

The Influence of a Wide Spectrum of Treatment Approaches on Outcomes for Major Depressive Disorder  
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Background and Statement of the Problem

Major Depressive Disorder (MDD) is emerging as one of the world's most devastating illnesses. Approximately one out of four women and one out of six men will experience a major depressive episode in their lifetime (National Depressive and Bipolar Support Alliance [NDBSA], 2005). There were 31,655 suicides in the US in 2002, almost twice the number of deaths by handguns (Center for Disease Control - National Center for Health Statistics [CDC-NCHS], 2005). Between 1993 and 2003, about 8.5% of high school students reported attempting suicide, about one third of these required immediate medical attention (CDC-NCHS, 2005). Depressives reported significantly more lost productive time than those without depression, 5.6 hours per week compared to 1.5 hours per week respectively, at an estimated cost of \$31 billion per year more than non-depressives, not including short- and long-term disability (Stewart, Ricci, Chee, Hahn, & Morganstein, 2003). Depression is serious, costly and treatable.

In my and my colleagues experiences with *people diagnosed with major depression* (which for convenience I will call *depressives*), we have found that often these people lead unbalanced lives. By this we mean that one depressive may be addressing his physical and psychological issues with, for example, antidepressant medication and psychotherapy, while the same person completely neglects socializing with other people and a spiritual life. We find another depressive who goes to church, prays and meditates regularly, and has a rich spiritual and social life, who completely neglects counseling, psychotherapy, and anti-depressant medication. In my experience, addressing the *physical, psychological, social and spiritual aspects of life* simultaneously, or at least addressing some aspect of each of these weekly or monthly, has been the key to overcoming depression. Furthermore, it seems that those who use only a *narrow spectrum* of treatment approaches (i.e. approaches that address only one or two of the four aspects of life), continue to suffer from their depressive symptoms more intensely and for a longer period of time than those who use a *wide spectrum* of treatment approaches (i.e. approaches that address all four aspects of life).

My theory is that depression comes from a life imbalance, from concentrating on one or two aspects of life and neglecting at least one or two others. Furthermore I theorize that even if I address all four aspects of my life, that unless I find success in balancing each of the four individually, I will still be out of balance and remain depressed. For example, my brain and body chemistry may be unbalanced though I am successfully balancing my psychological, social and spiritual life, and if so, I will remain depressed. Until I have each of the four individually balanced, and until I am giving all four aspects adequate and balanced attention, as my individual needs may dictate, I will remain depressed. This theory seems to hold true for myself as well as many other depressives I have known. My main question is this: is this empirical and anecdotal evidence, that depression is successfully treated by finding a inter- and intra-aspect balance, scientifically supported. Can I, to any degree, generalize my experience to other depressive by demonstrating that my experience is repeatable, objective, and parsimonious?

In helping to run a support group for depressives, it has been frustrating to me that I have been unable to quote solid scientific research that indicates what I have come to conclude from person experience. The problem is the existing body of research looks at depression treatment approaches piecemeal and not in complete integration. The research proposed here would address this lack of scientific research. I expect that my results will support the notion that a balance of these four aspects of life, both individually and with each other, is the key to recovering from depression. I theorize that people neglect one or more aspects of life, thus throwing their life out of balance, because of their lack of objective evidence. I expect that this scientific research will help depressives to make a more informed decision as to how to balance their life and spend their time, while persuading them that their reasons for not trying a wide spectrum of treatments are not so reasonable. My expectation is to encourage depressives, who have not yet been successful in attaining remission of their disorder, to consider including in their treatment approach those aspects that they have previously neglected.

## Literature Review and Hypothesis

### *Literature Concerning a Wide Spectrum of Treatments*

An article that begins to explain why depressives choose the treatment they do looks at the “actions taken to cope with depression at different levels of severity” (Jorm, Griffiths, Christensen, Parslow, & Rogers, 2004). It recognized that many people with psychological distress never seek professional help, that people address mild distress with “intensification of everyday strategies”, moderate distress with “initiation of new self-help”, and severe distress with seeking professional help (Jorm, et al, 2004). Therefore, this study will take into account depressives at all levels of depression severity, not excluding the mildly depressed, and recognize common strategies.

One article that went in a similar direction as this study, tallied reports from depressives showing the most frequently used alternative practices to address their depression. They listed, from most frequently reported to least: religious/spiritual activities, meditation, massage, yoga, guided imagery, chiropractic, herbs, nutritional supplements, aromatherapy, breathwork, reiki, tai chi, past-life/regression therapy, homeopathy, ayurvedic medicine, acupuncture, acupressure and reflexology (Russinova, Wewiorski & Cash, 2002). What I find extremely interesting about Russinova et al. (2002) is that they categorized and measured the benefits of each of the top eight practices into physical, psychological, social and spiritual (plus emotional and general functioning). In my view, I tend to group internal emotional aspects as part of psychological aspects, and external emotional as part of social aspects.

