were conducted remotely via Google Meet, and diary entries were submitted through our custom-developed mobile application (Figure 2). Thus, the entire study was carried out online. To further reduce potential discomfort, participants were free to keep their cameras turned off during the sessions if they preferred. Before the study began, we administered a pre-survey to collect participants' demographic information and ED-related details, including ED type, diagnosis, duration, the Eating Disorder Examination Questionnaire 6.0 (EDE-Q) [1],³ prior use of digital tools for ED recovery, and the presence of social supporters in their recovery. Figure 1 outlines the overall study procedure.

3.2.1 Design Session: Familiarization and Orientation. The design session had two goals: (1) to help participants become familiar with the structured journaling process used in the diary study, and (2) to encourage early reflection on support needs, including relevant contexts, the potential supporters, and the technologies through which support could be delivered. Each session was conducted individually, with one participant per session, and all sessions were video-recorded with participants' consent. During each session, participants' verbal reflections and card-based selections were captured in the video recordings.

To achieve this, we asked participants to reflect on their everyday support needs by identifying contexts in which they might want help. For each support need described, the researcher presented two sets of cards: one depicting technologies for delivering interventions (i.e., smartphones, smartwatches, smart rings, earbuds, smart speakers, smart badges, smart glasses, chatbots), and the others depicting potential stakeholders involved in ED recovery (i.e., family, friends, partners, other ED patients, psychiatrists, therapists) (Figure 1's Design Session). Participants were invited to select a single card or combine multiple cards across the two sets to illustrate what kind of intervention they would receive and from whom or through what means they would want it to be provided. During the process, the researchers checked whether there were any cards participants did not understand and offered brief explanations when needed (e.g., clarifying the capabilities of smart glasses). While the cards served as prompts, participants were encouraged to suggest any additional technologies or stakeholders that came to mind, ensuring that the discussion was not constrained to the predefined options. Each participant went through several practice rounds during the

session. Importantly, the design session protocol mirrored the questions used in the structured journaling process of the diary study.⁴ This preparatory stage minimized confusion, ensured participants were familiar with the study tasks, and encouraged early reflection on recovery-related support needs in advance of the diary study.

3.2.2 In-Situ Diary Study with Interviews. Following the design session, participants engaged in a two-week in-situ diary study to document their support needs as they arose in everyday life. We employed a hybrid diary and experience sampling study, where participants completed structured diary entries alongside prompted experience sampling to capture both participants' reflective accounts and their momentary, in-situ experiences. We refer to this hybrid approach as an *in-situ diary study*. Participants submitted their diary entries through a custom-developed mobile application (Figure 2), which provided structured fields for diary prompts and allowed free-text responses. Participants could record experiences whenever they felt support was needed. To encourage engagement, the study app delivered two daily push notifications: one at a random time within a predefined window (between 8 AM to 8 PM) to prompt in-situ reporting (e.g., "Having any difficulties with your eating disorder at the moment? Want to note it in your diary?"), and another around 9 PM to encourage reflective end-of-day entries (e.g., "It's time to reflect on your day. Would you like to write in your diary?"). Responding to these notifications was optional, and participants were free to submit entries outside of these times.

Each diary entry followed a consistent structure, but the perspective differed depending on participant types. ED participants were asked to complete entries about the support they needed in a given situation, or about the support they thought their social supporters might need (Figure 2 (1)). On the other hand, social supporters were instructed to complete entries about the support they themselves required in their caregiving role, as well as the support they believed the ED participant might need. When describing the support they thought the patient might need, social supporters were further asked to indicate whether they could provide it themselves and, if so, whether they would need any support to offer it (Figure 2 (4)). In each case, participants described the context (when, where, what, why, with whom) in which they desired support, specified the type of support, relevant details, preferred timing, and preferred providers (e.g., a family member, peer, professional, or digital system). Allowing multiple support types and providers for a single context enabled us to capture the inherently multifaceted nature of support needs in ED recovery.

To complement the diaries, we conducted two semi-structured interviews: mid- and post-interviews. The mid-interview took place between the sixth and eighth days of the study. Its primary purposes were to clarify misunderstandings about the diary process, check adherence, and elicit reflections on participants' responses so that researchers could correctly interpret the submitted entries. The post-study interview, conducted after the two-week study concluded, similarly invited participants to reflect on their entries to aid researchers' understanding, while also identifying recurring needs and discussing potential digital interventions they found promising or concerning in light of their accumulated diary record.⁵

³With a total score range of 0 to 6, higher scores on the EDE-Q indicate problematic eating behaviors and attitudes. The average EDE-Q score of those diagnosed with ED is 4.02±1.28 and 0.93±0.86 for the general population [1].

⁴Please refer to our supplementary materials for the complete session protocol.

⁵Please refer to our supplementary materials for the complete interview protocol.

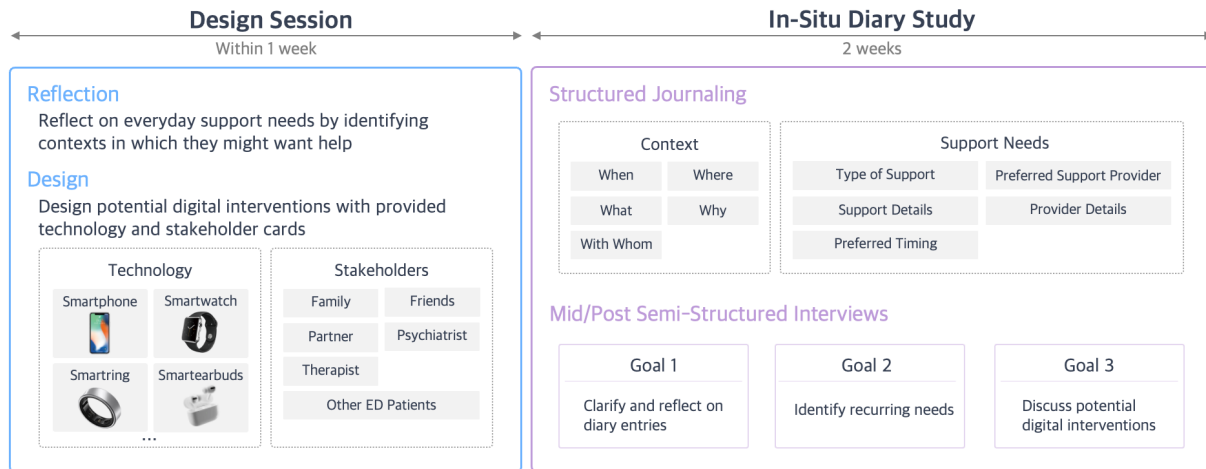


Figure 1: The overall study procedure. The study was conducted in two stages over approximately three weeks: a Design Session and a two-week In-Situ Diary Study with interviews.

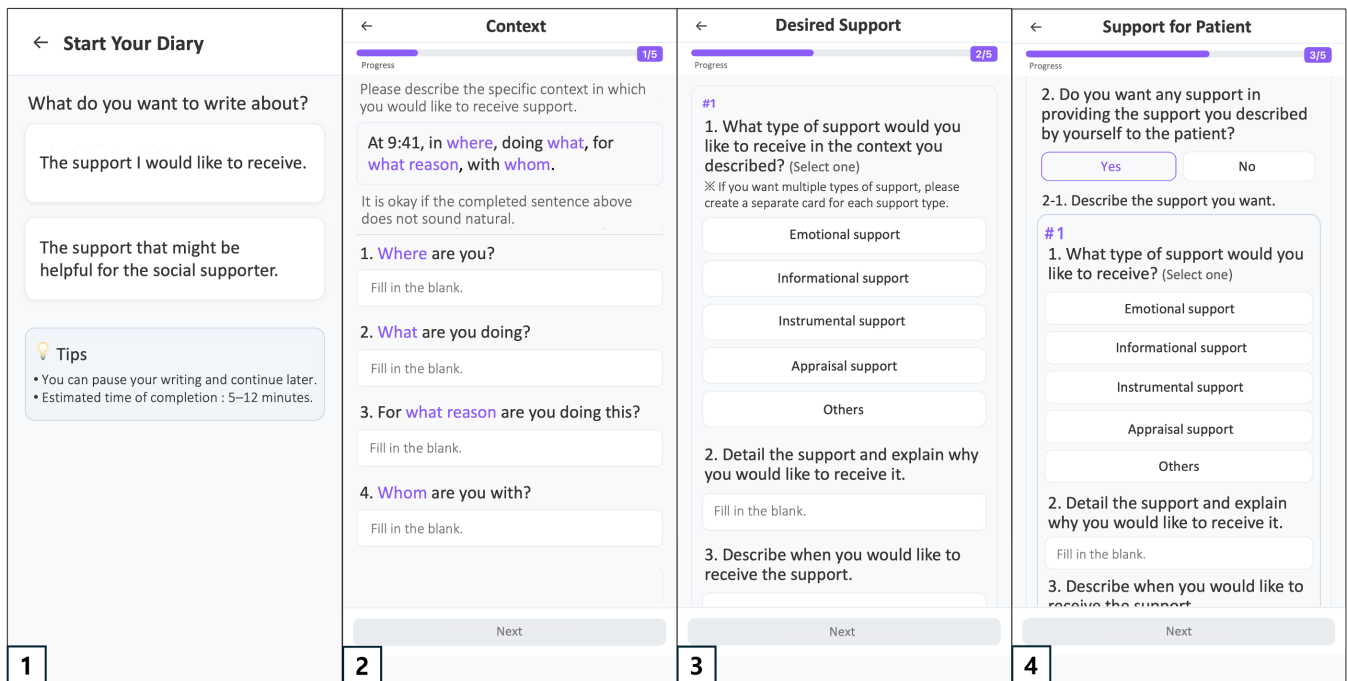


Figure 2: Snapshots of the custom-developed mobile diary application used in the in-situ diary study. ED patient participants (1) first choose whether to write about the support they themselves need or the support they think their social supporter might need, then (2) describe the context of the situation—when, where, what, why, and with whom, and (3) finally specify the support they desire, including the type of support, relevant details, preferred timing, and preferred providers. (4) When describing the support social supporters believe the ED patient might need, social supporters additionally indicate whether they can provide it, if so, what assistance they would need.

