

## Treating Major Depression by Creating Positive Expectations for the Future: A Pilot Study for the Effectiveness of Future-Directed Therapy (FDT) on Symptom Severity and Quality of Life

Jennice S. Vilhauer, Sabrina Young, Chanel Kealoha, Josefine Borrmann, Waguih W. IsHak, Mark H. Rapaport, Narineh Hartoonian & Jim Mirocha

Cedars-Sinai Medical Center, Los Angeles, CA, USA

### Keywords

Cognitive therapy; Future orientation; Future thinking; Major depressive disorder; Positive psychology.

### Correspondence

Jennice Vilhauer, Ph.D., Cedars-Sinai Medical Center, Department of Psychiatry and Behavioral Neurosciences, 8730 W. Alden Drive, Thalians W-101, Los Angeles, CA, USA.

Tel.: +(310) 423-2620;

Fax: +(310) 423-0114;

E-mail: vilhauerj@cshs.org

Received 28 June 2010; revision 4 October 2010; accepted 13 December 2010

doi: 10.1111/j.1755-5949.2011.00235.x

### SUMMARY

**Introduction:** This nonrandomized pilot study assesses the efficacy of a new future-oriented form of therapy, known as future-directed therapy (FDT), as a treatment for patients with Major Depressive Disorder (MDD) in a naturalistic hospital-based outpatient psychiatry clinic. The study measured symptom severity of depression and anxiety, in addition to quality of life pre- and posttreatment.

**Aims:** The study examined a new manualized treatment designed to help people anticipate a more positive future. The intervention consists of twenty 90-min group sessions administered twice a week over 10 weeks. The intervention was compared to depressed patients in the same clinic who enrolled in traditional cognitive-based group psychotherapy. Sixteen patients with MDD completed the FDT intervention as part of their outpatient treatment for depression. Seventeen patients with MDD participated in treatment as usual (TAU) cognitive-based group therapy. The Quick Inventory of Depressive Symptoms, the Beck Anxiety Inventory, and the Quality-of-Life Enjoyment and Satisfaction Questionnaire short form, self-report instruments were administered prior to and immediately after the completion of therapy.

**Results:** Patients treated with FDT demonstrated significant improvements in depression ( $P = 0.001$ ), anxiety ( $P = 0.021$ ) and quality of life ( $P = 0.035$ ), and also reported high satisfaction with the therapy. Compared to the TAU group, patients treated with FDT showed greater improvements in depressive symptoms ( $P = 0.049$ ).

**Conclusions:** FDT may have the potential of becoming an additional treatment option for patients with MDD.

### Introduction

Great strides have been made in the treatment of depression using cognitive therapy since its introduction in the 1950s [1]. Improvements in cognitive therapy are, however, dependent on advances in cognitive theory [2]. While a negative view of the future has been assumed to be a primary role in major theoretical cognitive models of depression [3], a robust finding has emerged from the literature, which shows that people with depression do not have greater negative views of the future than nondepressed people, but rather they produce fewer positive anticipations about the future [4–8]. This finding is not due to an inability to anticipate pleasure in general but rather a reduced ability to produce positive future expectancies [6]. Macleod et al. [6,7] concluded that positive and negative thinking about the future are not polarities of the same dimension but rather are orthogonal constructs.

In the past few decades, there has also been a significant increase in understanding how the brain operates mechanistically in a prospective and anticipatory manner [9,10]. Recent imaging studies show that brain regions responsible for optimism and positive anticipation show reduced functioning in depressed patients [11,12]. Given these findings, a model of future-oriented cognitive therapy that maps more closely onto this knowledge of cognitive process about future thinking may have promise as an alternative treatment for depression.

Thinking positively about the future and being able to anticipate positive outcomes has been consistently found to be related to positive well-being (e.g., [13–15]). The ability to direct behavior toward the future in a positive way is viewed as an acquired skill [16]. Related studies that have assessed critical components of future thinking such as planning, goal setting, and problem solving have found that those who are skillful in these areas demonstrate

greater sense of well-being (e.g., [17–20]) whereas other studies show that people with depression tend to have fewer of these skills [21,22].

Previous research with nonclinical samples has also shown that teaching people goal setting and planning skills can increase positive future thinking, self-reported subjective well-being, and reduce negative affect and hopelessness [23–26]. The application of these skills as a means to increase well-being in clinical populations has been limited. Ferguson et al. most recently utilized a goal setting and planning intervention with a schizophrenic forensic population and found the intervention reduced hopelessness and increased positive affect [27]. Others who have developed well-being interventions for patients with affective disorders have applied more traditional models of cognitive therapy to targeting improvements in quality of life [28] or automatic thoughts about well-being [29].

