



Iterative Design of Between-Therapy Session Interventions in Problem Solving Therapy

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Project Overview

A critical element of learning-based evidence-based psychosocial treatments is goal setting, yet adherence to out-of-session action plans (homework) is low. Between 20-50% of clients complete homework as assigned. The objective of the proposed research is to employ human-centered design (HCD) methods to identify challenges clients and clinicians face in the use of homework.

Aim 1: Discover Phase: Determine the clinician and client usability challenges in creating, tailoring and engaging with homework to fit client needs.

Aim 2: Design Phase: Identify methods to support client ability to adhere to homework. Design low fidelity prototypes and wireframes to elicit feedback from clients and clinicians about their experience interacting with the prototypes. We assess the acceptability, appropriateness and feasibility of the prototypes and interventions.

Population/Sample

Aim 1, Discover phase: We interviewed 7 therapists practicing Problem Solving Therapy (PST), Engage and Behavioral activation as social workers, faculty or community clinics. We interviewed 11 clients enrolled in a program delivering Problem Solving Therapy or Engage.

Aim 2, Design phase: We co-designed functionalities of a tool to support homework engagement with 13 therapists practicing therapies such as Cognitive Behavioral Therapy, Dialectical Behavioral Therapy, Acceptance and Commitment Therapy, Cognitive Processing Therapy, Problem Solving Therapy and Behavioral Activation. We interviewed 14 clients who were receiving mental health therapy and engaged in homework activities. We designed wireframes of a system to support setting and pursuing goals in mental health therapy and evaluated it with 4 therapists and 3 clients from the participants recruited in the design phase.

Key Findings

Discover Phase: (1) Both therapists and clients found it difficult to decide what issues to focus on in a therapy session for issues such as managing relationships, grief, or with setting goals while having health challenges that are difficult to control, like chronic pain. Therapists and clients had difficulty deciding how to scope and how to break down such issues that the client was facing. (2) Setting goals and identifying problems posed challenges for ensuring that the client felt ownership over the goals set and how they planned to implement the goals. Certain actions might interfere with client ownership, such as the therapist taking the lead over what gets decided in the therapy session. (3) The therapists stated a need to build background about the client better or sooner. This involved knowing the client's context, skills, and abilities to help them decide what issues to work on every week. Some therapists wanted the therapy to facilitate gathering more information about the client earlier on.

Design Phase: Through interviews with clients and therapists we co-designed the functionality of a prototype for a technology that can support clients and therapists in managing and pursuing mental health goal related activities. The type of functionalities for a mental health tool included: (1) capturing client experiences when engaging with homework outside of therapy in the moment, including the barriers the client experienced and what the client tried to do of the intended goal, (2) support for the client in identifying alternative solutions when encountering barriers in pursuing goals, such as receiving automated recommendations of other activities they could engage in to achieve their goal, or adjustments to their goal, (3) support for the client in communication with the therapist about the appropriateness of the goals set, and any support they might need in the moment.

Measures used

[Acceptability of Implementation Measure](#), [Feasibility of Implementation Measure](#), [Intervention Appropriateness Measure](#), [User Burden Scale](#)

Methods

Discover phase: We conducted interviews with clients and therapists assessing the challenges they encountered at different steps in the therapy process. Clients completed a 1-week diary study where they tracked their progress on homework and challenges they encountered.

Design phase: We conducted interviews with clients and therapists where we elicited solutions for the largest challenges they encountered while engaging with homework activities using a participatory activity including Miro boards (Image 1). We prototyped wireframes for a system to support homework activities and evaluated in interviews with clients and therapists.



Image 1: Elicitation of client and therapists largest challenges with homework, and generating solutions for challenges

Next steps

We are writing a manuscript including the findings from the design phase. We are continuing work on addressing one of the major challenges therapists encountered: capturing and understanding relevant barriers and experiences that clients encounter outside of therapy for their decision making, under and NSF Eager grant.

Recommended readings

Agapie, E., Areán, P. A., Hsieh, G., & Munson, S. A. (2022). [A Longitudinal Goal Setting Model for Addressing Complex Personal Problems in Mental Health](#). Proceedings of the ACM on Human-Computer Interaction, 6(CSCW2), 1-28.