### *Literature Concerning Physical Treatments*

A number of studies addressed physical aspects of treatment, mostly medications, but also yoga and sex. The studies regarding yoga and sex may not necessarily be addressing only the physical aspects, as most people find these are more than just a physical exercise, but also a spiritual experience. The yoga study finds that young adults who practiced yoga significantly reduced their depressive symptoms (Woolery, Myers, Sternlieb & Zeltzer, 2004). The sex study found that women who completed Orgasm Consistency Training (OCT) (Hurlbert, 1993) had a significantly lower Depression Adjective Check List (Lubin, 1965) score after treatment, indicating a less depressed mood (McVey, 1997). In a study of North Carolina Health Care workers, of the 60% self-evaluated as depressed either currently or at some time in the past, only 20% were currently taking medication for depression (Siebert, 2004). Knowing that health care workers seldom take medication for their depression, it seems expected that other depressives take medications even less often. One study found that antidepressants use among those with depression was less than 30%, and the effectiveness they report “was only moderate”. (Stewart, et al., 2003). It is well known that even among those prescribed antidepressants, compliance is 40% to 50% (Myers & Braithwaite, 1992).

This begs the question, why do depressive not take medication more often and is there better compliance with one drug compared to another? In a study showing that there is no significant difference in compliance with selective serotonin reuptake inhibitors (SSRIs) and tricyclic antidepressants, the authors propose that non-compliance occurs because patients (a) do not experience improvement in symptoms, (b) are uninformed about antidepressants (especially common myths that antidepressants are addictive or that one would absolutely have to continue using them for a lifetime), (c) experience undesirable side effects, (d) are skeptical of doctors motivations for prescribing medications (Thompson, Peveler, Stephenson, & McKendrick, 2000). Two studies, Haslam, Brown, Atkinson, & Haslam, (2004) and Sparks, (2002), confirmed all these reasons that Thompson et al. proposed. Haslam et al (2004) also noted that patients may not have experienced improved symptoms because they did not take the prescribed amount per day (i.e. partial non-compliance encouraging total non-compliance). In a study of 1801 older adults, most participants preferred “talking” (psychotherapy) over “taking” antidepressant medication, and only 8% had taken antidepressant medication in the past 3 months (Unutzer, Katon, Callahan, & Williams, 2003).

There are several reasons cited by depressives in our local DBSA group to justify avoiding medication: (a) the perceived “trial and error” approach of their psychiatrist in prescribing medications, (b) the “medication horror stories” about terrible side effects and actually physical damage suffered before finding the right medication that works for the individual, (c) having tried several medications and not found a medication that works for the individual they see no use in continuing to try others, (d) fear of

addiction, side-effects and other irrational fears, (e) pride of not needing a pill to be healthy or “strong”, (f) the inconvenience and cost of having to take pills daily (g) a conscientious objection to using any drug, believing the use of some or any drug is a violation of their morality, especially for a dual diagnosis of major depression and substance dependence (DBSA-Greater Omaha attendees, personal communication, April 21, 2005).

Regardless of the reasons for avoiding medication, almost all scientific, peer reviewed studies agree that medications help significantly. It seems there is more research available that shows medications help than research on all of the other aspects (psychological, social and spiritual) combined. Depressives who did not receive medication as treatment for their depression have a higher rate of relapse and recurrence than those who did (Frank, Kupfer, & Perel, 1990). It is clear and well known that there is a high probability of finding benefits in taking medication for depression (Wilson, 2003). In clinical trials with dysthymics, medication alone had better results than psychotherapy alone, with some evidence that medication and psychotherapy together had even better results (Wilson, 2003).