### FDT

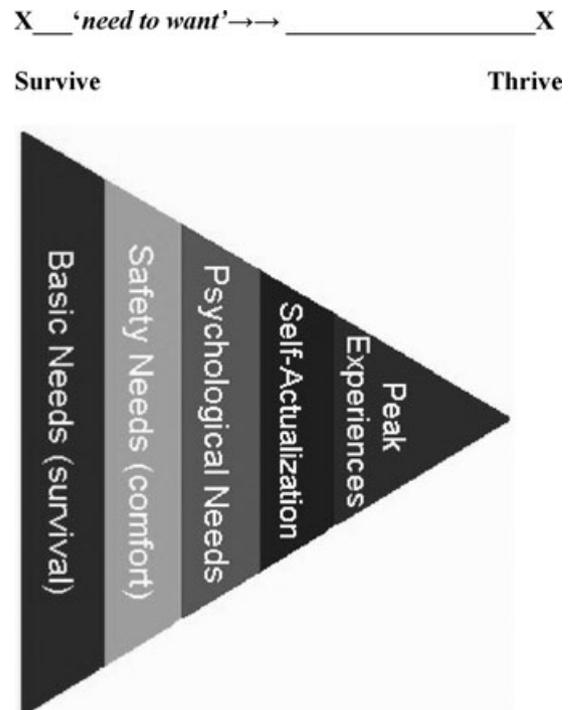
FDT is designed as a full clinical intervention intended to reduce symptoms of depression and improve well-being by promoting a paradigm shift from dwelling on the past, or highlighting one's limitations in the present, toward creating more positive expectancies about the future through the use of a comprehensive and well-defined set of skills.

While components of FDT are based on cognitive theory, embracing the idea that thoughts precede actions and behaviors, there are significant differences. Unlike traditional cognitive behavioral therapy (CBT), FDT does not require people to examine the accuracy or rationality of their thought process. FDT postulates that all thought process is rational from the private logic of the individual person, however, people may apply patterns of thought that are ineffective at helping them to achieve their desired future. FDT instead teaches people to redirect their thinking toward things that feel better and bring them closer to what they want in life.

The theoretical model of human behavior behind FDT is based on three primary concepts:

- (1) The desire to thrive is the primary drive of all human beings because it promotes the evolutionary process.
- (2) Thought and behavior are limited resources that humans utilize to promote their thriving.
- (3) Preparing for the future is essential to thriving and much of human functioning has evolved for the purpose of creating the future.

The concept of thriving is best represented as a part of a continuum that ranges from survival to thriving, similar to that described by Maslow in his Hierarchy of Needs (see Figure 1) [30]. What humans perceive to be a state of thriving is hypothesized to be subjective and relative. At its most basic level, it begins with physical survival and can eventually progress across the continuum to the development of complex psychological processes such as self-actualization and self-transcendence [30]. In FDT, thriving is viewed as a dynamic state and increases in thriving are promoted by a fundamental future-oriented “need to want” that drives human behavior. Everything that is wanted is in the future. It is the “need to want” that promotes thriving and the continued evolu-



**Figure 1** Maslow's hierarchy of needs as a comparative representation of the survive/thrive continuum.

tion of the human experience. No matter how much anyone has, there is always the desire for continuous movement forward toward an increased state of thriving. No one ever reaches a state where the desire to thrive stops.

FDT hypothesizes that when people feel they have the power to thrive by creating a desired future state and obtain what is wanted, they feel a sense of well-being that leads to emotions such as hope and optimism. When the ability to move forward into a desired future state is hindered in some way, however, the perception is that thriving is being inhibited, and people experience psychological distress. In FDT, human emotional suffering is believed to be caused by focusing thoughts on that which is unwanted in life. Thought focused on what is unwanted, by itself, does not generate the cognitive process necessary to create a state of thriving. In healthy human beings, thinking about the unwanted can be used as a catalyst to develop new ideas about what is wanted in life and if thought process is redirected toward achieving the newly created wanted state, thriving continues. However, when the ratio of attentional resources becomes disproportionately allocated in the direction of thinking about what is unwanted this focus on the unwanted moves them away from a state of thriving and leads to distress. The more disproportionate the ratio becomes in the direction of focusing on the unwanted, the greater the likelihood of developing serious psychological conditions such as depression and anxiety. FDT teaches patients to recognize that their emotions are indicators of their thought process and that if they are experiencing negative emotions it is because they are focused on aspects of their life they do not want.

Thought and behavior from the FDT perspective are the most powerful resources that humans have to promote their own thriving, however, due to time constraints, that is, you can only think and do a certain number of things in any given time period, thought and behavior are actually limited resources. In FDT, the premise is that the more resources that are spent on activities that promote thriving the better one will feel. One primary goal of FDT is to increase awareness over how one is spending their precious resources and how much thrive value one is obtaining from their thoughts and behaviors.

