

# A Preliminary Study of Talkspace's Text-based Psychotherapy

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## Abstract

Psychotherapy has long been shown to be effective in treating a wide range of psychological and physical disturbances, but there are often many obstacles that prevent people from receiving treatment. One way around many of these obstacles is to use texting as an innovative means to deliver therapy. The study reported here found preliminary evidence for the effectiveness of Talkspace's text-based therapy as measured by retrospective and current general health outcomes. Initial findings show a nearly full point improvement in psychological well-being for 90% of those receiving treatment. It was also found that scores measuring the therapeutic alliance were slightly lower, but comparable with those found in traditional treatment settings. Study participants also reported high levels of satisfaction with the treatment they have received through text therapy, and cost effectiveness analyses indicate that text therapy is about 1/3 (i.e., 32.2%) the cost of traditional therapy for similar positive outcomes, with much reduced wait times of just under 3 hours until someone has contact with a therapist for a first session.

## Introduction

It has long been known that psychotherapy is a consistently effective mode for treating psychological and emotional disturbances (see Seligman, 1995 for a review) and that it often outperforms other kinds of treatments such as medication and support groups (Shedler, 2010a). Indeed, the effect size of psychological treatment is comparable to the reduction in suffering offered by common medical treatments in cardiology, geriatrics, vaccination virology, and ophthalmology (Minami et al., 2008).

There are a number of significant barriers to getting access to psychotherapy, including fear of stigma, a lack of time to receive treatment, and prohibitive costs, as well as systemic issues such as lack of access to adequate care. These obstacles tend to reduce seeking and obtaining treatment, which then perpetuate the economic and social costs of untreated illness (Collins et al., 2004).

Psychology is unique in comparison to other forms of medicine, because modern information and communication technologies offer a promising way to *directly* treat

psychological health problems and thereby overcome many or all of the traditional barriers to treatment (Hull, 2015).

A particularly interesting approach is text therapy. Texting is a readily available means for many people to have contact with a therapist. However, research is limited concerning whether therapy is still effective through the medium of texting as a primary means of therapy. Using Talkspace ([www.talkspace.com](http://www.talkspace.com)) to answer this important question, we studied the impact that text therapy had on symptom reduction. We also investigated the extent to which individuals participating in asynchronous text therapy were able to form the kind of relationship with their therapist known to be predictive of successful therapy (Horvath et al., 2011). Finally, we generated questions designed to gauge satisfaction with the service as a whole.

## **Methods**

We recruited 63 individuals who had been using Talkspace through an invitation provided by their therapist on the technology platform. Five participants were removed from the analyses due to incomplete data, leaving a subject pool of 58 individuals. We ensured that each individual had been using the service for at least three months and no more than four months in order to match the standard treatment of 12 to 16 weekly sessions in traditional therapy research. The actual sample average was 3.86 months using the service.

Participants were informed about the nature of therapy research and were asked to provide their consent to participate. Those who chose to participate used a hyperlink provided on the technology platform to get access to the online survey and questionnaires.

### *Effectiveness of Text Therapy*

To measure improvements in health through using the text therapy service we used the General Health Questionnaire - 12 (GHQ-12), which is a well-validated and standard instrument with good psychometric properties employed by physicians in hospitals and general practice or primary care settings (Aalto et al., 2012; Goldberg & Williams, 1978). Respondents were asked to indicate how frequently they experienced things like losing sleep over worry, feeling unhappy, or feeling incapable of facing up to their problems using a 5-point scale from 1 (Always) to 5 (Never). The reliability of this measure was excellent for this sample ( $\alpha = .908$ ).

Participants were asked to fill out a GHQ-12 for how they were doing retrospectively before starting therapy with Talkspace. There are logistical and psychometric advantages to using a retrospective measure as a pre-test. Primary among them is that people struggle to accurately self-report on their health until they experience what it is like to be feeling better (Pratt et al., 2000). As a result, non-retrospective pretests are not necessarily superior to those that are retrospective for a study that asks the kind of questions asked here.

After completing the retrospective GHQ-12, participants then completed the Working Alliance Inventory (WAI) described below in order to provide space between the retrospective GHQ-12 and the posttest GHQ-12.

