Providing Better Help

Predicting strong therapeutic alliances to improve patient outcomes

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Overview:

- **Intended Audience :** Executives in charge of customer retention or customer experience at virtual therapy services that match patients to therapists, such as BetterHelp[1].

- Mental health includes our emotional, psychological, and social well-being. It affects how we think, feel, act, react. It also helps control how we handle stress, relate to others, and make choices. Mental health is important at every stage of life, from childhood and adolescence through adulthood. Mental and physical health are equally important components of overall health. Most people with mental health problems can get better with the help of therapy, treatment over time[2]. The first step is **getting help**.

  BetterHelp is the world's largest online therapy platform working towards making professional therapy accessible, affordable, and convenient — so anyone struggling with life's challenges can get help, anytime and anywhere through their platform from the licensed, trained, experienced, and accredited psychologists, therapists, clinical social workers and board licensed professional counselors.

- In this study, we would look at mental therapy and how the effectiveness of therapy is impacted by the relationship between the two main actors in any therapy - the therapist and the patient.

- Therapy is one powerful treatment option effective across a broad spectrum of demographics and mental health concerns[3]. Therapy can be life-changing, but how does it work? Therapists shepherd us through some of our most deeply personal, and oftentimes painful experiences. The process often seems mysterious and the outcomes sometimes seem miraculous.

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[1] https://www.betterhelp.com/
[2] About Mental Health, What Is Mental Health? | MentalHealth.gov, Recovery Is Possible | MentalHealth.gov
[3] The Therapeutic Alliance: How Your Client Relationship Impacts Outcomes | Blueprint

- The value of therapy can be heavily dependent on the quality of the relationship between patient and therapist, known as the **"therapeutic alliance"**. The therapeutic alliance represents the collaboration and partnership of the therapist and patient in working towards achieving the patient's mental health goals, and a strong therapeutic alliance results in improved patient outcomes. Two important indicators of therapeutic alliance strength include patient satisfaction with their care, and patient attendance to follow-up appointments (also known as retention).

- Currently, BetterHelp's service relies on therapist's availability and general patient preferences (such as therapist age and gender) to match patient-therapist pairs, rather than compatibility.

- We believe that implementing a system for matching patients to therapists based on therapeutic alliance will result in better patient experience and outcomes, as well as improved client retention and customer satisfaction and reviews.

- The goal of this project is to research what attributes of patients and therapists impact therapeutic alliance strength, to support the potential implementation of a system for matching patients to therapists based on predicted therapeutic alliance strength. The expected outcome of the research is to provide more effective therapy to our patients and to avoid patients having to see multiple therapists before finding the right fit. Improved patient experience results in improved **customer satisfaction**, retention, and better social media reviews.

Research Question:

The study mainly focuses on the following question:
- Does a higher therapeutic alliance between patients and therapists result in better patient experiences, as measured by patient retention rates, customer satisfaction, and therapist reviews?

Moreover, building on existing literature, the study will also establish in more detail the following question, as it applies within our business practice:
- Which measurable characteristics of patients' personalities and therapists' styles correlate with strong therapeutic alliance?

Keywords:

Therapeutic alliance / working alliance / therapeutic relationship refers to the strength of the collaborative dimensions of the therapist-client relationship[4, 5, 6]. It consists of three essential elements: agreement on the goals of the treatment, agreement on the tasks, and the development of a personal bond made up of reciprocal positive feelings.

Outcome of therapy is the efficacy, effectiveness, and efficiency of the therapy, performed by the therapists to treat certain mental conditions / psychiatric disorders[7, 8, 9].

Evaluation of psychotherapeutic processes has been difficult to establish its scientific validity, given the intangible nature of psychotherapy. Clinicians have a wide range of options in choosing outcome measures to use, including some measures that are free of cost. Using a measurement tool that has been empirically validated is recommended, though clinicians may also design tools specific to each patient. The same tool or tools should be used throughout treatment to allow reliable tracking of clinical change.