Before each interview, the first and second authors jointly reviewed the participant’s submitted diary entries. Entries that appeared ambiguous or incorrectly completed were flagged and labeled. During the interviews, participants were asked to clarify ambiguous entries and, where appropriate, correct mistaken or

misinterpreted responses (Figure 1’s Mid/Post Semi-Structured Interviews). This process improved the accuracy of the diary data and also provided opportunities for participants to elaborate on their experiences and for researchers to enhance their understanding.

The diaries and interviews provided a robust account of participants' support needs, capturing both in-the-moment experiences and reflective insights.

Diary App Implementation: We developed a custom mobile application to support the in-situ diary study (Figure 2). The app allowed participants to complete structured diary entries and submit them in real time. It was also used to deliver two daily push notifications. The application was implemented using React Native for cross-platform compatibility (iOS and Android) and integrated with Google Firebase for secure data storage, authentication, and notification delivery. All data were stored with researcher-assigned random identifiers, ensuring that no personally identifiable information could be inferred; the identifiers were only interpretable by the research team.

3.3 Positionality and Reflexivity

Our research team has backgrounds in human-computer interaction and digital health. Several members have prior experience designing and evaluating digital interventions for individuals with eating disorders, which informed our sensitivity to the emotional nuances, internal struggles, and relational dynamics present in participants' accounts. The team also includes one researcher with expertise in data science and another with expertise in computational modeling, each offering complementary analytical perspectives that strengthened the conceptual coherence and systematic interpretation of the data.

We recognize that these positionalities may have shaped how we approached and interpreted participants' experiences. Domain familiarity helped us attend closely to expressions of vulnerability and context-dependent support needs, while the analytical strengths within the team encouraged a more structured examination of the dataset. To remain reflexive about these influences, two team members independently coded subsets of data, surfaced differing interpretations through regular discussions with the full team, and collaboratively refined the evolving codebook. This process enabled us to balance domain-informed sensitivity with analytic rigor and to maintain an interpretive stance grounded in participants' own words.

3.4 Analysis

Our analysis began by consolidating data from the Design Session, the in-situ diary study, and the mid- and post-interviews into a unified diary-entry format. Design session video recordings were reviewed, transcribed, and summarized in the same structured format as the diary entries so that all data sources could be analyzed consistently. This process yielded 1231 entries that captured (1) the everyday contexts in which support was sought, (2) the types of support the participant desired, and (3) the preferred providers of support—how the help should be delivered, including form, channel, tone, and constraints.

Before analyzing the data, the first and second authors jointly reviewed all the entries and removed entries either unrelated to ED or promoting ED behaviors (e.g., “*Need a guidance to fast longer*”), resulting in 605 entries. We then conducted an inductive thematic analysis of the remaining entries [8]. For each entry, we identified a meaningful unit of *context*, the situation in which the participant

indicated a need for support, along with the associated *desired support*. Each desired support was coded for its *preferred provider* (e.g., social supporter, digital system, clinician).

All entries were organized in Figma and printed for close reading. The first and second authors split the participants in half and independently coded two days of entries for their assigned participants, logging emerging codes on a shared Miro board and structuring them as graphs (nodes: codes; edges: within-entry co-occurrence). They met to draft an initial codebook from this first pass. Using that codebook, they coded the remaining entries for their assigned participants in two batches (first half, then second), meeting between batches to refine definitions and merge or split overlapping codes as necessary. They then coded the rest of the corpus in parallel while continuing to update the evolving codebook. Finally, the research team jointly reviewed the codebook, reconciled coding discrepancies, and iteratively refined it until consensus was reached; any disagreements were resolved through discussion.

4 Results

Through our analysis of the Design Session and Diary Study data, we identified everyday *contexts* in which support was perceived as needed, along with the *support* participants hoped to receive in those moments (summarized in Tables 2–8). Rather than listing individual codes in isolation, we present four interpretive themes that integrate related contexts and support needs into coherent narratives. These themes move beyond descriptive codes, enabling deeper analysis of the situational and relational dynamics of support needs. Notably, while patients and supporters often shared an understanding of these situations and needs, challenges arose in putting that understanding into practice. The following five themes, each presented as a subsection, unpack how such challenges emerged and how ED patients and their supporters navigated challenges around support in daily life.

4.1 Support Needs Preceding and Following ED Behaviors

Participants frequently described moments of vulnerability that occurred not only during ED behaviors, but also in the moments that came just **before**. These included anxieties around meals (Table 2 **PC1 PC2**), urges to ED behaviors (Table 2 **PC4 PC6**), late-night restlessness (Table 3 **PC12**), and preoccupations and emotional unease related to body image and food (Table 3 **PC10 PC11**). These support needs were especially pronounced when alone. Participants expressed an urgent desire for support in these windows, which felt pivotal in determining whether they would engage in disordered behaviors.

These moments were not merely warning signs but potential inflection points. Participants emphasized that even small, well-timed interventions could disrupt harmful trajectories. They expressed a desire for practical forms of support such as meal planning and preparing food together (Table 5 **PS1**), or physical intervention strategies that disrupted escalating binge or purge urges, such as interrupting preparatory actions or helping limit food access (Table 5 **PS2**). Cognitive strategies were also identified as potentially helpful. Participants hoped for support that could help challenge

Category	Code	Diary example	ED Type	Desired Support
Meal-Related Concerns				
	PC1 Worrying around meals – Fear or binge eating	<i>On my way to the convenience store, I was thinking about what to buy, but I felt anxious that I might just start throwing anything into my basket, binge, and then purge. (P3)</i>	AN, BN, BED	PS1 PS2 PS12
	PC2 Worrying around meals – Fear of weight gain*	<i>I want to eat potato pancakes, but I couldn't because I was afraid my weight would go up. If someone had reassured me that it was okay to eat, it would have helped. (P11)</i>	AN, BN, BED	PS3 PS5 PS12
Symptom Urges & Behaviors				
	PC3 Fasting or severely restricting intake*	<i>I know the reason for binge eating is because I skip meals and fast for too long. If someone could reassure and persuade me at that point, it might change my mind. (P18)</i>	AN, BN, BED	PS3 PS5 PS6 PS12
	PC4 Experiencing strong urges to binge or chew and spit*	<i>I need support when binge urges come. I already know all the information [about what to do]. I've studied it. But unless I act on it, it's useless. What I need is emotional support that gives me the will to try. (P14)</i>	AN, BN, BED	PS2 PS3 PS5 PS7 PS12 PS15
	PC5 Binge eating or chewing and spitting*	<i>Kept taking food from the fridge and eating even though I wasn't hungry. Afterwards, I regretted it, was physically uncomfortable, and felt further down... (P18)</i>	AN, BN, BED	PS2 PS3 PS8
	PC6 Dilemma about compensatory behaviors after normal/binge eating*	<i>After eating at night, I often feel regretful. In those moments, I want to know healthy alternatives I can do instead of vomiting. (P8)</i>	AN, BN, BED	PS3 PS5 PS6 PS12 PS13
	PC7 Compulsive exercise behavior*	<i>I exercise almost compulsively, and I want to know if this is okay and get feedback. When my exercise becomes excessive, I'd like to be alerted –like a message telling me I've gone beyond today's limit. (P12)</i>	BN, BED	PS3 PS8 PS15

Table 2: Patients' contexts **PC where patients and social supporters perceived support needs, with associated ED types and support for patients **PS**. An asterisk (*) denotes themes identified by both patients and supporters, while a double asterisk (**) denotes themes identified exclusively by supporters. The detailed descriptions of each **PS** are provided in Tables 5 and 6.**

distorted beliefs about eating or body image (Table 5 PS3). Some participants also viewed reminders of the health risks associated with ED symptoms (Table 5 PS5) as potentially beneficial. They also wanted emotionally anchored support (Table 6 PS12). Others hoped for support that could help them fall asleep without engaging in ED behaviors (Table 6 PS10), reduce exposure to triggering online content (Table 6 PS11), redirect attention away from obsessive food thoughts (Table 6 PS7), or promote early recognition of urges before behaviors occurred (Table 6 PS8).