### *Quality of the Therapeutic Relationship*

A wealth of research has documented the salubrious effect of a well-functioning therapeutic relationship on psychological health (see Wampold, 2010 for review). To measure the quality of the therapeutic relationship achieved through texting we used the Working Alliance Inventory (WAI; Horvath & Greenberg, 1989). This is a well-validated and frequently used measure that has also been shown to predict treatment outcome (Busseri & Tyler, 2003).

The WAI contains three subscales within it that emphasize different aspects of the relationship. The first is the Bond subscale, which measures the extent of the emotional and relational connection between the therapist and client. The second is the Task subscale, which measures the client's confidence in the tasks and work assigned by the therapist. The third subscale is the Goal subscale, which measures the extent to which the therapist and the client agree on the goals of psychotherapy. These three subscales can then be summed into an overall score that reflects the total quality of the working alliance.

Respondents were asked to indicate the extent to which they agree with statements such as, "I am clear on what my responsibilities are in therapy," "My relationship with my Talkspace therapist is very important to me," and "We agree on what is important for me to work on," using a 5-point scale from 1 (Strongly Disagree) to 5 (Strongly Agree). The reliability of this measure was excellent for this sample ( $\alpha = .854$ ).

### *Satisfaction with Text Therapy*

The survey concluded by asking several questions about the types of psychological services the participants had used prior to Talkspace text therapy, as well as the overall sense of how satisfied they were with the text therapy. Specific questions included how Talkspace compared to previous services in terms of its affordability, convenience, and effectiveness, and how satisfying their experience has been.

### *Cost Effectiveness of Text Therapy*

We looked at how much an individual would need to pay for services in order to achieve positive gains, controlling for similar effect sizes between traditional therapy and text therapy.

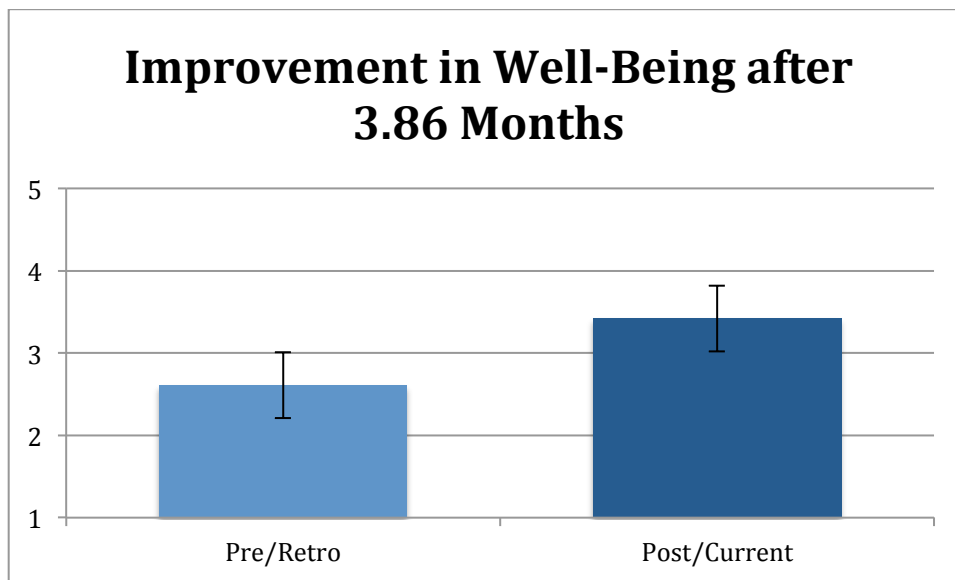
### *Wait Times for Text Therapy*

Wait times can often be a problem in getting access to therapeutic services. Text allows for the more rapid connection between an individual and a therapist given how it simplifies logistics and planning. Times to receive an initial consultation and time to receive a first therapy session were measured using the automated transactional database that keeps track of client interactions with the site.