Being able to prepare for the future is essential to thriving and FDT posits that much of human functioning has evolved for the purpose of creating the future. Recent research shows that many of the brain's mechanisms function on the basis of anticipation [31] and some prominent theorists posit that memory itself exists for the purpose of predicting the future [10,32]. Consistent with this perspective are the concepts of hierarchical memory [33] and valence priming [34,35], which influence the way that information is stored and retrieved in a hierarchical and categorical manner. These models play an important role in the FDT concepts of growing thought in the direction of thriving as well as activating novel solution generating and problem-solving process.

FDT teaches people to develop awareness over the process by which they create the future with their thoughts and actions using a model based on anticipation. Patients learn how their beliefs and expectations, which generally come from past experiences, influence the process. Once this awareness is achieved, FDT then teaches people how to formulate new ways of thinking about the future, and teaches specific skills for goal setting, planning, problem solving, taking action, and dealing constructively with disappointments.

The goals of this pilot study are: (1) to examine the acute effects of FDT on self-report measures of depression, anxiety, and quality of life, (2) to compare the efficacy of FDT to cognitive behavioral group therapy, the treatment as usual (TAU) in our setting, and (3) to examine patient satisfaction with FDT.

## Methods

### Setting

Patients presenting for psychiatric evaluation and treatment at Cedars-Sinai Medical Center are enrolled in the Cedars-Sinai Psychiatric Treatment Outcome Registry, an IRB-approved ongoing research study to track the outcome of psychiatric interventions in a naturalistic clinical setting. Patients are evaluated using the Mini International Neuropsychiatric Interview (MINI) [36]. The evaluations are performed by psychiatric residents and psychology trainees who have undergone a three-session course on the MINI and DSM-IV diagnoses. Each interview is observed by a faculty-level psychiatrist through a one-way mirror. A final diagnosis is made employing consensus techniques by a team led by a faculty member.

The intervention was offered to patients within the Mood Disorders Clinic with a primary diagnosis of MDD, who had been referred by their evaluator or treating psychiatrist for group psychotherapy as a primary or adjunctive treatment to their medication management.

### Participants

A total of 21 patients (16 female and 5 male) with a DSM IV-confirmed diagnosis of MDD selected to enroll in one of the three groups that offered the FDT intervention. As is standard for all group therapy offered in our clinic, the FDT group was offered to qualified patients with a diagnosis of MDD, postevaluation or as adjunctive treatment to patients receiving ongoing medication management, as a new treatment option that was being developed.

As is also standard for all group therapies, patients who were interested in the treatment received a follow-up phone call to explain the nature of the intervention and answer additional questions. Participants were able to speak and understand English. The groups were open for enrollment for 3 weeks prior to each group. Five patients discontinued treatment, two due to health conditions, which deteriorated during the intervention period, one patient left due to family crises, which prevented regular attendance, and two discontinued for unknown reasons.

For comparison, outcome measures for depression, anxiety, and quality of life were examined for 17 (12 female, 5 male) patients from the same clinic who also had a DSM-IV-confirmed diagnosis of MDD and received TAU, which consisted of traditional cognitive-based group psychotherapy for depression along with pharmacotherapy during a 3-month period. Demographics for both groups are listed in Table 1. As previously mentioned, all patients who receive treatment in the outpatient department are enrolled in a treatment outcome registry, where outcome measure data are collected every 3 months. The TAU patients were randomly selected from a pool of patients who met the criteria of MDD and participated in group CBT for depression. Data were selected for pre- and post-CBT treatment.

### Measures

Basic demographic and diagnostic information was obtained from the patient chart. All participants in the treatment outcome registry complete measures on depression, anxiety, and quality of life at baseline and 3-month follow-up. The individual item scores were collected for the following measures of: (1) Symptom severity: Quick Inventory of Depressive Symptomatology-Self-Report (QIDS-SR) [37], and the Beck Anxiety Inventory (BAI) [38] and (2) Quality of life: (Quality of Life, Enjoyment, and Satisfaction Questionnaire—Short Form (Q-LES-Q) [39].

Treatment Satisfaction: A measure created for the study assessed patient satisfaction with treatment on a 10-point Likert scale. Please see Appendix B for a full list of questions.