In addition to support aimed at preventing ED behaviors, participants described the moments **following** such behaviors as critical periods of vulnerability. These post-behavior windows were often marked by emotional crashes (Table 3 PC8) and physical discomfort (Table 3 PC9), during which participants struggled to manage shame, guilt, or bodily exhaustion.

In these moments, they sought emotionally grounded support that could offer comfort and reassurance (Table 6 PS12), and

empowering messages that encouraged renewed commitment to recovery (Table 6 PS13). Participants also hoped for practical suggestions to recover from the physical toll of the behavior, such as hydration, rest, or soothing routines (Table 5 PS6), that could help them stabilize without slipping into further negative spirals. Rather than punishment or correction, participants emphasized the need for gentle, recovery-affirming support that acknowledged their struggle while helping them move forward.

Importantly, participants emphasized that the value of these diverse forms of support did not lie in their content alone, but in their *timing*. The support was viewed as most effective when offered just before an ED behavior began to unfold, as a way to interrupt or reorient the moment. These forms of support were not framed as solutions, but as ways to help participants remain connected to their recovery goals and intentions when they felt most vulnerable.

Category	Code	Diary example	ED Type	Desired Support
Post-Symptom Struggles				
	PC8 Experiencing emotional difficulties after ED symptoms*	<i>She feels overwhelming guilt after purging, and in those moments, I believe she needs emotional support that can help calm her mind...the support she needs is emotional care. (S2)</i>	AN, BN, BED	PS5 PS8 PS12 PS13
	PC9 Experiencing physical difficulties after ED symptoms	<i>I feel so anxious because my digestion is barely working. After long periods of fasting and restriction, my digestive function has deteriorated so much that I can't even sleep at night. I want knowledge on how to restore my digestive system... (P11)</i>	AN, BN, BED	PS6
Cognitive/Psychological Preoccupation				
	PC10 Persistent preoccupation with weight/shape/food/eating*	<i>When I am alone, thoughts of food and urges become stronger. It's painful because I know if I eat, I'll end up vomiting. (P7)</i>	AN, BN, BED	PS2 PS3 PS7 PS12 PS14
	PC11 Exposure to triggering, idealized body-related media*	<i>When I see extremely skinny celebrities or articles that glorify harsh dieting, I feel swayed. If there were a way to automatically counter or filter such content, I would feel less vulnerable to it. (P4)</i>	AN, BN, BED	PS3 PS4 PS11
Physical Challenges				
	PC12 Sleep disturbance leading to ED symptom urges*	<i>I usually chew and spit at night, and on the rare nights I don't, I feel an emptiness when trying to fall asleep. In those moments, I wish I had sleep strategies tailored specifically for ED patients. (P13)</i>	AN, BN, BED	PS10
	PC13 Physical dysfunction due to anorexia nervosa*	<i>When health gets so bad that life is at risk, patients can barely hold themselves up and often need constant help from caregivers. (P15)</i>	AN	PS4 PS9 PS12
	PC14 Experiencing physical discomfort during recovery*	<i>My digestion is weak, so I constantly feel bloated and cannot bear the appearance of my swollen stomach. I feel I must purge to be at ease, both physically and mentally.(P21)</i>	AN, BN	PS4 PS6 PS12

Table 3: Patients' contexts PC where patients and social supporters perceived support needs, with associated ED types and support for patients PS. Annotation conventions (e.g., * and **) follow those introduced in Table 2.

4.2 Seeking Encouragement and Hope to Sustain Recovery

Patients emphasized the significance of receiving encouragement throughout their recovery process, not just during acute crises but also in quiet, uneventful moments. Small milestones, such as eating a full meal or resisting an urge, held deep personal meaning (Table 4 PC18). Participants hoped for support that would affirm these moments, helping them sustain motivation and feel seen in their efforts (Table 6 PS13). They viewed affirmation not simply as praise but as a recognition of internal progress that was often invisible to others.

However, such encouragement was rarely received. While patients expressed a desire for supportive comments about their efforts (Table 6 PS13), supporters in our study did not mention offering these forms of support. This implies the absence of such gestures was not due to a lack of care, but rather to a lack of awareness that

they were needed or meaningful. Meanwhile, both group participants also expressed interest in connecting with recovery-oriented peer communities (Table 6 PS15), especially those that could provide encouragement or a sense of shared progress. Furthermore, participants expressed hope for accessing stories from others who had recovered (Table 6 PS17) as a way to maintain a sense of hope and direction during difficult times. These narratives were seen not only as aspirational, but also as grounding and as evidence that recovery was possible even if nonlinear.

Collectively, these accounts show how encouragement, when delivered authentically and attuned to small but meaningful steps, was viewed as a valuable emotional resource. Patients sought this encouragement not merely as praise or external validation, but as a form of relational visibility, a recognition of internal, often unnoticeable efforts that are rarely acknowledged in daily interactions. Especially in a recovery process marked by non-linear progress, participants emphasized how such affirmation made them feel *seen* and *supported*, even in small, seemingly trivial moments.

Category	Code	Diary example	ED Type	Desired Support
Barriers to Support-Seeking				
	PC15	Barriers to seeking formal help*	AN, BN, BED	PS11 PS12 PS13
	PC16	Barriers to seeking informal help**	AN, BED	PS12 PS15
	PC17	Moments of waning motivation for treatment**	AN, BN, BED	PS3 PS13 PS17
	PC18	Small recovery milestones	AN, BN	PS13
	PC19	Social withdrawal and avoidance*	AN, BED	PS12 PS16

Table 4: Patients' contexts PC where patients and social supporters perceived support needs, with associated ED types and support for patients PS. Annotation conventions (e.g., * and **) follow those introduced in Table 2.

4.3 Opposing Shifts in Support Engagement Following Misalignments: Withdrawal vs. Intensification

We observed that most support needs and relevant situations were recognized by both patients and supporters, suggesting a shared understanding of when support might be needed and what forms of support could be helpful. **However, this shared awareness did not always translate into smooth supportive interactions.** Instead, challenges often arose in the enactment of support, where mismatches emerged around timing, interpretation, and capacity. For example, patients frequently described various internal and affective difficulties where they sought support (Table 2 PC1 PC2 PC4 PC6, Table 3 PC8 PC10, Table 4 PC17). However, because such internal struggles rarely manifested as visible behaviors, supporters lacked cues to recognize when help was needed. As a result, supporters often had to rely on external signs, such as changes in eating patterns or physical appearance, to infer the need for support. This perceptual gap led to misaligned or delayed support.

In the face of these mismatches, patients and supporters exhibited opposing shifts in how they engaged with support. Patients

often responded by pulling back. They described deliberately masking distress to avoid burdening others (Table 4 PC16 PC19) and adopting burden-minimizing strategies: suppressing distress, downplaying their needs, or withdrawing from interactions altogether. These behaviors did not reflect a lack of need but rather a protective attempt to manage relational strain. As a patient explained, they avoided seeking help because they “*did not want to add to others' burdens*” (P7). Supporters, in turn, noticed these shifts, observing that patients “*kept trying to hide [their challenges] and eventually avoided interactions altogether*” (S1). Over time, such patterns contributed to a discontinuity in help-seeking, where genuine needs remained unspoken or prematurely withdrawn.

By contrast, supporters often reacted to the same misalignments by intensifying their efforts. Rather than disengaging when support did not seem to work, they described increasing their efforts by trying additional strategies, seeking new information, or becoming more involved in the care process. One supporter reflected, “*At first, I tried offering empathy and comfort, but when that didn't seem to help, I began looking for solutions related to eating disorders and kept trying different approaches one after another*” (S1). This account

Category	Code	Diary Example	ED Type	Context
Instrumental Support				
	PS1 Meal planning and preparing together	<i>While preparing breakfast, I want to know whether the menu or cooking method is suitable for me, or get recommendations for what might be better. I think this would motivate me to eat more consistently and make me feel less alone. (P20)</i>	AN, BN, BED	PC1
	PS2 Physical intervention to prevent binge or purge behaviors	<i>... Impulsive buying happens mostly when the patient's alone. If I were there, I could have stopped her — but since she can't regulate herself alone, it would help to have a digital intervention that steps in to interrupt the situation. (S10)</i>	AN, BN, BED	PC1 PC4 PC5 PC11
Cognitive and informational support				
	PS3 Cognitive restructuring of eating- and body-related concerns	<i>When I look at my body and it seems fat, I feel an urgent need for cognitive therapy... I wish technology could warn me when I fall into that distorted view. (P12)</i>	AN, BN, BED	PC2 PC3 PC4 PC5 PC6 PC7 PC10 PC11 PC17
	PS4 Information on physical changes during recovery	<i>At the beginning of treatment, even a very small amount of food wouldn't digest, which was uncomfortable and difficult. ... Accurate information would help me realize it's part of recovery and move on. (P6)</i>	AN, BN	PC10 PC13 PC14
	PS5 Warnings about medical complications of ED symptoms	<i>Right after bingeing, when the urge to vomit comes up, I want reminders of the physical risks of purging... (P18)</i>	AN, BN, BED	PC2 PC3 PC4 PC6 PC8
	PS6 Coping suggestions tailored to physical condition	Refer to the diary example for PC9	AN, BN, BED	PC2 PC3 PC6 PC9 PC14

Table 5: Desired support PS for patients. Every code identified by both patients and supporters. Related patients' contexts PC are indicated; the detailed descriptions of each context are provided in Tables 2, 3, and 4. Preferred providers of each support, as stated by our participants, are shown in Supplementary Materials.

illustrates how misaligned support prompted escalation rather than withdrawal on the supporter side.