## Results

### *Effectiveness of Text Therapy*

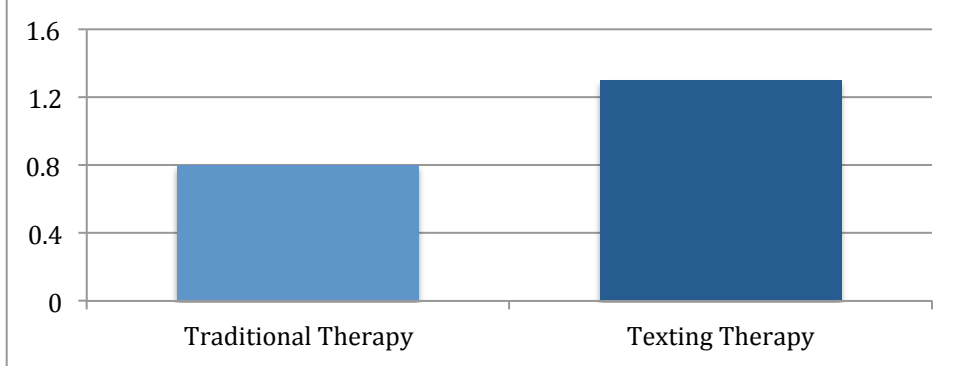
Retrospective pretest scores and posttest scores on the GHQ-12 were compared using a simple effects test and revealed that participants reported experiencing significantly more well-being after 3.86 months of text therapy ( $M = 3.42$ ,  $SE = .07$ ,  $p < .0001$ ,  $d = 1.3$ ), than before they started ( $M = 2.61$ ,  $SE = .09$ ). Pretest GHQ-12 levels of 2.61 indicate that, taken together, people in the sample reported feeling that they were doing well between Rarely (2) and Sometimes (3). Posttest GHQ-12 levels of 3.42 indicate that on average people in the sample reported feeling that they were doing well between Sometimes (3) and Most of the Time (4), a nearly full point increase after 3.86 months of text therapy treatment.



The Cohen's  $d$  parameter indicates the effect size and 1.3 is considered very large. Statistically speaking, an effect size of 1.3 indicates that 90% of those who received text therapy treatment would be doing better on average than those who received no treatment.

This amount of change between pretest and posttest is comparable with the effects reported for traditional psychotherapy (typical average of 0.80) (cf. Seligman, 1995; Shedler, 2010b for review), and perhaps tends towards the higher end of effects observed in this sample.

## Comparison of Effect Sizes for Traditional Therapy and Texting Therapy



Since 74% of our sample had received individual counseling previously, we analyzed them separately to see if there were any differences in the improvement experienced. The effect size was essentially the same for well-being measured after 3.86 months of text therapy ( $M = 3.40, SE = .08, p < .0001, d = 1.2$ ), than before they started ( $M = 2.67, SE = .10$ ). Recall that the effect size for the entire sample was 1.3.

Analyses could not be run only on those who had *never* received treatment of any kind, due to statistical limitations given the low number of participants who fit this criterion.

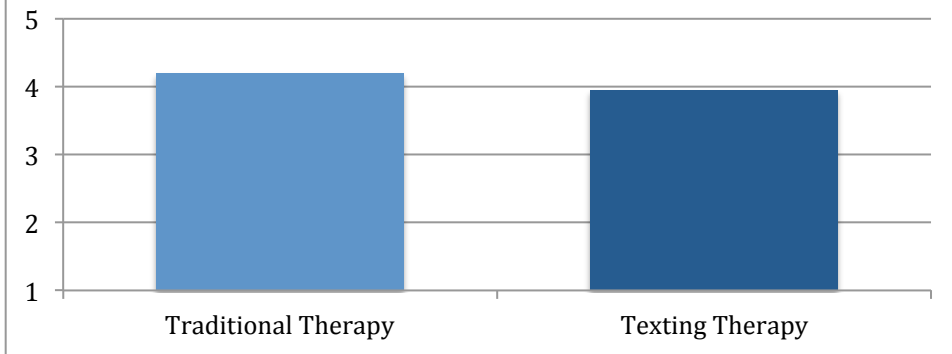
### *Quality of the Therapeutic Relationship*

Averages were computed for the three subscales of the WAI, as well as the overall scores. These are reported in the table below, along with average WAI scores as reported for traditional therapy in Busseri and Tyler (2003). The difference in real terms is slight. While WAI scores for text therapy are lower, none of them are more than about  $\sim 0.33$  of a point lower than the traditional scores, with the total difference being one quarter of a point. As a relatively new service and technology, simple steps could likely be taken to increase the Working Alliance scores that would perhaps bridge the gap even further.