#### *Literature Concerning Psychological Treatments*

Cognitive Therapy and Rational Emotive Behavioral Therapy (REBT) are commonly thought to be excellent modes of therapy for improving depression outcomes. Two studies found this to be true in general, that it does have a positive effect on outcomes (Castonguay, Goldfried, & Wiser, 1996; Allen, 2002a, 2002b). Two studies also noted that therapeutic alliance and client’s emotional involvement in treatment correlated to improvement, where the therapist’s focus on distorted cognitions correlated negatively, indicating the most important aspects of psychotherapy is *how well the therapist and client work together*, and not so important are the unique aspects of the therapy (Castonguay et al., 1996; Klein, Schwartz, & Santiago, 2003). Allen (2002a) recommends client education, a Cognitive Therapy and REBT technique, for all their long term patients at the Menninger Clinic. Allen has compiled a comprehensive educational program for Menninger Clinic patients, this program focusing on physical and psychological treatments, though it recognizes the likelihood of social causes of depression and recommends Interpersonal Therapy (a form of psychotherapy) and “supportive, caring relationships” (Allen, 2002a, p. 131). Though Allen (2002a) acknowledges the need for social support, his only practical suggestions are going to movies (it is more attainable goal for a depressive to not have to keep conversation going) and to suggest to those who might be supportive “that they are coping OK and have other sources of support” (Allen, 2002a, p. 131) (so the supporter will not feel the weight of the huge responsibility of the depressive’s well-being). Allen (2002b) also notes “that psychotherapy can be an effective alternative or addition to medication” (Allen, 2002b, p. 206). and that it works. Allen (2003) makes an excellent point, that “Mentalizing, “the process of making sense of mental states in oneself and other persons, plays a central role in ... psychotherapy.” (Allen, 2003, p. 91). He has found positive outcomes after a person understands why he does what he does.

#### *Literature Concerning Combined Physical and Psychological Treatments*

The vast majority of the scientific and therapeutic communities recommend this “combined treatment”, both physical and psychological treatment. Studies show combined treatment works well (Amow & Constantino, 2003; Casacalenda, Perry & Looper, 2002; Friedman, 2004; Levin 2004; Unutzer, Katon, Callahan, & Williams, 2002, 2003). One study compared medications to psychotherapy (specifically cognitive behavior therapy) and found them with no significant difference in efficacy (DeRubeis, Gelfand, Tang, & Simons, 1999). One study noted that use of psychotherapy has decreased and pharmacotherapy has increased (Abbass & Gardner, 2004). Yet studies show that something is still missing. Allen, Coyne and Console (2000) found that “As a group, patients improved substantially during hospitalization and maintained gains at follow-up, although they showed a trend towards relapse in some symptom areas. However, a substantial minority of patients continued to show severe impairment at follow-up.” (Allen, Coyne & Console, 2000, p. 235). Finally, in a comprehensive treatment guideline, psychotherapy and pharmacotherapy are the only two modes discussed in essentially the entire manuscript, the only modes that could be viewed as slightly straying from these two are a paragraph mentioning education for family members “when appropriate”, interpersonal therapy (so that the patient might created “social supports”) and marital and family therapy (Anonymous, 2000). These articles seem to indicate that the scientific

community is not taking advantage of the benefits of social and spiritual treatment-like approaches, inspiring me to expand this study into those approaches yet without neglecting the known benefits of psychotherapy and pharmacotherapy.

#### *Literature Concerning Social Treatments*

Other than the secondary references to interpersonal, marital and family therapies, few studies have emphasized the importance of social treatment approaches and the known benefits. A study of Chinese-American patients found most did not know they were depressed, and (in order of greater usage) “sought help from a general hospital (69%) , lay help(62%), and alternative treatments (55%), but rarely from mental health professionals (3.5%)” (Yeung, Chang, Gresham, Nierenberg, & Fava, 2004, p. 324). My great respect for the Chinese and their multiple modes of treatment inspired me to look at every possible treatment as possibly being beneficial. A study on volunteering for different age groups found beneficial outcomes from volunteering especially for those over 65, and for those under 65 with “prolonged exposure to volunteering” (Musick & Wilson, 2003, p. 259). Musick and Wilson (2003) report that “volunteer work improves access to social and psychological resources ...” (Musick & Wilson, 2003, p. 259) which they report, produces better outcomes. Furthermore they attribute the better outcomes more to social integration than the psychological resources. Musick and Wilson (2003) also found that for the elderly, volunteering for religious causes was more beneficial than volunteering for secular causes.

#### *Literature Concerning Spiritual Treatments*

Many studies support the claim that *extrinsic religious practice* (indicators include extrinsic religiosity, weak internal beliefs, strong spiritual doubts, institutional legalism/conservatism, coerced attendance at religious services, avoiding difficulties through religious activities, supporting patient denial of problems, negative religious experience, etc.) is positively associated with depression, though *intrinsic individual spiritual devotion* (indicators include intrinsic religious practice, perceived support from active God/congregation/clergy, strong internal faith, frequent participation in religious activities, greater desire to participate, attending religious activities at a young age, understanding of forgiveness, demonstrated thankfulness) is negatively associated with depression (Abbotts, Williams, Sweeting, 2004; Fiala, Bjorck, & Gorsuch, 2002; Horowitz & Garber, 2003; Kendler, Gardner, & Prescott, 1997; Kendler, Liu, Gardner, & McCullough, 2003; Krause & Wulff, 2004; Martin, Kirkcaldy, & Siefen, 2003; Nelson, Rosenfeld, Breitbart, & Galiotta, 2002; Pearce, Little, & Perez, 2003; Schapman & Inderbitzen-Nolan, 2002; Storch, Kovacs & Roberti, 2004; Storch, Storch, Welsh, Okun, 2002; Yarhouse & Turcic, 2003).