### Description of Interventions

FDT is a manualized 20-session group therapy intervention that was administered twice a week for 10 weeks by a licensed psychologist. The first meeting of every week the patients were given a new chapter to read from the patient manual [40], which addressed a new skill set and didactic instruction on the chapter was provided. On the second day of the week, coaching was provided for patients around the new skills and homework assignments were reviewed. Patients were instructed to read the chapter and to

**Table 1** Demographic and baseline characteristics for FDT and TAU groups

	FDT N = 16	TAU N = 17
Age (years)		
Mean, SD	54.69, 12.59	50.29, 13.86
Min, max	25, 73	24, 79
Gender, <i>n</i> (%)		
Female	12(75%)	12(71%)
Male	4(25%)	5(21%)
Race, <i>n</i> (%)		
African American	3(19%)	6(35%)
Caucasian	12(75%)	11(65%)
Hispanic	1 (6%)	–
Comorbid psychiatric disorders		
Personality disorders	4(25%)	3(18%)
Anxiety disorders	4(25%)	6(35%)
Substance use disorders	5(31%)	2(12%)
Other psychiatric disorders	2(12.5%)	–
Number of patients on psychotropic medication during group treatment, <i>n</i>	13	15
Medications in use, <i>n</i>		
Selective serotonin reuptake inhibitor	6	8
Selective norepinephrine reuptake inhibitor	6	3
Tetracyclic antidepressants	7	2
Norepinephrine-dopamine reuptake inhibitor	5	7
Other antidepressants	0	2
Benzodiazepines	3	8
Atypical antipsychotics	2	3

\*Patients could be on multiple agents

spend a minimum of 20 min per day completing the worksheets between sessions.

The first 5 weeks of the intervention focus on helping patients commit to the process of change and understanding how their thought process actually produces the future. Once they understand how the process works, they work on developing more positive thinking patterns about the future as well as honing their skills in being able to observe their thoughts and feelings. During the last 5 weeks of the group, patients focus on concrete practical skills for creating and achieving goals, planning, problem solving, and learning to take action, as well as how to deal effectively with obstacles or disappointments. See Appendix A for a more detailed description of topics covered during each week.

The TAU cognitive-based psychotherapy groups offered for depression in the clinic are 90-min structured didactic groups that meet weekly and range from 12 to 20 sessions. Patients are provided with new materials each week and cover traditional topics in cognitive therapy including, cognitive model of depression, goal setting, mood monitoring, identifying automatic thoughts, identifying cognitive errors, thought challenging and restructuring using thought records, and behavioral activation.

### Statistical Analyses

The outcome measures of interest were the changes from Pre to Post on the 3 scales QIDS, BAI, and Q-LES-Q. Change was cal-

culated as Post – Pre score. Numerical variables were summarized by mean and standard deviation. The analysis model was a repeated measures analysis of variance (RMANOVA) with Treatment (at two levels, FDT and TAU) as the between-subjects factor and Time (at two levels, Pre and Post) as the within-subjects factor. Differential change across the treatment groups (change between treatments) was assessed by the Treatment-by-Time interaction term. Within treatment change was assessed by a 1 degree of freedom contrast. Two-tailed *P* values were reported for the relevant effects. Between treatment effect size using Cohen's Delta was calculated as the absolute value of the mean treatment group difference divided by the pooled estimate of the standard deviation [41]. Statistical calculations were made using SAS version 9.1 [42].

### Results

There were 12 female and 4 males with a mean age of 54.7 (SD, 12.59) that completed the intervention. Thirteen (81%) of the completing patients carried a comorbid psychiatric diagnosis and 13 patients (81%) in the group were receiving pharmacological treatment for depression that was started a minimum of 1 month prior to the group. The TAU group was a demographically comparable sample of 12 females and 5 males. Sixty-five percent of the TAU patients had a comorbid psychiatric disorder and 88% of them were receiving pharmacological treatment.

**Table 2** FDT versus TAU pre- and postmeasurements of depression, anxiety, and quality of life.

Measure	Within FDT					Within TAU					Between FDT & TAU	
	N	Pre	Post	Change	P	N	Pre	Post	Change	P	P	Effect size
QIDS	16	16.5 (4.9)	11.1 (5.3)	-5.4 (5.4)	0.001*	17	15.4 (4.9)	13.4 (6.6)	-2.0 (3.8)	0.042*	0.049*	0.71
BAI	16	23.1 (12.3)	17.6 (10.3)	-5.4 (8.5)	0.021*	17	21.4 (12.1)	19.7 (12.7)	-1.7 (7.3)	0.35	0.184	0.47
Q-LES-Q	16	49.9 (14.7)	58.3 (15.2)	8.4 (14.6)	0.009*	17	49.4 (15.3)	50.6 (18.4)	1.2 (12.3)	0.70	0.131	0.54

Values are mean (SD).

\* $P < 0.05$ .