Table 1.

<i>Working Alliance Inventory Scores for Text Therapy</i>		<i>Average Scores for Traditional Therapy</i>
Bond	4.05	4.24
Goal	3.80	4.14
Task	4.01	4.23
Total	3.95	4.20

## Comparison of Overall Alliance scores for Traditional Therapy and Texting Therapy

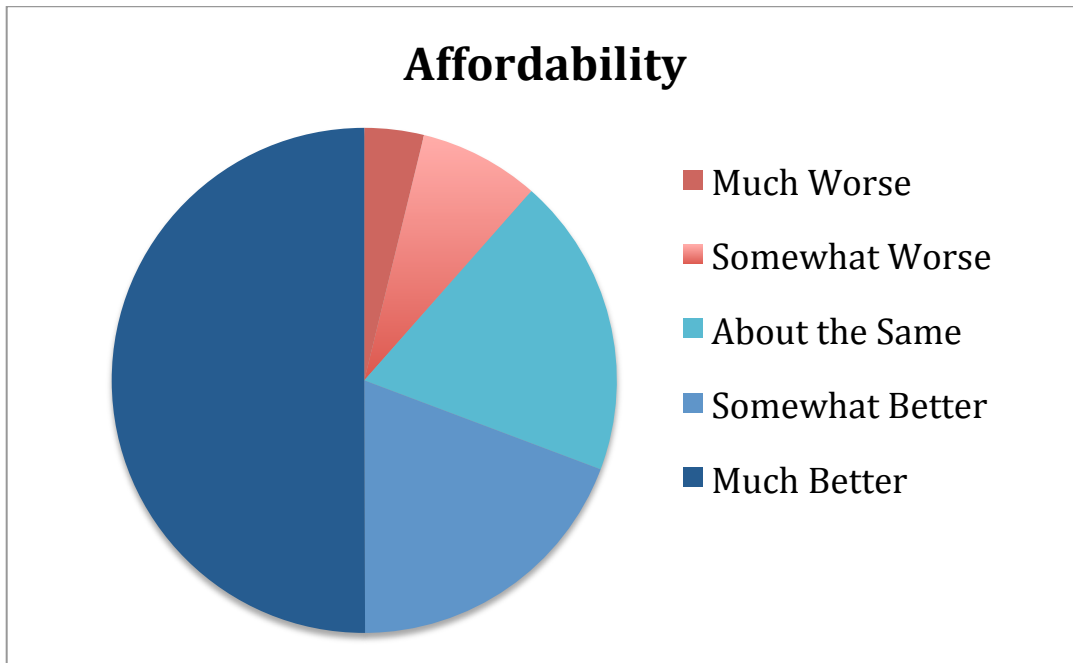


It is also interesting to note that scores on the WAI for text therapy are associated with health improvement and positive outcome, just as has been documented for traditional therapy (Busseri & Tyler, 2003),  $R^2 = .458$ ,  $F(2, 52) = 21.99$ ,  $p < .0001$ . Thus a more successful working alliance with the text therapist accounts for roughly half of the variance in the client's positive outcomes. WAI scores did not correlate with pretest scores ( $r(58) = -.142$ ,  $p = .291$ ,  $ns$ ). This is expected and also provides evidence that the retrospective health ratings were not overly tainted by the current relationship with the text therapist, to either bias pretest scores for or against the therapist.

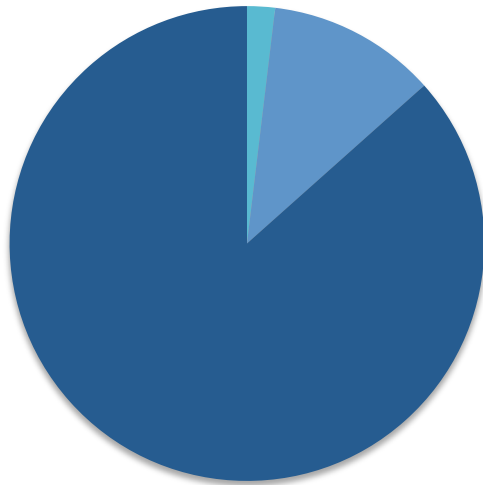
### *Satisfaction with Text Therapy*

Respondents were asked to rate their attitudes and experience with text therapy relative to other forms of treatment on a 5-point scale from 1 (Much Worse) to 5 (Much Better). The percentage of individuals who endorsed these ratings for each of the dimensions of therapy is provided below. The Cumulative percentage helps to identify the total number of users who think that text therapy through Talkspace is as good as or superior to other treatments they have tried.