Two studies recognize the positive effect that intrinsic individual spiritual devotion has on the immune system which results in our physical bodies being better able to handle stress and depression, thus improving depression treatment outcomes (Milstein, 2004; Wilson, Finch, & Cohen, 2002). Noting the positive effect that intrinsic individual spiritual devotion has in compensating for other causal factors of depression, one study notes that though African Americans were more impaired in activities of daily living when compared to white elderly people, they reported significantly higher levels of intrinsic individual spiritual devotion and social support than white elderly people, and the levels of depression in each group were about the same (Cummings, Neff, & Husaini, 2003). This indicates that social support and intrinsic individual spiritual devotion can mitigate the risks in other aspects of life (physical & psychological), leading me to believe that an uncorrectable imbalance in one aspect of life can be compensated for by higher levels of therapy in other aspects of life. This study will seek to support these general findings: the more the intrinsic individual spiritual devotion, the less the symptoms of depression.

There has been demand from the public, and some professional response, for more awareness and use of spiritual therapeutic approaches. The religious community has reached out to the medical community hoping to form a medical-religious partnership to address the health challenges faced by our aging population (Hale & Bennett, 2003). Several professionals are adding to a course in spiritual dimensions of counseling, building off one another’s work (O’Connor, 2004). These actions are encouraging to me, as it seems other professionals are recognizing some of the needs that I have identified here.

### *Literature Concerning Methodological Considerations*

In researching the literature on treatment of depression, a few articles addressed key methodological considerations that will be taken into account for this research design. Research into depression has not taken advantage of peer recommended methodologies (Tennen, Eberhardt, & Affleck, 1999). There is a call for a greater precision in the social-psychological study of depression (Ingram & Hamilton, 1999). Tennen et al (1999) propose several shortcomings on depression research methodology. First, to recognize “the continuity between subsyndromal and syndromal depression” (Tennen et al, 1999), I will seek participants who truly and wholly experience depressive symptoms to whatever degree, even if they fall slightly below the cutoff level on the Beck Depression Inventory II (BDI-II) and the Revised Hamilton Rating Scale for Depression (RHRSD) for major depression. As Tennen et al. (1999) recommend, this study will enroll participants who are known to be diagnosed with depression, and not just college students. Second, to address “questionnaire versus interview assessment of depression” (Tennen et al., 1999), this study will use the two aforementioned psychometrics, a tailored questionnaire and a personal interview to gain the most accurate information.

In this pilot study, the only interview I will perform will be an open ended discussion, after the participant fills out the written instruments, (1) to ask for any clarifications the participant thinks would be beneficial for me to know, any additional comments, input or feedback, and (2) to review all the answers and give the participant a second and last opportunity to comment in a more detailed way on any part of the questionnaire. As Tennen et al suggest, my questionnaire will ask for data regarding variables know to be associated with depression (co-morbid conditions and symptoms). If this pilot study expands to a full study, then as Tennen et al suggest, I will use multiple assessment periods including an initial questionnaire, a month later a personal interview, and six months later a follow up brief interview basically asking if anything is different from before, either with respect to treatment or outcome. Tennen et al encourage longitudinal studies. I expect that this pilot study will be the beginning of a lifelong longitudinal study. Finally, Tennen et al caution that thoughtful care should be taken in defining appropriate comparison groups, which I will do as described below. As Tennen et al bring up the issue of subsyndromal and syndromal depression, Ingram and Hamilton (1999) bring up the issue of cut-off points typically defined by the psychometric author (e.g. Beck defines cut-off points for severe, moderate, mild or no depression). I will avoid the cut-off number problem by avoiding the labeling as severe, moderate, etc. and simply use the quantitative result of the tools. The stability considerations discussed by Ingram and Hamilton (1999), I mitigate with the individual personal interview and the follow-up interview, to get a picture over time of the participant’s condition. I will use interview techniques as suggested by three articles, in general emphasizing the emotional needs and experiences of the patient, and being aware of the several modes of communication found especially in women patients (Carpenito-Moyet, 2002; Jack, 1999; Stoppard & Gammell, 1999).