Together, these opposing patterns, with patients stepping back to avoid burden and supporters leaning in through intensified efforts, often introduced relational tension. Supporters' increased involvement did not always align with what patients felt able to receive, just as patients' withdrawal left supporters unsure about how to respond. These mismatches made it challenging for both groups to maintain supportive interactions over time, despite their mutual aim of contributing to the recovery process.

To address these divergent reactions, participants on both sides expressed a desire for support mechanisms that could better mediate these moments. Patients wanted subtle, low-effort ways to express their needs without initiating direct conversation (Table 6 PS16). Supporters hoped for gentler cues that could help them detect internal struggles (Table 8 SS3) and scaffolding to help them open difficult conversations (Table 8 SS7). Many also viewed caregiver validation (Table 8 SS4 SS5) and clear, situation-specific guidance (Table 8 SS2) as critical to sustaining their involvement without burnout. These accounts reveal how invisible struggles can fracture communication and produce opposite patterns of engagement, withdrawal and intensification, making sensitive, context-aware support vital for mutual understanding and relational resilience.

4.4 Coordination Breakdowns and Concentrated Responsibility

Supporter participants' accounts revealed that misaligned support was not only an interpersonal issue between patients and individual supporters, but also a coordination problem across the broader support network. In particular, many supporters described experiencing conflicts and uncertainties within the supporter network (Table 7 SC4), where responsibility for providing support became concentrated on a single person rather than being shared or coordinated.

Supporters frequently described feeling compelled to take on a primary caregiving role in the absence of coordinated involvement from others. As one supporter explained, "Other family members did not offer practical help and often reacted with anger. This prompted me to feel that I at the very least had to carry the work myself" (S10). Similarly, another noted, "I had to look after the friend because no one else understood the situation" (S2). These accounts illustrate how coordination breakdowns within the supporter network led to a concentration of responsibility, leaving one supporter to shoulder the majority of caregiving efforts.

Beyond providing direct support to patients, some supporters also described taking on an informal coordinating role to manage

Category	Code	Diary Example	ED Type	Context
Managing momentary triggers and states				
	PS7	Distraction from thoughts of food and eating	<i>I wish I had suggestions for activities that could redirect my focus to something else. (P7)</i>	AN, BN PC4 PC11
	PS8	Promoting timely self-awareness of emerging urges or disordered eating	<i>I often fail to notice my binge urges as they build up, but if I could get alerts based on body signals or app patterns, I could control myself. (P18)</i>	AN, BN, BED PC5 PC7 PC8
	PS9	Signaling physical difficulties to others	<i>If a patient has trouble moving or falls, I imagine a device that detects it and alerts a supporter. (P15)</i>	AN PC13
	PS10	Sleep support without ED behaviors	<i>Nighttime emptiness leads to binge episodes. I want sleep support such as calming/meditation tools so I don't binge before sleeping. (P18)</i>	AN, BN, BED PC12
	PS11	Filtering of triggering online content	<i>Exposure to diet/thinness SNS makes comparison worse. I want a tool that hides appearance-focused content. (S5)</i>	AN, BN, BED PC10 PC15
Relational Support				
	PS12	Emotional comfort and presence	<i>I just want someone to be present emotionally. (P7)</i>	AN, BN, BED PC1 PC2 PC3 PC4 PC6 PC8 PC11 PC13 PC14 PC15 PC16 PC19
	PS13	Recognition or reinforcement for ongoing recovery efforts	<i>I need praise for eating and encouragement to keep moving forward so progress doesn't fade. (P3)</i>	AN, BN, BED PC6 PC8 PC15 PC18
	PS14	Body-related compliments to support positive self-perception	<i>I struggle judging my body objectively, so reassurance that I look fine helps reduce distress. (P1)</i>	AN, BN PC11
	PS15	Support from online/offline self-help groups of people with ED	<i>She suffers alone; a peer community to share pain and support would help. (S5)</i>	AN, BN, BED PC4 PC7 PC16
	PS16	Scaffolding social engagement	<i>She avoids people due to anxiety; gentle structured connection could help her stay engaged. (S1)</i>	BED PC19
	PS17	Access of lived-experience recovery narratives	<i>Connecting adolescents with recovered adults may improve motivation for treatment. (S11)</i>	AN, BN PC17

Table 6: Desired support PS for patients. Every code identified by both patients and supporters. Preferred providers of each support, as stated by our participants, are shown in Supplementary Materials.

interactions between patients and others in their social environment. This included anticipating and mitigating potentially harmful remarks from other supporters within the patient's support network, where limited ED-specific understanding shaped supportive interactions. One supporter emphasized that everyday expressions, particularly during shared meals, could unintentionally trigger patients, explaining that “when family members, including grandparents, gather for meals, people without knowledge of eating disorders often do not know which expressions to avoid. Hearing such comments from relatives can become triggering for patients and even have adverse effects on recovery” (S11). Another supporter similarly reflected on the difficulty of navigating such interactions, explaining, “Parents would tell them to eat, while others commented on how thin they looked. I wished they could empathize without turning it into nagging or criticism” (S12). These experiences highlight how

supporters attempted to mediate interactions and align others' behaviors in the absence of shared norms or guidance, reflecting both coordination challenges (Table 7 SC4).

Over time, these coordination breakdowns contributed to a growing emotional burden among supporters (Table 7 SC5). As one supporter expressed, “I am exhausted and overwhelmed. I wish other family members could also help” (S10). Supporters described feeling responsible for maintaining a supportive environment while lacking adequate resources, authority, or shared understanding to do so effectively.

Importantly, supporters' accounts also pointed to unmet support needs arising from these coordination challenges. In particular, supporters expressed a need for mechanisms to better coordinate

Category	Code	Diary Example	ED Type	Support
Encountering ED behaviors				
	SC1	Witnessing ED-related behaviors or symptoms	<i>When I occasionally see her chewing and spitting, I get overwhelmed and confused... I wish there were a manual to guide me on what to do in such moments. (S1)</i>	AN, BED SS2
	SC2	Distress when relapse occurs after periods of stability	<i>I stayed in the hospital to take care of my child. Life there was uncomfortable and exhausting, but I endured it... However, once we came home, she began slipping back to her pre-hospitalization state...I need emotional support and encouragement ...to hold on with love and maintain hope. (S11)</i>	AN, BED SS4
Struggling with intervention decisions				
	SC3	Uncertainty about when and how to intervene	<i>I often do not know what I should do. I genuinely want to help, but I keep wondering, would this actually help, or would it only add more stress emotionally? (S1)</i>	AN, BN, BED SS1 SS2 SS3
	SC4	Conflicts and uncertainties within supporter network	<i>There's a friend in our group who has an eating disorder, and we've been worried... But I wasn't sure how much of what I know about her condition I should share with the others...We hold different levels of information, so I felt I needed to be careful... (S2)</i>	AN, BED SS1 SS6
	SC5	Emotional burden of caregiving*	<i>I check in on my younger sibling's meals every day because they have an eating disorder, but today I'm feeling especially exhausted and worn out. I wish someone could reassure me that I'm doing a good job and offer some comfort. (S7)</i>	AN, BED SS2 SS4 SS5

Table 7: Supporters' contexts SC where patients and social supporters perceived support needs, with associated support for supporters SS. Annotation conventions (e.g., * and **) follow those introduced in Table 2. The detailed descriptions of each SS are provided in Table 8.

the support network (Table 8 SS6), including clearer role alignment and shared guidance across family members or caregivers. They also highlighted the lack of actionable guidance for managing difficult interactions (Table 8 SS2) and the absence of mediation support to facilitate sensitive communication with patients and others (Table 8 SS7). Together, these findings suggest that coordination breakdowns were not merely relational tensions, but structural challenges that generated sustained burden and unmet support needs among supporters.

4.5 Specific, Just-in-Time Guidance for Supporters

Supporters consistently expressed a desire for guidance that extended beyond general education about eating disorders. While many emphasized the importance of foundational knowledge to improve their understanding of EDs (Table 8 SS1), they noted that such information was often unavailable or insufficiently actionable when concrete situations arose in everyday life. In practice, knowing general principles about eating disorders did not always translate into knowing what to do in the moment, particularly during emotionally sensitive or uncertain interactions. As a result, supporters sought guidance that was not only informative, but also

closely aligned with the timing and context of everyday interactions (Table 8 SS2). Rather than abstract advice, supporters wanted concrete examples of “what to say” or “how to act” in specific situations, which could help them navigate difficult interactions without escalating tension or causing unintended harm.