Alliance measures are the methodologies to assess the level of alliance and their correlations with the outcome[4]. Most of them are based on the theoretical assumptions previously described. Ex.
- Pennsylvania (Penn) scales
- Vanderbilt scales
- Toronto scales
- Working alliance inventory (WAI)
- California scales
- Therapeutic session report (TSR)
- Therapeutic bond scales (TBS)
- Psychotherapy status report (PSR)
- Agnew relationship measure (ARM)
- Kim alliance scale (KAS)

Patient / Customer satisfaction is the state of mind that patients/customers have about a company when their expectations have been met or exceeded over the lifetime of the service they received. The achievement of patient/customer satisfaction leads to company loyalty and positive reviews to bring more prospective customers.

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[4] [Therapeutic Alliance and Outcome of Psychotherapy: Historical Excursus, Measurements, and Prospects for Research - PMC](#)
[5] [What are validated tools to measure therapeutic alliance?](#)
[6] [Frontiers | Therapeutic Alliance and Outcome of Psychotherapy: Historical Excursus, Measurements, and Prospects for Research | Psychology](#)
[7] [The Outcome of Psychotherapy: Yesterday, Today, and Tomorrow](#)
[8] [Evaluation of psychotherapy. Efficacy, effectiveness, and patient progress](#)
[9] [Clinical guideline Using outcomes measures in outpatient psychotherapy](#)

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Study Design:

The proposed study design is an exploratory sequential mixed methods design, with an initial qualitative stage that will inform the second quantitative stage.

Part 1:
The initial stage will be open-ended interviews with both therapists and patients and possibly focus group sessions with patients. Participants will be selected using a stratification sampling strategy to ensure that diverse viewpoints are represented. Participants will be asked for their informed consent prior to the start of the study. We will not include any information on the consent form that might influence the way participants respond.

Prior to conducting the interviews, the research team will review existing online reviews of BetterHelp to understand the existing feedback of customers and to tailor the focus of the interviews and focus groups.

The interviews and focus groups will focus on identifying patient and therapist attributes that impact patient-therapist pairs' therapeutic alliance strength, as measured by the length of time and patients' satisfaction with the working relationship. Therapists and patients will be asked to reflect on their attributes, as well as the attributes of the patients and therapists they have worked with, that may have impacted therapeutic alliance strength. Through these interviews, we will capture the therapists' perspectives on both strong therapeutic alliances and weak therapeutic alliances that resulted in the patient seeking a new therapist or leaving therapy. We will also capture the patients' perspectives on strong therapeutic alliances and on weak therapeutic alliances that resulted in the patient seeking alternate care.

From the qualitative portion of this study, a set of patient and therapist attributes that may impact therapeutic alliance strength will be constructed.

Part 2:
The second stage of the study will consist of measuring patient attributes, therapist attributes, and the therapeutic alliance of patient-therapist pairs.

The patients and therapists included in this study will be paired according to existing BetterHelp processes, which rely on therapist availability and patient preferences for therapist age and gender. The sample will consist of new patient-therapist pairs selected using stratified random sampling. Participants will be asked for their informed consent prior to inclusion in the study.

The attributes of interest, which will be identified in part 1, will be quantified with patient and therapist participants using surveys. The therapeutic alliance of each patient-therapist pair will be measured after four sessions, or once the patient stops seeing the therapist (we will exclude patients who stopped seeing therapists due to other issues not related to the study, e.g. change of insurance, etc.), using a combination of patient experience surveys and data about patient retention.

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Data:

In the initial stage of this study, the following data will be collected:
- Existing qualitative data on current patient experience and perception, collected through social media posts, customer reviews, therapist reviews, and internal BetterHelp customer feedback.
- New qualitative data on attributes that may impact patient-therapist relationship, collected through interviews or focus groups with patients and therapists.

In the second stage of the study, the following data will be collected:
- The attributes identified in the initial stage of the study will be measured in participating therapists and patients using surveys.
- The age and gender of participants.
- The therapeutic alliance for each patient-therapist pair will be quantified using multiple metrics, including surveys based on existing alliance measure methodologies, BetterHelp's existing customer satisfaction and experience measurements, and BetterHelp's existing client retention analytics.