Dimension	Much Worse	Somewhat Worse	Somewhat Better	Much Better	About the Same	Cumulative
Affordability	3.8%	7.7%	19.2%	50%	19.2%	88.4%
Convenience	0%	0%	11.5%	86.5%	1.9%	100%
Effectiveness	1.9%	17.3%	13.5%	34.6%	32.7%	80.8%
Right Kind of Help	1.9%	9.6%	19.2%	34.6%	34.6%	89.4%
Help Right When Needed	0%	3.8%	26.9%	53.8%	15.4%	96.1%
Making Progress on My Problem	0%	7.7%	26.9%	30.8%	34.6%	92.3%

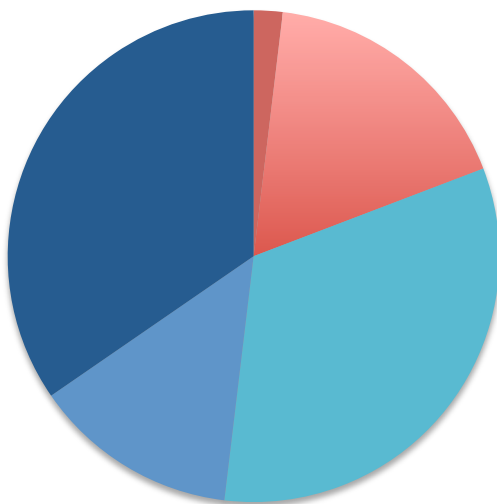


## Convenience



- About the Same
- Somewhat Better
- Much Better

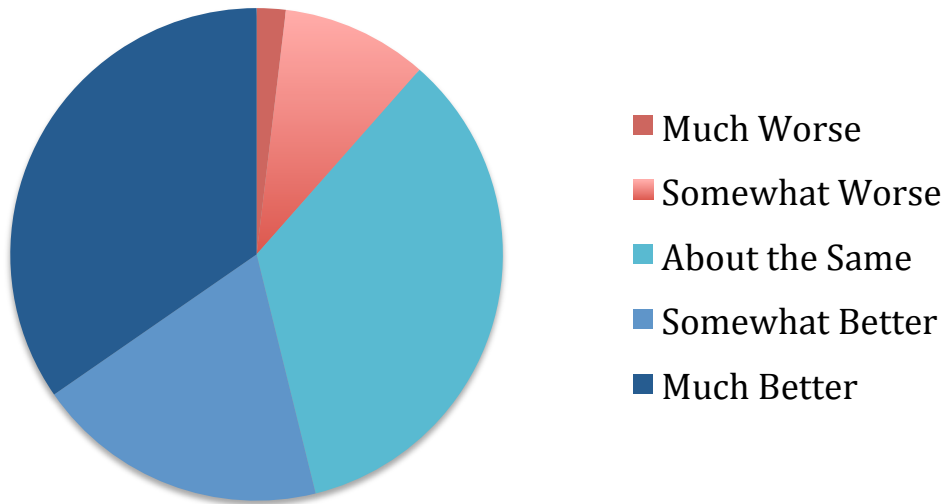