Importantly, supporters wanted this guidance to be timely and adaptive: not a static manual, but something they could draw upon in the moment. This included hopes for resources that could be accessed *just-in-time* when an issue arose, as well as mechanisms to help better interpret patients' status in situations where it was difficult to assess (Table 8 SS3). These reflections point to a broader desire for support systems that scaffold not only what to do, but also when and how to act, in ways that are attuned to both the patient's needs and the supporter's capacities.

5 Discussion

5.1 Rethinking Support in Everyday ED Recovery

We examine what the findings collectively reveal about the nature of support in everyday ED recovery. Rather than treating support as a set of discrete actions or interventions, we interpret the findings

Category	Code	Diary Example	ED Type	Context
Informational and educational support				
	SS1 Education to improve ED literacy and understanding*	<i>As another caregiver, I noticed that caregivers often speak emotionally without thinking. To be more thoughtful, they would need to learn about eating disorders, and an app that provided such information would be helpful. (S9)</i>	AN, BED	SC3 SC4
	SS2 Guidelines and feedback for supportive action*	<i>When she is restricting, I feel she needs to eat a little so it doesn't lead to a binge, but she refuses. I'm not sure how to persuade her or what the right approach is. (S10)</i>	AN, BED	SC1 SC3 SC5
	SS3 Reliable assessments of the patient's condition	<i>When my friend says her eating is gradually stabilizing, I feel the need to verify whether that information is actually true. (S2)</i>	AN, BED	SC3
Emotional support for caregivers				
	SS4 Emotional support to sustain supporters' engagement*	Refer to the diary example for SC5	AN, BED	SC2 SC5
	SS5 Support to prevent ED-related spillover onto supporters themselves	<i>While supporting the patient, I find myself unconsciously comparing myself to them or hesitating to eat. I think this is something only an expert can help me with. (S1)</i>	AN	SC5
Relational mediation support				
	SS6 Coordination of the support network	<i>When my friend's parents asked me about her condition,...I worried about how much I should share and what I should avoid. I wish I had guidelines that considered the parents' tendencies so I could communicate and support appropriately... (S2)</i>	AN, BED	SC4
	SS7 Mediation for supporter-patient communication	<i>When I asked my sister if she was okay, sometimes my sister reacts irritably, other times she seems anxious and wants contact. I wish there was a chatbot I could use to ask when to contact her. (S7)</i>	AN	SC3

Table 8: Desired support SS for supporters. Annotation conventions (e.g., * and **) follow those introduced in Table 2. Related supporters' contexts SC are indicated; the detailed descriptions of each context are provided in Table 7. Preferred providers of each support, as stated by our participants, are shown in Supplementary Materials.

as illustrating the ongoing work involved in sustaining supportive relationships in everyday contexts. This perspective highlights how difficulties in enacting support often stem from complex efforts to manage when, how, and whether support becomes visible and is acted upon. The following subsections elaborate on different aspects of this support work.

5.1.1 Support as the Management of Visibility and Timing. A central feature of this support work lies in how visibility and timing are managed in everyday interactions. Across the findings, whether support could be enacted consistently depended not only on the presence of personal struggles, but on whether those struggles became legible to others as moments requiring support and whether intervention was perceived as timely. Support rarely unfolded in response to clear triggers or explicit requests; instead, it emerged through tentative judgments about when struggles were sufficiently interpretable and when acting might be appropriate.

From this perspective, visibility alone was insufficient. Even when struggles surfaced, they were not always recognizable as

signals for intervention. ED participants often engaged in selective or partial disclosure, while supporters attempted to interpret limited or ambiguous cues in everyday interactions. This gap between what was visible and what was legible meant that struggles could remain unnoticed, be recognized only retrospectively, or be acknowledged without prompting action. As a result, support was frequently delayed, partial, or experienced as misaligned, despite shared intentions to help.

Timing was inseparable from this process of legibility. Moments when struggles became interpretable did not always align with moments when intervention felt possible or appropriate. Acting too early risked intrusion or misunderstanding, while acting too late risked irrelevance or missed opportunity. Support thus required ongoing calibration, such as monitoring cues, waiting, hesitating, and holding back, rather than decisive or immediate action. These efforts were not incidental but constituted a substantial part of the work involved in sustaining support.

This difficulty echoes prior work emphasizing that making a condition visible does not necessarily render it legible as a basis for

action [56]. In the context of ED recovery, challenges in support therefore reflect not individual lapses, but the inherent difficulty of aligning visibility, legibility, and timing in situations where struggles are largely internal and relational consequences are salient.

5.1.2 Support as Relational Risk Management. In addition to considerations of visibility and timing, the findings indicate that decisions around seeking or offering support were consistently shaped by concerns about relational risk. Support was rarely approached as a neutral or unequivocally beneficial act; instead, both ED participants and supporters anticipated the potential interpersonal consequences of disclosure or intervention. This aligns with prior work on social support communication showing that supportive acts often carry relational and interpersonal costs, influencing how support is perceived and enacted in interactional contexts [24].

From this perspective, hesitation around support reflects careful relational judgment rather than disengagement. ED participants often weighed whether sharing their struggles might alter how they were seen or strain valued relationships, while supporters considered whether intervening might overstep boundaries or undermine trust. Such considerations mirror accounts of social constraints on support, where concerns about relational consequences can shape both disclosure and response even in the presence of genuine care [40].

Relational risk further shaped how responsibility for support was distributed. In situations where needs were ambiguous, supporters frequently exercised restraint, recognizing that intervention could introduce unintended relational costs. Conversely, patients sometimes absorbed distress themselves to preserve relational stability, prioritizing the maintenance of relationships over the potential benefits of timely support. These dynamics position support as a form of ongoing relational work, involving continuous negotiation of boundaries, responsibilities, and consequences rather than discrete acts of assistance [44, 49].

Seen in this way, breakdowns or misalignments in support should not be interpreted as individual failures. Instead, they arise from the inherently relational nature of support in ED recovery, where care is enacted under conditions of uncertainty and potential interpersonal cost [65]. Support thus entails sustained efforts to balance responsiveness with restraint, as participants navigate when intervention may help and when it may risk disrupting the relationships on which recovery support depends.

5.1.3 Support as Ongoing Responsibility Negotiation. Our findings indicate that support in ED recovery involves ongoing negotiation over responsibility. Responsibility for initiating support and sustaining care was rarely fixed or clearly assigned. Instead, it shifted across situations and relationships, shaped by uncertainty about who should act, when action was appropriate, and how much involvement was warranted.

From this perspective, responsibility emerged as relationally produced rather than individually held. Supporters often hesitated to assume responsibility when expectations were not clearly articulated, while ED participants frequently moderated their own expectations of support to avoid placing demands on others. Through these interactions, responsibility was not transferred from one party

to another, but continually coordinated, deferred, or absorbed as part of maintaining everyday relationships.

Such negotiation was further complicated by the presence of multiple potential supporters and by blurred boundaries between informal care, peer support, and professional responsibility. In these contexts, decisions about who should respond and to what extent were shaped less by formal roles than by situational judgments and relational histories. Similar dynamics have been described in prior work on care as negotiated practice, where responsibility is sustained through ongoing coordination rather than stable allocation [44, 49].

This understanding also resonates with accounts emphasizing how responsibility can remain unspoken or diffuse through silence and non-action, rather than being explicitly claimed or assigned [59]. Viewed in this way, challenges in support do not stem from a lack of accountability, but from the difficulty of sustaining shared responsibility under conditions of ambiguity. Support in ED recovery thus entails ongoing efforts to negotiate who is responsible for noticing, responding, and caring—efforts that are central to how support is enacted in practice.

Across these accounts, we characterize misalignment in everyday ED recovery support not as disagreement about what support is needed, but as mismatches in (1) when struggles become legible, (2) how relational risks shape willingness to act, and (3) how responsibility for support is negotiated in practice.

5.2 Toward a Sustainable and Accessible Support Network

Given that support in ED recovery involves managing visibility and timing, navigating relational risk, and negotiating responsibility, we now consider what these dynamics imply for the design of digital support tools.

Everyday ED recovery unfolds over a long and fluctuating journey. Our findings highlight that recovery is not only an individual process but also a relational one, shaped by ongoing interactions and shared emotional challenges between patients and their social supporters. Our study extends current understandings of ED recovery by addressing the limited insight into how non-professional supporters navigate their roles and challenges in everyday life beyond the clinic [5, 21]. Participants often showed a broad shared understanding of when support was needed and what kinds of support might help. Yet, this shared awareness did not always translate into effective supportive action. Patients and supporters still struggled to enact support in ways that felt timely and aligned with everyday needs. This gap reveals that shared understanding alone is insufficient without accompanying scaffolds that help participants navigate when and how support can be enacted. Grounded in these findings, we discuss how digital interventions can help build a more accessible and sustainable support network for ED recovery, one that supports not only patients but also the informal supporters who accompany them through these everyday challenges.

First, determining what kind of support is needed and when to provide it was often difficult for informal supporters. A central reason for this difficulty was limited ED literacy, which made it challenging for supporters to distinguish helpful encouragement from actions that might unintentionally reinforce disordered behaviors.