All data collected from individuals as part of this study will be de-identified to protect patient and therapist privacy and confidentiality.

Sample:

The population of interest for this study is all individuals who use **BetterHelp** for therapy, and the therapists they work with through that platform.

Part 1:
- Our sampling frame will consist of patients and therapists within BetterHelp's existing user and employee database.
- We will use a stratification sampling strategy to ensure diverse therapist and patient viewpoints are represented, and to ensure the insights from this portion of the study apply to the entire population of interest.
- 20-30 patients and 20-30 therapists will be interviewed in this portion of the study to give sufficient insight into our research question, without collecting excessive and redundant data[10].

Part 2:
- Our sampling frame will consist of existing BetterHelp therapists, and new BetterHelp patients who will be identified as users who have signed up for the service but who have not yet had any appointments with a therapist.
- We will use stratified random sampling to ensure our data set is representative of BetterHelp's user base, without over or underrepresenting specific attributes or specific therapists.

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[10] [Determining Sample Size For Qualitative Research](#)

- The sample size for this portion of the study will be dependent on the number of patient and therapist attributes to be analyzed. At minimum, 130 patient-therapist pairs will be included in order to construct our linear regression model. If more than 10 patient and therapist attributes are studied, an additional 8 patient-therapist pairs will be included per additional attribute. This sample size is based on Green's sample size formula[11] for regression, $N \geq 50 + 8p$, where p is the number of predictors.

Variables and/or Intervention:

As our study is observational, we do not need any intervention. For the second part of the study, we will study patient and therapist attributes, identified through the qualitative portion of the study. Below are a few examples, but not limited to, we would like to study in the first part of our study[12].

Patient Variables
- Age
- Gender
- Race / Ethnicity
- Education level
- Social Class
- Personality Traits
  - Coping Pattern
  - Responsiveness
  - Openness
  - Friendliness
  - Cooperation
  - Sensitive
  - Emotional
  - View towards life
- Prior Condition
  - Stress
  - Depression
  - Anxiety
  - Trauma
  - Loss

Therapist Variables
- Age
- Gender
- Race / Ethnicity
- Personality Trait

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[11] A New Sample Size Formula for Regression
[12] Evaluation of Psychotherapy. Howard et. al.

        ○   Openness
        ○   Friendliness
        ○   Values and beliefs
        ○   Cooperation
        ○   Empathy
        ○   Supportive
        ○   Warm
        ○   Cordial
        ○   Helpful
- Emotional Well-being

Statistical Methods:

The goal of part 1 of the study is to narrow down from the literature and from the interviewees a set of patient and therapist attributes that may impact therapeutic alliance strength. During each of the open-ended interviews, interviewers should take detailed notes. Following the interviews, the notes should be transcribed and transformed into a common set of ideas, and organized into clusters that contain similar themes. The team should then arrive at a consensus regarding which attributes would be most important, relevant, and measurable to be used in part 2 of the study.

In part 2 of the study, we will use linear regression analysis to build a descriptive statistical model that describes how the therapeutic alliance of a patient-therapist pair depends on the attributes of patients and therapists found in part 1. In order to more precisely assess the effect of the covariates on the outcome variable, we will account for age and gender of the patient and the therapist.

Potential Risks:

- **Data Bias:** Since the sampling frame is BetterHelp's database, findings from the data may not be applicable beyond Better Help, i.e. findings will only be applicable to Better Help patients and therapists. Also, during the interview process, the open ended questions need to be very clearly phrased to avoid any biases that may arise.
- **Over/underrepresentation of particular groups within the data**: If BetterHelp is popular with a certain gender and/or age, there's risk of other groups not being represented in the sample.
- **Sample size:** Some patients might not be willing to participate in the study if they think there's stigma associated with mental health. There is therefore a risk of not being able to analyze a sufficient sample size for both part 1 (qualitative) and part 2 (quantitative).
- **Stakeholder Expectation:** As this is an observational study, the outcome will not be immediate which might be concerning to stakeholders. Also, results of the study will need to be validated which might have extra time and cost implications.