Results from the statistical analyses are summarized in Table 2. Results of the RMANOVA showed that those treated with FDT reported significant reduction in symptoms of depression  $F(1,15) = 16.08$ ,  $P = 0.001$ , anxiety  $F(1,15) = 6.60$ ,  $P = 0.021$ , and significant improvement in self-reported quality of life  $F(1,15) = 5.38$ ,  $P = 0.035$ . Patients who received TAU cognitive-based group therapy also showed significant reduction in symptoms of depression  $F(1,16) = 4.88$ ,  $P = 0.042$ , but did not show significant improvements in anxiety or quality of life.

A significant between-group difference was found on reported QIDS scores indicating that patients treated with FDT showed greater reduction in symptoms of depression than those in the TAU group  $F(1,31) = 4.20$ ,  $P = 0.049$ . The effect size for this finding was moderate (0.71) [41]. Despite significant within-group improvements on the quality of life measure and decreased anxiety in the FDT group, there were no significant between-group differences found on the measures of quality of life  $F(1,31) = 2.41$ ,  $P = 0.131$ , or anxiety symptoms on the BAI  $F(1,31) = 1.85$ ,  $P = 0.184$ , which may be due to small sample size.

Patients reported a high level of satisfaction with the FDT treatment. To see a full list of treatment satisfaction questions with means and standard deviations for patient responses, please see Table A1 in Appendix B.

## Discussion

The goal of this pilot study was to determine feasibility of a new form of future-oriented cognitive therapy. This treatment was developed to map the recent advances in knowledge about cognitive functioning in depressed patients. This study demonstrated that FDT improved depression, anxiety, and quality of life in patients with major depression who were treated in a naturalistic outpatient setting. When compared to a sample of depressed patients who received cognitive-based group psychotherapy that is usually offered in the same outpatient clinic setting, FDT was shown to be more effective at reducing depression. The effect size for this between-group comparative finding was somewhat larger than typically found in other comparative psychotherapy treatment studies that tend to find small-to-moderate effects sizes, generally not greater than 0.50 between therapies on posttreatment measures of primary symptoms [43]. The findings from this study are consistent with other studies that have shown that the attainment of valued life goals is associated with high levels of well-being [26,44].

There was a high level of patient satisfaction with this new therapy. A number of patients met significant goals during the 10-week course. One patient returned to work after 4 years, because she was able to replace negative future anticipations around failure with more positive expectations and overcome identified barriers to action. A second patient finished writing an important legal letter she had been avoiding for over 9 months. A third patient, who had spent the previous 2 years ruminating about changing her living situation, was able to move to a new apartment. Another patient began pursuing her dream of becoming a yoga instructor. Thus FDT seems to facilitate patients initiating actions that not only resolve key conflicts that have impeded recovery from MDD, but also directly improves the quality of life of individuals. Treatments that demonstrate significant improvement in quality of life are of special value in maintaining remission [45] and overall restoration of health.

One qualitative observation worthy of note is that the group component to the treatment seemed to be an important factor that promoted satisfaction with the treatment and quite possibly treatment outcome. Patients in all three FDT groups provided substantial positive reinforcement for one another particularly in the second half of the group that focused on goal setting and task achievement. This may have something to do with social accountability that is produced in a group environment that has been shown to facilitate goal achievement [46]. Several group members made specific comments about imaging the other group members during the week as motivation for accomplishing tasks. The group nature of FDT is also useful for reducing social withdrawal common to depression and cost-effective to administer.

FDT is unique in that it is based on a theoretical model of human functioning that posits that human beings are driven by the intent to continuously reach for new future-oriented states of thriving. FDT was developed to help people increase their ability to thrive by learning skills that are necessary to produce more positive future expectations and subsequently increase their sense of well-being. The theoretical model of FDT is consistent with many of the ideas developed by the positive psychology movement [47] and the recovery model of mental illness [48]. Both, which emphasize the development of an individual's strengths and potential as a means for increasing well-being.

This is the first study that demonstrates that an intervention intended to increase positive expectations about the future can reduce symptoms of MDD in a clinical population without disputing negative thought process. Hence, it supports the theoretical cognitive model of depression, which suggests that individuals

with MDD have lower positive expectations about the future. One of the distinctive findings of this study is the significant improvement of quality of life before and after treatment in the FDT condition.

## Limitations

This was a nonrandomized open pilot study with patients who chose to participate in this group after being referred by their clinicians and the comparator group was a sample of convenience. The majority of the patients in this study were receiving pharmacological treatment so it is difficult to ascertain what the effect of the experimental intervention would be alone. The sample size was relatively small, which limits the statistical and clinical significance of the data. There was also no follow-up period to ascertain the permanence of the effect obtained. Self-report measures were used to obtain outcomes without clinician assessment. Another limitation is that outcome measures were only performed at baseline and the end of therapy and so the sample is a completer analysis. Additionally, while homework assignments were reviewed in class, daily compliance with practice instruction was not measured.