## Effectiveness



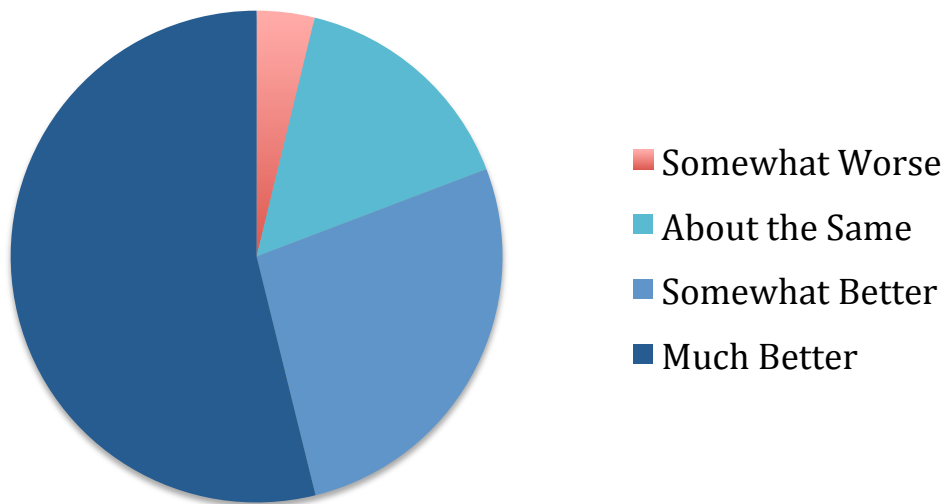
- Much Worse
- Somewhat Worse
- About the Same
- Somewhat Better
- Much Better



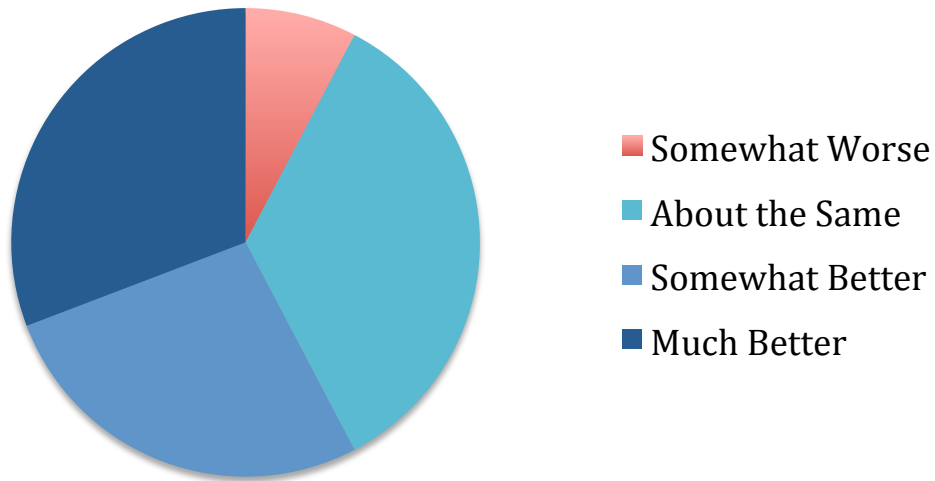
## Getting the Right Kind of Help



## Getting Help Right When Needed



## Making Progress on My Problem

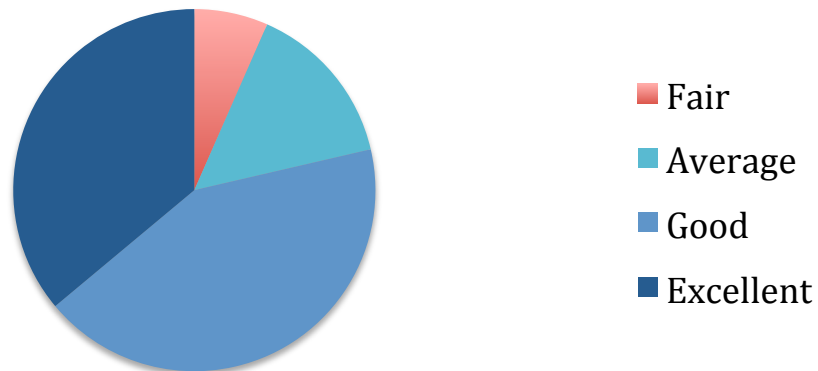


Next, several aspects of their overall levels of satisfaction with the service were measured using a variety of scales and are provided below.

“How would you rate the overall quality of your Talkspace experience?”