Clinical ED treatment programs that involve non-clinical supporters often address this gap by offering structured guidance. For example, family-based therapy (FBT), which is primarily designed for adolescents and centers on parents as primary agents of care, provides families phase-specific roles and instructions [46, 62, 68]. Similarly, mentoring-based interventions that pair patients with recovered individuals include training on how to share experience-based strategies [41]. However, in everyday life, patients often rely on siblings, partners, or friends whose relational dynamics differ significantly from those assumed in FBT or mentoring programs. These informal supporters typically receive little to no structured preparation or support, despite playing a central role in daily recovery. This lack of structure highlights the need for frameworks that are inclusive of diverse relational roles and contexts. Although not all such frameworks must be digital, digital systems could serve as delivery mechanisms for adaptive guidance that is sensitive to each supporter's specific relationship to the patient. We suggest designers and clinicians could collaboratively develop tools that offer tailored guidance for informal supporters, helping them engage more confidently and appropriately in everyday recovery.

In addition, many patient participants described concealing their needs due to fear of burdening their social supporters. Because these needs were rarely expressed directly, supporters were left to interpret patients' conditions and preferences on their own, often without clear guidance. These relational tensions created situations in which patients became reluctant to seek support, while supporters tried to help in the absence of clear cues. Several supporters expressed a desire for tools that could help mediate communication during these moments of uncertainty. Prior research has explored computer-mediated communication between patients and their social supporters in other chronic care contexts [64]. However, our findings point to the need for mediation systems that are tailored to the unique moment-to-moment struggles of ED recovery, such as urges, body-related distress, or ambivalent motivation, as well as to the diverse relational configurations that exist between patients and their supporters. Such systems should help surface whether support is needed without requiring patients to repeatedly articulate distress, and help supporters offer care while reducing uncertainty and pressure. Such mediation should remain optional, privacy-preserving, and sensitive to the risk of unintended coercive communication.

Our findings also show that challenges are not limited to individual patient-supporter interactions. In some cases, patients were surrounded by multiple supporters. However, these individuals often lacked shared understanding of their respective roles or of how to coordinate their support. Several participants raised concerns about the absence of clear mechanisms to communicate effectively within the broader support network while still protecting the patient's confidentiality. This lack of coordination not only increased the emotional burden on individual supporters but also led to fragmented or conflicting approaches to care. We see this as an opportunity for digital systems to better facilitate coordination among supporters. For example, such systems could help supporters communicate how they plan to support the patient, share what they have noticed in terms of symptoms or behavior changes, and coordinate their respective roles, thereby making responsibilities

more explicit without rigidly assigning them. Meanwhile, such systems should respect the patient's boundaries while enabling more consistent and aligned forms of care.

5.3 Designing Digital Support for Daily ED Symptom Management

Our study revealed nineteen patients' contexts in which support was perceived to be needed, and seventeen kinds of support for patients that were considered potentially helpful. Participants hoped that digital tools could provide support in vulnerable moments. However, in practice, few existing systems offer timely, in-situ support that is tailored to such dynamic and context-dependent needs.

Several existing digital tools have attempted to fill this gap by supporting specific aspects of ED recovery. For instance, cognitive behavioral therapy (CBT)-based mobile applications offer psychoeducation and structured exercises to help users reframe harmful thoughts or track emotional triggers [2]. These tools aim to support cognitive and emotional regulation out of clinic. However, our findings suggest that patients often need *timely* scaffolding when distorted beliefs are triggered by situational or social cues, not only during planned moments of self-reflection. Extending CBT-based tools with mechanisms to detect or respond to situational context, such as just before meals, after stressful situations, or during exposure to triggering content, could enhance their relevance and effectiveness in daily use.

Beyond cognitive and behavioral scaffolding, our findings also surface post-symptom moments, such as emotional crashes and physical exhaustion, as critical but underserved windows of vulnerability. While many tools focus on preventing or tracking ED behaviors, there is a notable lack of interventions that support individuals in the aftermath of a lapse, helping them regain emotional stability, re-engage with daily life, and recommit to recovery without shame. By identifying these moments as distinct and recurring, our findings highlight a gap in existing systems and point toward the need for digital scaffolds that gently assist users in reorienting themselves after setbacks.

Another line of work has focused on moderating triggering online media, such as idealized body image or food-related videos [12, 15]. Our findings reaffirm the importance of this direction. Participants frequently described how unexpected exposure to such media intensified urges, reinforced body dissatisfaction, or disrupted recovery motivation. However, triggering content cannot always be reliably filtered in advance, and participants may still encounter harmful content despite technical safeguards. Thus, in addition to preventative filtering, our findings underscore the need for interventions that can offer grounding or reorientation after exposure, helping individuals recover emotionally and cognitively in the wake of digital triggers.

Furthermore, we emphasize that technologies designed to support individual-level challenges in ED recovery must not encourage overreliance. Digital tools should be developed and deployed with care, complementing rather than replacing clinical care or relational support, and recognizing the broader sociocultural and structural contexts in which ED recovery unfolds. We believe that the diverse vulnerable contexts and nuanced support needs identified in our

findings can serve as a critical starting point for the careful and contextually grounded design of such digital interventions.

Finally, not all support types are equally suitable for digital mediation. For example, some needs require physical co-presence, nuanced emotional attunement, or situational responsiveness that current digital systems might not replicate. Recognizing these limits is crucial to avoid overpromising technological solutions where human relationships remain irreplaceable. Future work should consider hybrid or complementary models that integrate digital scaffolds with in-person care.

5.4 Limitations

This study has several limitations. Our sample size was modest, which may not capture the full diversity of experiences across different cultural contexts and caregiving relationships. In particular, the relatively small number of social supporters compared to ED participants reflects the practical challenges of recruiting this population. Many individuals with EDs are reluctant to disclose their condition and seek help from others [3], and while online communities for ED individuals are relatively active, comparable spaces for their social supporters are scarce [27], which makes recruitment especially difficult. As a result, our findings related to supporter experiences may not capture the full diversity of caregiving roles.

Moreover, the social supporter participants varied in their relationships with ED individuals, ranging from family members and close friends to peers offering community-based support, which may have influenced how they perceived and described supportive roles and needs. This diversity provided complementary perspectives on support but may also limit the consistency of the supporter-related findings.

The findings were based on participants' diaries and interviews where they described their needs and envisioned forms of support, rather than evaluations of interventions; as such, the accounts reflect perceived and desired supports rather than validated effects. These limitations caution against broad generalization but also highlight directions for future work, including examining how the contextual and relational needs we documented manifest across more varied populations and through in-situ evaluations of digital interventions.

6 Conclusion

Eating disorder recovery often unfolds outside clinical encounters, marked by patient vulnerability and supporter uncertainty, yet little is known about the specific situations in which these needs arise or the kinds of support both groups hope to obtain. Motivated by this gap, our study examined the everyday contexts where patients and supporters sought assistance and how digital systems might offer support. We found that while patients and supporters often shared an understanding of when support was needed, actual support interactions were shaped by uncertainties about when, how, and what support to provide. These tensions often left patients hesitant to seek help and supporters unsure of how to act. Our findings underscore that ED recovery is not only an individual process but also a relational one, unfolding through moment-to-moment interactions in everyday life. By surfacing these shared moments of need and the challenges that accompany them, our study suggests

design opportunities for digital interventions that complement, rather than replace, human care by offering situationally aware scaffolds, facilitating communication between patients and their supporters, and extending recovery support beyond the clinical setting. As digital health tools become more context-sensitive and socially embedded, we call for future work that designs with, rather than solely for, the diverse relational ecologies of ED recovery.

Acknowledgments

We are deeply grateful to our participants for their willingness to share personal and sensitive experiences throughout the two-week study. Their contributions enabled us to gain insight into the everyday dynamics of ED-related challenges and to uncover opportunities for digital interventions that support ED recovery. This work was supported by the Institute of Information & communications Technology Planning & Evaluation (IITP) grant funded by the Korea government (MSIT) (No.2024-00444862, Non-invasive near-infrared based AI technology for the diagnosis and treatment of brain diseases), and the Institute of Information & communications Technology Planning & Evaluation (IITP) grant funded by the Korea government (MSIT) (No.RS-2025-02263169, Detection and Prediction of Emerging and Undiscovered Voice Phishing).