## Conclusion and Future Directions

This pilot study provides evidence that warrants further investigation in a randomized clinical trial, with both clinician-rated and patient-rated assessments, and follow-up assessments after acute treatment, and measurements of adherence. It would also be important for future research to assess more specifically whether FDT does directly change positive future thinking using standardized

methods such as the Beck Hopelessness Scale [49] and the well-established Future Thinking Task developed by Andrew MacLeod [50]. Given that patients at risk for suicide have also been identified as having low positive future anticipations [51], a refinement of FDT may also be of benefit as an intervention for suicide prevention.

## Author Contributions

Jennice Vilhauer, PhD: Research design and concept development, literature review, data collection, drafting the article, review of submitted versions

Sabrina Young: Literature review, drafting the article, review of submitted versions

Chanel Kealoha: Data collection, drafting and approval of submitted versions

Josefine Borrmann: Literature review, drafting the article, review of submitted versions

Waguih William IsHak, MD: Drafting the article, critical revisions, approval of submitted versions

Mark Hyman Rapaport, MD: Contribution to research design, drafting the article, critical revisions, approval of submitted versions

Narineh Hartoonian, MS: Draft revisions, statistical consultation, literature review

Jim Mirocha, MS: Senior Biostatistician, statistical consultation and write up

## Conflict of Interest

The authors have no conflict of interest.

## References

- Ellis A. Rational psychotherapy and individual psychology. *J Indiv Psychol* 1957;13:38–44.
- Clark DM. Anxiety disorders: Why they persist and how to treat them. *Behav Res Ther* 1999;37:5–27.
- Beck AT. *Depression causes and treatment*. Philadelphia: University of Pennsylvania Press, 1972.
- MacLeod A, Cropley M. Depressive future-thinking: The role of valence and specificity. *Cognitive Ther Res* 1995;19:35–50.
- MacLeod A, Byrne A. Anxiety depression, and the anticipation of future positive and negative experiences. *J Abnorm Psychol* 1996;105:286–289.
- MacLeod A, Salaminiou E. Reduced positive future-thinking in depression: Cognitive and affective factors. *Cognition Emotion* 2001;15:99–107.
- MacLeod AK, Tata P, Kentish J, Jacobsen H. Retrospective and prospective cognitions in anxiety and depression. *Cognition Emotion* 1997;11:467–479.
- Stöber J. Prospective cognitions in anxiety and depression: Replication and methodological extension. *Cognition Emotion* 2000;14:725–729.
- Pezzulo G, Hoffmann J, Falcone R. Anticipation and anticipatory behavior. *Cogn Process* 2007;8:67–70.
- Schacter DL, Addis DR, Buckner RL. Episodic simulation of future events: Concepts, data, and applications. In: Kingstone A, Miller MB, editors. *The year in cognitive neuroscience 2008. Annals of the New York Academy of Sciences*. Malden: Blackwell Publishing, 2008:39–60.
- Schacter DL, Addis DR. The optimistic brain. *Nat Neurosci* 2007;10:1345–1346.
- Smoski MJ, Felder J, Bizzell J, et al. fMRI of alterations in reward selection, anticipation, and feedback in major depressive disorder. *J Affect Disord* 2009;118:69–78.
- Boyd J, Zimbardo P. Time perspective, health, and risk taking. In: Strathman A, Joireman J, editors. *Understanding behavior in the context of time*. Mahwan, NJ: Lawrence Erlbaum Associates, 2005:85–107.
- Lowenstein G, Weber E, Hsee C, Welch N. Risk as feelings. *Psychol Bull* 2001;127:267–286.
- Sohl SJ, Moyer A. Refining the conceptualization of a future-oriented self-regulatory behavior: Proactive coping. *Pers Indiv Differ* 2009;47:139–144.
- Reading A. *Hope and despair: How perspectives of the future shape human behavior*. Baltimore, MD: John Hopkins Press, 2004.
- Diener E, Emmons RA. The independence of positive and negative affect. *J Pers Soc Psychol* 1984;47:1105–1117.
- MacLeod A, Conway C. Well-being and the anticipation of future positive experiences: The role of income, social networks, and planning ability. *Cognition Emotion* 2005;19:357–374.
- Prenda KM, Lachman ME. Planning for the future: A life management strategy for increasing control and life satisfaction in adulthood. *Psychol Aging* 2001;16:206–216.
- Schmuck P, Sheldon KM. *Life goals and well-being: Towards a positive psychology of human striving*. Ashland, OH: Hogrefe & Huber Publishers, 2001.
- MacLeod A, Tata P, Tyrer P, Schmidt U, Davidson K, Thompson S. Personality disorder and future-directed thinking in parasuicide. 2004;18:459–466.
- Emmons RA. Abstract versus concrete goals: Personal striving level, physical illness, and psychological well-being. *J Pers Soc Psychol* 1992;62:292–300.
- Cheavens JS, Feldman DB, Gum A, Michael ST, Snyder CR. Hope therapy in a community sample: A pilot investigation. *Soc Indic Res Special Issue: Subjective Well Being in Mental Health and Human Development Research Worldwide* 2006;77:61–78.
- Lyubomirsky S. *The how of happiness: A scientific approach to getting the life you want*. New York: Penguin Press, 2008.
- MacLeod AK, Tata P, Tyrer P, Schmidt U, Davidson K, Thompson S. Personality disorder and future-directed thinking in parasuicide. *J Pers Disord* 2004;18:459–466.
- MacLeod A, Coates E, Hetherington J. Increasing well-being through teaching goal-setting and planning skills: Results of a brief intervention. *J Happiness Stud* 2008;9:185–196.
- Ferguson G, Conway C, Endersby L, MacLeod A. Increasing subjective well-being in long-term forensic rehabilitation: Evaluation of well-being therapy. *J Foren Psychol Psych* 2009;20:906–918.
- Grant GM, Salcedo V, Hynan LS, et al. Effectiveness of quality of life therapy for depression. *Psychol Rep* 1995;76:1203–1208.
- Rafanelli C, Conti S, Ruini C, Ottolini F, Grandi S, Fava GA. A new psychotherapeutic strategy: Well-being therapy. In: Sanavio E, editor. *Behavior and cognitive therapy today: Essays in honor of Hans J. Eysenck*. Oxford, UK: Elsevier Science Ltd, 1998:223–228.