Deliverables:

- The first part of the study will take an estimated **4 months**:
  - Apply for IRB (Institutional Review Board) approval.
  - Recruiting participants, reviewing current patient experience and perception (**1 month**)
  - Carrying out interviews (**1.5 months**)
  - Inductively analyzing data (**1.5 months**)
- The second part of the study will take an estimated **5 months**:
  - Recruiting participants (**1 month**)
  - Patient-therapist alliance formation period, collecting alliance data (**2 months**)
  - Analyzing quantitative data (**2 months**)
- The final deliverable will include:
  - Additional intake survey questions to determine the attributes of an incoming patient.
  - Onboarding survey questions to determine the attributes of therapists employed by BetterHelp.
  - A model to match patients to the therapist they are predicted to form the strongest therapeutic alliance with.
  - A report summarizing our findings, implementation, and expected impact.

Statement of Contribution:

- Srila Maiti
    - Contribution: Contributed in the initial brainstorming session, provided comments, feedback, shared ideas that can help, studying other research papers for therapeutic alliance and finalized the "Background, Overview and Keywords", Variables and/or Intervention sections, provided input for risk section, worked on the final presentation (Mental Health by numbers, BetterHelp, Therapeutic Alliance, Risk).
    - Group Experience: We had a meeting to discuss the final deliverables, sections to cover, areas to improve by incorporating the review comments from our instructor and peers. We discussed the timelines and who will be covering which section for the final deliverables. We all divided the work equally and contributed for the final report and the presentation. We also have shared constructive feedback to our team members thru comments and slack channel, helped to resolve the comments. Work in the group was productive, smooth and satisfying as we all had the ownership of the final product.
    - Proposed Improvement: The design could further be improved by using external validations to make the research study more robust.
- Daniele Grandi
    - Contribution: Helped define the research questions, participated in the initial brainstorming, provided comments and feedback throughout the writing process, attended office hours to get feedback, did a final read-through for typos and congruency, worked on the statistical methods section and the final presentation.
    - Group Experience: We agreed early and efficiently on the deliverables, meeting times, and on the division of labor. I felt like everyone contributed equally to the report and the presentation. Moreover, everyone had constructive feedback for others in the form of questions or comments in the text, and it felt like everyone had ownership of the project.
    - Proposed improvement: The study design could be improved by possibly seeking more explicit external validation of the model through an experiment.
- Kelianne Heinz
    - Contribution: Drafted initial outline of preliminary report, contributed in brainstorming and background information research, provided feedback and comments throughout, and finalized the data, sampling, and deliverables sections and created and spoke to the corresponding slides in the presentation.
    - Group experience: Working as a group was very productive and went smoothly. We had clear timelines and expectations, and divided the work fairly while still collaborating on each section. Everyone contributed to make the study design and implementation stronger.
    - Design Improvements: This design could be improved by relying more clearly on existing literature and research on measuring therapeutic alliance strength, as well as further investigating what metrics and data BetterHelp already collects

that may simplify our study processes. Additionally, it could include external validation to make the research more immediately useful.

- Laban Okune Anunda
    - Contribution: Contributed in the brainstorming session, especially offering design ideas including: using exploratory sequential mixed methods design, including focus groups in the qualitative stage, and excluding patients who stop seeing a therapist due to other issues not related to the study in the analysis. Added potential risk analysis. Edited the Study Design Section from draft to final version. Suggested that we seek IRB (Institutional Review Board) approval as the first thing before recruiting participants.
    - Group Experience: Working as a group was enjoyable. I appreciated how all members contributed ideas, delivered on assigned tasks and were engaged at team working sessions.
    - Design Improvements: The design could be improved by expanding the sampling frame beyond BetterHelp considering the target audience includes all virtual therapy services.