References

- [1] Jiska J Aardoom, Alexandra E Dingemans, Margarita CT Slof Op't Landt, and Eric F Van Furth. 2012. Norms and discriminative validity of the Eating Disorder Examination Questionnaire (EDE-Q). *Eating behaviors* 13, 4 (2012), 305–309.
- [2] Mojtaba Ahmadiankalati, Sabine Steins-Loeber, and Georgios Paslakis. 2020. Review of randomized controlled trials using e-health interventions for patients with eating disorders. *Frontiers in Psychiatry* 11 (2020), 568.
- [3] Kathina Ali, Louise Farrer, Daniel B Fassnacht, Amelia Gulliver, Stephanie Bauer, and Kathleen M Griffiths. 2017. Perceived barriers and facilitators towards help-seeking for eating disorders: A systematic review. *International Journal of Eating Disorders* 50, 1 (2017), 9–21.
- [4] American Psychiatric Association. 2022. *Diagnostic and Statistical Manual of Mental Disorders: Fifth Edition, Text Revision (DSM-5-TR)*. American Psychiatric Publishing, Washington, DC.
- [5] Pascal Antoine, Bérangère Flinois, Karyn Doba, Jean-Louis Nandrino, Vincent Dodin, and Marion Hendrickx. 2018. Living as a couple with anorexia nervosa: A dyadic interpretative phenomenological analysis. *Journal of Health Psychology* 23, 14 (2018), 1842–1852.
- [6] A. E. Becker, A. Hadley Arrindell, A. Perloe, K. Fay, and R. H. Striegel-Moore. 2010. A qualitative study of perceived social barriers to care for eating disorders: perspectives from ethnically diverse health care consumers. *The International Journal of Eating Disorders* 43, 7 (2010), 633–647. <https://doi.org/10.1002/eat.20755>
- [7] Raymond R. Bond, Maurice D. Mulvenna, C. Potts, et al. 2023. Digital transformation of mental health services. *npj Mental Health Research* 2 (2023), 13. <https://doi.org/10.1038/s44184-023-00033-y>
- [8] Virginia Braun and Victoria Clarke. 2012. *Thematic analysis*. American Psychological Association.
- [9] A. Buh, M. Scott, R. Kiska, S. G. Fung, M. Solmi, R. Kang, M. Salman, K. Lee, B. Milone, G. Wafy, S. Syed, S. Dhaliwal, M. Gibb, A. Akbari, P. A. Brown, G. L. Hundemer, and M. M. Sood. 2024. Impact of electrolyte abnormalities and adverse outcomes in persons with eating disorders: A systematic review protocol. *PLOS ONE* 19, 8 (2024), e0308000. <https://doi.org/10.1371/journal.pone.0308000>
- [10] F. M. Cachelin and R. H. Striegel-Moore. 2006. Help seeking and barriers to treatment in a community sample of Mexican American and European American women with eating disorders. *The International Journal of Eating Disorders* 39, 2 (2006), 154–161. <https://doi.org/10.1002/eat.20213>
- [11] M. Carey and C. Preston. 2019. Investigating the Components of Body Image Disturbance Within Eating Disorders. *Frontiers in Psychiatry* 10 (2019), 635. <https://doi.org/10.3389/fpsy.2019.00635>
- [12] Stevie Chancellor, Yannis Kalantidis, Jessica A Pater, Munmun De Choudhury, and David A Shamma. 2017. Multimodal classification of moderated online pro-eating disorder content. In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*. 3213–3226.
- [13] L. G. M. Cheung, P. C. Thomas, E. Brvar, and S. Rowe. 2025. User Experiences of and Preferences for Self-Guided Digital Interventions for the Treatment of Mild to Moderate Eating Disorders: Systematic Review and Metasynthesis. *JMIR Mental Health* 12 (2025), e57795. <https://doi.org/10.2196/57795>
- [14] Ryuhaerang Choi, Taehan Kim, Subin Park, Jennifer G Kim, and Sung-Ju Lee. 2025. Private Yet Social: How LLM Chatbots Support and Challenge Eating Disorder Recovery. In *Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems*. 1–19.
- [15] Ryuhaerang Choi, Subin Park, Sujin Han, and Sung-Ju Lee. 2024. FoodCensor: promoting mindful digital food content consumption for people with eating disorders. In *Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems*. 1–18.
- [16] Naver cop. 2018. South Korean Online Social Support Community for People with Eating Disorders. <https://cafe.naver.com/jahayun>. Accessed: February 6, 2026.
- [17] M. C. Daugelat, J. Pruccoli, K. Schag, and K. E. Giel. 2023. Barriers and facilitators affecting treatment uptake behaviours for patients with eating disorders: A systematic review synthesising patient, caregiver and clinician perspectives. *European Eating Disorders Review: The Journal of the Eating Disorders Association* 31, 6 (2023), 752–768. <https://doi.org/10.1002/erv.2999>
- [18] SM De la Rie, G Noordenbos, and EF Van Furth. 2005. Quality of life and eating disorders. *Quality of life research* 14 (2005), 1511–1521.
- [19] H. Dejong, H. Broadbent, and U. Schmidt. 2012. A systematic review of dropout from treatment in outpatients with anorexia nervosa. *The International Journal of Eating Disorders* 45, 5 (2012), 635–647. <https://doi.org/10.1002/eat.20956>
- [20] Anjali Devakumar, Jay Modh, Bahador Saket, Eric P. S. Baumer, and Munmun De Choudhury. 2021. A Review on Strategies for Data Collection, Reflection, and Communication in Eating Disorder Apps. In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems (CHI '21)*. Association for Computing Machinery, New York, NY, USA, Article 547, 19 pages. <https://doi.org/10.1145/3411764.3445670>
- [21] Michela Erriu, Silvia Cimino, and Luca Cerniglia. 2020. The role of family relationships in eating disorders in adolescents: A narrative review. *Behavioral sciences* 10, 4 (2020), 71.
- [22] Christopher G Fairburn, Suzanne Bailey-Straebl, Shawnee Basden, Helen A Doll, Rebecca Jones, Rebecca Murphy, Marianne E O'Connor, and Zafra Cooper. 2015. A transdiagnostic comparison of enhanced cognitive behaviour therapy (CBT-E) and interpersonal psychotherapy in the treatment of eating disorders. *Behaviour research and therapy* 70 (2015), 64–71.
- [23] David M Garner and Paul E Garfinkel. 1997. *Handbook of treatment for eating disorders*. Guilford Press.
- [24] Daena J Goldsmith. 2004. *Communicating social support*. Cambridge University Press.
- [25] K. Gorla and M. Mathews. 2005. Pharmacological treatment of eating disorders. *Psychiatry (Edmont (Pa. : Township))* 2, 6 (2005), 43–48.
- [26] Tiffany A Graves, Nassim Tabri, Heather Thompson-Brenner, Debra L Franko, Kamryn T Eddy, Stephanie Bourion-Bedes, Amy Brown, Michael J Constantino, Christoph Flückiger, Sarah Forsberg, et al. 2017. A meta-analysis of the relation between therapeutic alliance and treatment outcome in eating disorders. *International Journal of Eating Disorders* 50, 4 (2017), 323–340.
- [27] Laura Grennan, Maria Nicula, Danielle Pellegrini, Kelly Giuliani, Erica Crews, Cheryl Webb, Maria-Rosa Gouveia, Techiya Loewen, and Jennifer Couturier. 2022. “I’m not alone”: a qualitative report of experiences among parents of children with eating disorders attending virtual parent-led peer support groups. *Journal of Eating Disorders* 10, 1 (2022), 195.
- [28] Lala Guluzade and Corina Sas. 2024. Functionality and User Review Analysis of Mobile Apps for Mindfulness Eating and Eating Disorders. In *Proceedings of the 2024 ACM Designing Interactive Systems Conference (DIS '24)*. Association for Computing Machinery, New York, NY, USA, 1350–1371. <https://doi.org/10.1145/3643834.3661521>
- [29] Sanna Aila Gustafsson, Birgitta Edlund, Josefine Davén, Lars Kjellin, and Claes Norring. 2011. How to deal with sociocultural pressures in daily life: reflections of adolescent girls suffering from eating disorders. *Journal of multidisciplinary healthcare* (2011), 103–110.
- [30] Katherine A. Halmi. 2009. Salient components of a comprehensive service for eating disorders. *World Psychiatry: Official Journal of the World Psychiatric Association (WPA)* 8, 3 (2009), 150–155. <https://doi.org/10.1002/j.2051-5545.2009.tb00235.x>
- [31] Anja Hilbert, Hans W. Hoek, and Ricarda Schmidt. 2017. Evidence-based clinical guidelines for eating disorders: international comparison. *Current Opinion in Psychiatry* 30, 6 (2017), 423–437. <https://doi.org/10.1097/YCO.0000000000000360>
- [32] S. Hillege, B. Beale, and R. McMaster. 2006. Impact of eating disorders on family life: individual parents’ stories. *Journal of Clinical Nursing* 15, 8 (2006), 1016–1022. <https://doi.org/10.1111/j.1365-2702.2006.01367.x>
- [33] Adrienne S Juarascio, Megan N Parker, Madeline A Lagacey, and Kathryn M Godfrey. 2018. Just-in-time adaptive interventions: A novel approach for enhancing skill utilization and acquisition in cognitive behavioral therapy for eating disorders. *International Journal of Eating Disorders* 51, 8 (2018), 826–830.
- [34] KakaoTalk. 2025. KakaoTalk Online Social Support Chatroom for People with Eating Disorders. <https://open.kakao.com/o/gHeu70b>. Accessed: February 6, 2026.
- [35] Andrea E. Kass, Rachel P. Kolko, and Denise E. Wilfley. 2013. Psychological treatments for eating disorders. *Current Opinion in Psychiatry* 26, 6 (2013), 549–555. <https://doi.org/10.1097/YCO.0b013e328365a30e>
- [36] Alan E. Kazdin, Ellen E. Fitzsimmons-Craft, and Denise E. Wilfley. 2017. Addressing critical gaps in the treatment of eating disorders. *The International Journal of Eating Disorders* 50, 3 (2017), 170–189. <https://doi.org/10.1002/eat.22670>
- [37] Yubin Kim, Xuhai Xu, Daniel McDuff, Cynthia Breazeal, and Hae Won Park. 2024. Health-LLM: Large Language Models for Health Prediction via Wearable Sensor Data. arXiv:2401.06866 [cs.CL] <https://arxiv.org/abs/2401.06866>
- [38] Jaewook Lee, Andrew D Tjahjadi, Jiho Kim, Junpu Yu, Minji Park, Jiawen Zhang, Jon E Froehlich, Yapeng Tian, and Yuhang Zhao. 2024. CookAR: Affordance augmentations in wearable AR to support kitchen tool interactions for people with low vision. In *Proceedings of the 37th Annual ACM Symposium on User Interface Software and Technology*. 1–16.
- [39] T. M. Legenbauer and A. Meule. 2015. Challenges in the Treatment of Adolescent Anorexia Nervosa – Is Enhanced Cognitive Behavior Therapy The Answer? *Frontiers in Psychiatry* 6 (2015), 148. <https://doi.org/10.3389/fpsy.2015.00148>
- [40] Stephen J Lepore and Vicki S Helgeson. 1998. Social constraints, intrusive thoughts, and mental health. *Journal of Social and Clinical Psychology* 17, 1 (1998), 89–106.
- [41] Hannah Kate Lewis and Una Foye. 2022. From prevention to peer support: a systematic review exploring the involvement of lived-experience in eating disorder interventions. *Mental Health Review Journal* 27, 1 (2022), 1–17.
- [42] Peter Lindgreen, Kirsten Lomborg, and Loa Clausen. 2018. Patient Experiences Using a Self-Monitoring App in Eating Disorder Treatment: Qualitative Study. *JMIR mHealth and uHealth* 6, 6 (2018), e10253. <https://doi.org/10.2196/10253>
- [43] Deanna Linville, Erin Cobb, Fei Shen, and Suzie Stadelman. 2016. Reciprocal influence of couple dynamics and eating disorders. *Journal of marital and family therapy* 42, 2 (2016), 326–340.
- [44] Seymour Lipset. 2017. *Social organization of medical work*. Routledge.