30. Maslow A. *Toward a psychology of being*. Canada: John Wiley and Sons, 1999.
31. Pezzulo G, Hoffman J. Anticipation and the anticipatory behavior. *Cogn Process* 2007;**8**:67–70.
32. Schacter DL, Addis DR. The cognitive neuroscience of constructive memory: Remembering the past and imagining the future. In: Driver J, Haggard P, Shallice T, editors. *Mental processes in the human brain. Philosophical transactions of the Royal Society B: Biological sciences*. New York, NY: Oxford University Press, 2008:27–47.
33. Hawkins J. *On intelligence*. New York: Henry Holt and Co, LLC, 2004.
34. Dunn BD, Dalgleish T, Lawrence AD, Cusack R, Ogilvie AD. Categorical and dimensional reports of experienced affect to emotion-inducing pictures in depression. *J Abnorm Psychol* 2004;**113**:654–660.
35. Krizan Z, Windschitl PD. The influence of outcome desirability on optimism. *Psychol Bull* 2007;**133**:95–121.
36. Sheehan DV, Lecrubier Y, Sheehan KH, et al. The Mini-International Neuropsychiatric Interview (M.I.N.I.): The development and validation of a structured diagnostic psychiatric interview for DSM-IV and ICD-10. *J Clin Psychiat* 1998;**59**:22–33.
37. Rush AJ, Trivedi MH, Ibrahim HM, et al. The 16-item Quick Inventory of Depressive Symptomatology (QIDS), clinician rating (QIDS-C), and self-report (QIDS-SR): A psychometric evaluation in patients with chronic major depression. *Biol Psychiat* 2003;**54**:573–583.
38. Beck AT. *Manual for the Beck anxiety inventory*. San Antonio, TX: Psychological Corporation, 1990.
39. Endicott J, Nee J, Harrison W, Blumenthal R. Quality of life enjoyment and satisfaction questionnaire: A new measure. *Psychopharmacol Bull* 1993;**29**:321–326.
40. Vilhauer J. *Future directed therapy patient manual*. Los Angeles: Department of Psychiatry and Behavioral Neurosciences at Cedars Sinai Medical Center, 2009 (Unpublished):170.
41. Cohen J. *Statistical power analysis for the behavioral sciences*. 2nd ed. New Jersey: Lawrence Erlbaum Associates, 1988.
42. SAS. Cary, NC: SAS institute Inc.
43. Tolin DF. Is cognitive-behavioral therapy more effective than other therapies?: A meta-analytic review. *Clinl Psychol Rev* 30:710–720.
44. Emmons RA, Diener E. A goal-affect analysis of everyday situational choices. *J Res Pers* 1986;**20**:309–326.
45. Ezquiaga E, Garcia-Lopez A, de Dios C, Leiva A, Bravo M, Montejo J. Clinical and psychosocial factors associated with the outcome of unipolar major depression: A one year prospective study. *J Affect Disord* 2004;**79**:63–70.
46. Ryan A. Peer groups as a context for the socialization of adolescents' motivation, engagement, and achievement in school. *Educ Psychol* 2000;**35**:101–111.
47. Seligman MEP. Positive psychology, positive prevention, and positive therapy. In: Snyder CR, Lopez SJ, editors. *Handbook of positive psychology*. New York: Oxford University Press, 2002:3–9.
48. Roberts G, Wolfson P. The rediscovery of recovery: Open to all. *Advances in Psychiatric Treatment* 2004;**10**:37–49.
49. Steer R, Beck A. Factors of the Beck Hopelessness Scale: Fact or Artifact? *Multivar Exp Clin R* 1997;**11**:131–144.
50. MacLeod AK, Pankhania B, Lee M, Mitchell D. Parasuicide, depression and the anticipation of positive and negative future experiences. *Psychol Med* 1997;**27**:973–977.
51. MacLeod AK, Tata P, Tyrer P, Davidson K, Thompson S, Schmidt U. Hopelessness and positive and negative future thinking in parasuicide. *Brit J Clin Psychol* 2005;**44**:495–504.