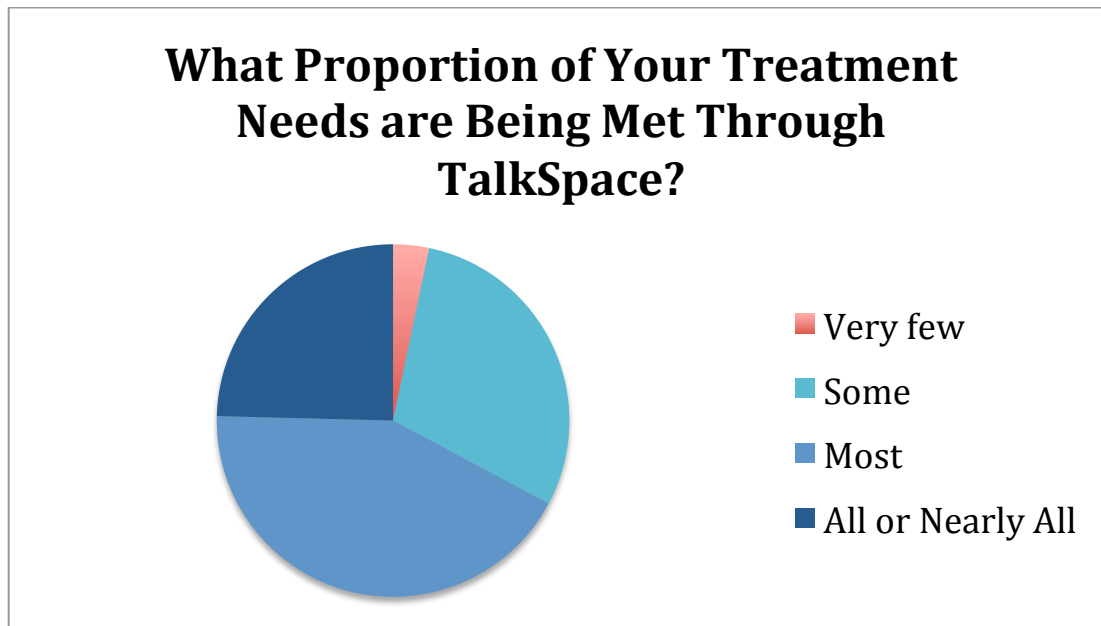
Response	Percentage
Poor	0%
Fair	6.6%
Average	14.8%
Good	42.6%
Excellent	36.1%

## Rate the Overall Quality of your TalkSpace Experience



“What proportion of your treatment needs do you feel are being met through Talkspace?”

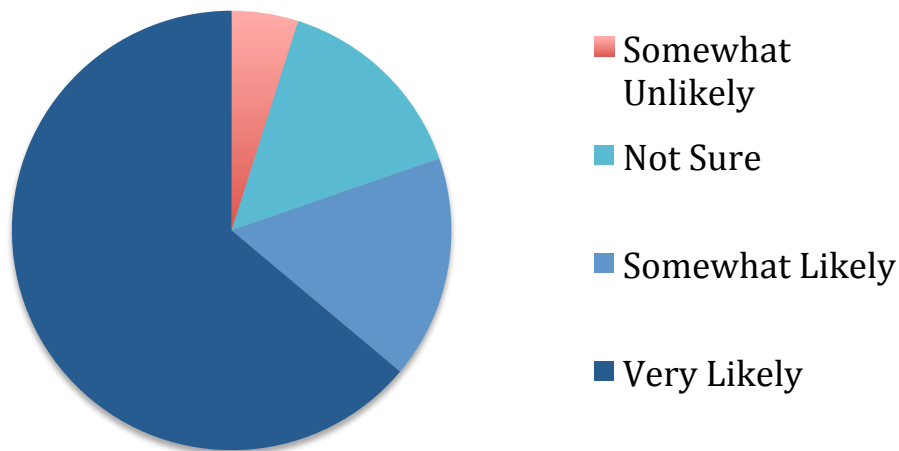
<b>Response</b>	<b>Percentage</b>
None	0%
Very Few	3.3%
Some	29.5%
Most	42.6%
All or Nearly All	24.6%



“How likely are you to return to Talkspace again in the event that you need help with a new problem?”