- [45] Fenglin Liu, Tianyu Zhu, Xizhou Wu, et al. 2023. A medical multimodal large language model for future pandemics. *npj Digital Medicine* 6 (2023), 226. <https://doi.org/10.1038/s41746-023-00952-2>
- [46] James Lock and Daniel Le Grange. 2005. Family-based treatment of eating disorders. *International Journal of Eating Disorders* 37, S1 (2005), S64–S67.
- [47] Yuhan Luo, Peiyi Liu, and Eun Kyoung Choe. 2019. Co-Designing food trackers with dietitians: Identifying design opportunities for food tracker customization. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems*. 1–13.
- [48] Catherine McCombie, Hannah Ouzzane, Ulrike Schmidt, and Vanessa Lawrence. 2024. 'Physically it was fine, I'd eat what normal people do. But it's never like this in my head': A qualitative diary study of daily experiences of life in recovery from an eating disorder. *European Eating Disorders Review* 32, 1 (2024), 46–55.
- [49] Annemarie Mol, Ingunn Moser, and Jeannette Pols. 2010. *Care in practice: On tinkering in clinics, homes and farms*. transcript Verlag.
- [50] Rebecca Murphy, Suzanne Straebl, Zafra Cooper, and Christopher G Fairburn. 2010. Cognitive behavioral therapy for eating disorders. *Psychiatric Clinics* 33, 3 (2010), 611–627.
- [51] Inbal Nahum-Shani, Susan N. Smith, Bonnie J. Spring, Linda M. Collins, Katie Witkiewitz, Ambuj Tewari, and Susan A. Murphy. 2018. Just-in-Time Adaptive Interventions (JITAs) in Mobile Health: Key Components and Design Principles for Ongoing Health Behavior Support. *Annals of Behavioral Medicine* 52, 6 (2018), 446–462. <https://doi.org/10.1007/s12160-016-9830-8>
- [52] Daisy O'Neill, Max V Birk, and Regan L Mandryk. 2024. Unpacking norms, narratives, and nourishment: a feminist HCI critique on food tracking technologies. In *Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems*. 1–20.
- [53] Krisna Patel, Kate Tehanturia, and Amy Harrison. 2016. An exploration of social functioning in young people with eating disorders: a qualitative study. *PloS one* 11, 7 (2016), e0159910.
- [54] Janet Polivy and C. Peter Herman. 2002. Causes of eating disorders. *Annual Review of Psychology* 53, 1 (2002), 187–213. <https://doi.org/10.1146/annurev.psych.53.100901.135103>
- [55] Rebecca Puhl and Young Suh. 2015. Stigma and eating and weight disorders. *Current Psychiatry Reports* 17 (2015), 1–10. <https://doi.org/10.1007/s11920-015-0552-6>
- [56] James C Scott. 2020. *Seeing like a state: How certain schemes to improve the human condition have failed*. yale university Press.
- [57] H. Sharpe, S. Griffiths, T. H. Choo, M. E. Eisenberg, D. Mitchison, M. Wall, and D. Neumark-Sztainer. 2018. The relative importance of dissatisfaction, overvaluation and preoccupation with weight and shape for predicting onset of disordered eating behaviors and depressive symptoms over 15 years. *The International Journal of Eating Disorders* 51, 10 (2018), 1168–1175. <https://doi.org/10.1002/eat.22936>
- [58] M. Solmi, F. Monaco, M. Højlund, A. M. Monteleone, M. Trott, J. Firth, M. Carfagno, M. Eaton, M. De Toffol, M. Vergine, P. Meneguzzo, E. Collantoni, D. Gallicchio, B. Stubbs, A. Girardi, P. Busetto, A. Favaro, A. F. Carvalho, H. C. Steinhausen, and C. U. Correll. 2024. Outcomes in people with eating disorders: a transdiagnostic and disorder-specific systematic review, meta-analysis and multivariable meta-regression analysis. *World Psychiatry: Official Journal of the World Psychiatric Association (WPA)* 23, 1 (2024), 124–138. <https://doi.org/10.1002/wps.21182>
- [59] Susan Leigh Star and Anselm Strauss. 1999. Layers of silence, arenas of voice: The ecology of visible and invisible work. *Computer supported cooperative work (CSCW)* 8, 1 (1999), 9–30.
- [60] Sarah Swan and Bernice Andrews. 2003. The relationship between shame, eating disorders and disclosure in treatment. *British journal of clinical psychology* 42, 4 (2003), 367–378.
- [61] Lauren C Taylor, Kelsie Belan, Munmun De Choudhury, and Eric PS Baumer. 2021. Misfires, missed data, misaligned treatment: disconnects in collaborative treatment of eating disorders. *Proceedings of the ACM on Human-Computer Interaction* 5, CSCW1 (2021), 1–28.
- [62] Janet Treasure, Katie Rowlands, Valentina Cardi, Suman Ambwani, David McDaid, Jodie Lord, Danielle Clark Bryan, Pamela Macdonald, Eva Bonin, Ulrike Schmidt, et al. 2025. Digital augmentation of aftercare for patients with anorexia nervosa: the TRIANGLE RCT and economic evaluation. *Health Technology Assessment (Winchester, England)* 29, 31 (2025), 1.
- [63] O. Ulven, S. H. Stige, and Y. S. Danielsen. 2025. Premature termination of eating disorder treatment – a qualitative study of therapist perspectives. *Journal of Eating Disorders* 13, 1 (2025), 76. <https://doi.org/10.1186/s40337-025-01268-0>
- [64] Amanda J Wagg, Margie M Callanan, and Alexander Hassett. 2018. The use of computer mediated communication in providing patient support: A review of the research literature. *International journal of nursing studies* 82 (2018), 68–78.
- [65] Heather R Walen and Margie E Lachman. 2000. Social support and strain from partner, family, and friends: Costs and benefits for men and women in adulthood. *Journal of social and personal relationships* 17, 1 (2000), 5–30.
- [66] Caroline Wall, Victoria Hetherington, and Alan Godfrey. 2023. Beyond the clinic: the rise of wearables and smartphones in decentralising healthcare. *npj Digital Medicine* 6 (2023), 219. <https://doi.org/10.1038/s41746-023-00971-z>
- [67] H. Webb, M. Griffiths, and U. Schmidt. 2024. Experiences of intensive treatment for people with eating disorders: a systematic review and thematic synthesis. *Journal of Eating Disorders* 12 (2024), 115. <https://doi.org/10.1186/s40337-024-01061-5>
- [68] Jennifer Zinser, Nicola O'Donnell, Lucy Hale, and Christina J Jones. 2022. Multi-family therapy for eating disorders across the lifespan: A systematic review and meta-analysis. *European eating disorders review* 30, 6 (2022), 723–745.