## Appendix A

### Description of weekly topics in FDT intervention

Week 1: Introduction to the FDT theory of human behavior. It describes thriving as the primary motivator behind human behavior and characterizes depression as a lack of feeling able to thrive. They are also introduced to the future-oriented “need to want” as the mechanism that facilitates thriving. In this module, there is a specific emphasis placed on patients accepting responsibility for their emotional well-being, and understanding their willingness to change. Patients are also taught about important barriers to progress and the importance of practice assignments.

Week 2: Patients are taught the value of thought from the FDT model such as the concept of thought as a limited resource and that where they spend or focus their thought process is very important. Patients also learn how they can use the concept of valence priming to grow thought process and generate the problem-solving activity of the mind. They are taught the importance of focusing on what is wanted versus unwanted in life. Patients are introduced to the other basic components of human experience, which includes processing the environment through an existing belief system, anticipating future experiences, and formulating preferences.

Week 3: Patients learn how their thought process creates the future through anticipation, which leads to action. They are taught how to become aware of their existing belief system as well as how to generate new beliefs that they would like to build their future with.

Week 4: In week 4, patients learn how to deal with resistance to new beliefs, which are common and often lead to failure. Patients are taught skills for making the future seem more tangible so that it can compete for resources with the present moment. They are also taught to understand how common forms of communication with people they know can feed resistance if it is only focused

on the present moment as it exists and not the future they want. Last, patients are taught about the concept of ineffective patterns of thinking that they use to create their future as common forms of resistance.

Week 5: As being able to redirect the focus of thinking is a large part of FDT, patients are taught basic mindfulness and meditation skills so that they can improve their ability to be aware of their thinking in the present moment and redirect their focus to things that are wanted at will.

Week 6: During week 6, patients move into learning more concrete skills for identifying their values, determining what it is they want in life, and building well-defined and thought out goals with specific achievable steps.

Week 7: Now that patients have a clearly defined achievable goal, patients are taught how to make the goals even more tangible through the process of outcome and process simulations. Patients learn how to create detailed visual simulations that enhance belief and action.

Week 8: When patients are developing steps to achieve their goals, they often come up against real problems or barriers so patients are taught basic problem-solving skills such as planning, decision making, as well as how to manage the valuable resource of time in their goal achievement.

Week 9: In week 9, patients work on taking action. They are taught to understand the FDT model of action, which teaches them how to focus on the wanted benefits of an action as opposed to the unwanted costs. Patients also learn how to identify and deal with many common barriers to action and how to find positive emotional alignment for action.

Week 10: In the final week, patients learn how to allow the future to arrive by embracing every moment as an opportunity instead of an obstacle. They are taught how to let go of resistance, how to live ready for what they want, and how to deal effectively with disappointments. Additionally, patients learn how to deal with setbacks without losing what they have gained.

## Appendix B

**Table B1** Mean responses for treatment satisfaction with FDT

Questions answered on a 10-point Likert scale	Mean	SD
1. The material in this group was valuable and helpful for my life	9.7	0.5
2. I have greater understanding over how I create my future with my beliefs and thoughts	8.3	1.2
3. I learned new skills in this group for thinking in a more positive way about my future	8.9	1.0
4. I learned skills for how to shift my thoughts in a way that helps me feel better	8.5	1.3
5. I have a better understanding of what gets in the way of taking action	8.1	1.0
6. After taking this group, I feel I have more control over my future	7.9	1.3
7. I believe, I will do some things differently in my life because of what I have learned	8.6	1.2
8. I would recommend this class to someone else who is dealing with depression	9.9	0.1