<b>Response</b>	<b>Percentage</b>
Very Unlikely	0%
Somewhat Unlikely	4.9%
Not Sure	14.8%
Somewhat Likely	16.4%
Very Likely	63.9%

## How Likely are You to Return to TalkSpace?

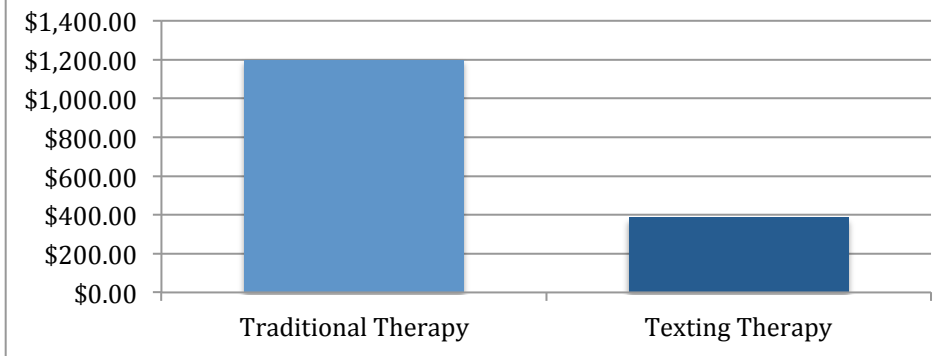


### *Cost Effectiveness of Text Therapy*

In the effort to create a rough estimate of the cost effectiveness of text therapy, we took the average for a weekly session of traditional therapy (i.e., \$80 per session, with some higher and some lower) and multiplied that by the 3.86 months that the respondents have been using text therapy. We then compared that to the cost of text therapy through Talkspace for the same time period.

While the effect size for text therapy reported here is somewhat greater than that reported for traditional therapy on average, we provided a conservative estimate by assuming that the outcome effect sizes for text therapy and traditional therapy are the same, thus holding effectiveness as a constant. As a result, we find that the cost for 3.86 months of traditional therapy (roughly 15 sessions) is around \$1,200, while the cost for 3.86 months of Talkspace text therapy is \$386. This puts text therapy at around 32.2% of the cost of traditional therapy for similar outcomes.

## Comparison of Cost Effectiveness for Traditional and Texting Therapy



### *Wait Times for Text Therapy*

Long wait times to receive psychological services are a major concern. They lead to client dissatisfaction, and increased drop out. Those who drop out before the first appointment often fail to seek help elsewhere (see Kerr et al., 2014 for review). Unfortunately, it is exceedingly difficult to identify an average wait time for traditional therapy as so many different kinds of services have vastly different wait times, and because this area is so lacking in research. Nevertheless, in looking at the wait times for text therapy, it seems unlikely that even the most responsive traditional treatment could connect individuals to services so readily. For this sample, it took 5.4 minutes on average for someone to receive a consultation as a first line of support. In another 2 hours and 40 minutes on average, individuals are put in touch with a therapist ready to receive texts.

### **Discussion**

Preliminary findings for the effectiveness of text therapy provided by Talkspace are promising. Strong, positive outcomes have been identified for this sample, and there is good evidence for acceptable levels of working alliance between clients and their text therapists. The quality of the working alliance is also correlated with positive outcome as expected given previous research on traditional psychotherapy.

There are several limitations to this study. First, there is a concern of sampling bias. Namely, we were unable to gather data from individuals who dropped out of treatment early or failed to continue. It also may be that those willing to respond to the study invitation are those most happy with the experience they have had. However, we do not know that that is the case, and people dissatisfied with a service frequently voice their complaints (as a small number of individuals in this study did,  $n=2$ ). Additionally, each of the variables measured in this study performed according to expectations in the wider therapy outcomes

literature and this provides some confidence that the sample is not systematically flawed, though it could still be much improved.

A second limitation was the inability to compare a treatment group against a control group. With such promising preliminary findings it may be desirable to conduct a more rigorous study of the effectiveness of text therapy using more sophisticated diagnostic tools and a more controlled design.

Third is the issue of using retrospective reports. However, since the measures used were self report, retrospective ratings are often more reliable than assumed (Pratt et al., 2000), though they still fall short when compared to more objective measures such as clinical interviews or observer ratings.

Lastly, while not strictly a limitation, it could be important to measure a third time point at follow-up to gauge the lasting effects of text therapy as a medium of treatment.

While other limitations exist in this study when compared to the efficacy studies of randomized controlled trials, an effectiveness study of this kind is often just as important, if not more so, in order to see the behavior of a particular therapeutic approach in the real world as it works among people with a variety of problems, dealing with a variety of situations (Seligman, 1995). This study is an important first step in assessing the utility and effectiveness of text-based therapy as offered by Talkspace.

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