This study seeks to answer six basic questions about depressives. What treatments have they used and to what extent? How much do they think each particular treatment helped or hurt? Did they address all four aspects of life? How would they quantify the intensity and duration of their depressive symptoms both at their lowest point and after addressing the low point? Did those who address all four aspects have less intensity and less duration of their depressive symptoms? What co-occurring conditions do they have?

Based on the research reviewed, the purpose of this study shall be to test this hypothesis: Depressives who use a wide spectrum of treatment approaches show better outcomes than depressives who use a narrow spectrum of treatment approaches.

## Method

### *Participants*

This pilot study enrolled participants from the Depression and Bipolar Support Alliance (DBSA) chapters in Omaha, Nebraska. These sources have been selected in attempt to obtain participants who have already been diagnosed with MDD and who are familiar and aware with depressive episodes. The DBSA chapters in Omaha conduct support group meetings 4 times per week. Attendees are from a wide range of socio-economic statuses, religious/non-religious inclinations, social and non-social personality types, and

active and sedentary lifestyles. In each support group I announced that the next week I will be there to conduct a study, give them a brief description of the study, and ask for their cooperation and support by becoming a participant. This allowed each member a week to consider being a participant and give them time to think of questions they might have for me.

In the full study, more care will be taken in calculating the necessary sample set size to allow the possibility of statistical significance, and in selecting participants from the widest possible range of life situations and most representative of the United States population, and not just clinical populations in order to take into account subsyndromal and non-depressed participants. Doing so will complicate the design and calculation of statistical significance, but I believe it will be informative and make my full study more complete. In a full study, I will solicit nationwide participation. For example, many of the participants I will recruit from the members of the National DBSA. NDBSA members attend about 800 support group meetings across the United States and in six foreign countries. NDBSA members come from all socio-economic classes, races, religions, colors, genders, sexual orientations, political persuasions, and educational levels. Their mailing lists contain approximately a quarter of a million names. A full study may enroll participants from as many cities across the country as is feasible to visit.

This pilot study has allowed the assessment of the utility of methodology and the instruments. This research shall be conducted with strict adherence to the "Ethical Principles of Psychologists and Code of Conduct" (American Psychological Association, 2002).

#### *Materials*

This pilot study used the BDI-II as my primary psychometric tool. The BDI-II is a respected and practical tool for several reasons. It only takes 5 to 10 minutes and is easy to administer. It is straightforward. Unfortunately, since there are no validity indicators, and it is a self-reporting tool, the results may be skewed by the participants' misrepresentation or inability to understand. The full study will use the RHRSD as a secondary psychometric, in accordance with the recommendation by Tennen et al (1999) to use two or more psychometrics. This pilot study will use the consent form, cover sheet, instructions and questionnaire as shown in Appendix A. The full study will use the website at <http://members.cox.net/bobneve> both to solicit on-line filling out of the survey and to publish the results for the participants to access.

#### *Design and Procedure*

A survey packet was assembled containing the consent form, cover sheet, instructions, questionnaire, and two copies of the BDI-II. When a participant first made contact, each item in the survey packet was explained to them, including all necessary details of the study so that they had adequately informed consent. What was expected from them was fully explained, and questions from the participant were solicited. In this pilot study, all participants were contacted in person, so a survey packet was handed to them then. The full study may make use of on-line or postal mailing, and if so, arrangements will be made to deliver a survey packet to them, or to access it in an appropriate on-line format. When the participant was ready to start filling out the contents of the survey, he was instructed regarding filling out the consent form, cover sheet, the questionnaire and the two BDI-IIs.

The cover sheet gathered necessary demographic information including first name, birth date, and e-mail address to identify the participant but to afford them some anonymity. The cover sheet also asked them to note for their own depressive episode a start point, a middle period of time, and an end point. The *start point* is an approximate date for the *lowest point* of their depression (often when they were diagnosed, or sometime in that general time frame, or before). The *end point* is approximately the day that they were generally done thinking about addressing this low point problem, possibly a time when they felt better, or a time when they gave up trying to feel better, or a time when they reached a plateau in their progress. Often times the end point was the day they participated in the study. By defining this *start* and *end point*, the participant had a picture in her mind of a certain period of time in her life for which to answer the questions of the survey. By thinking of this time period from the beginning, before they start in on the psychometrics and the questionnaire, they were better able to stay on track and report more accurately their condition at the *start* and *end points*.

The next sheet after the cover sheet for the demographics was an instructions sheet with all these general instructions written for their easy reference. I expect that in a room full of people filling out the survey, people might be too shy to ask questions, especially if they forgot the instructions. This instruction sheet is included so they can quietly remind themselves of the instructions without having to go through the embarrassment of asking a question in front of other people. In my experience, such instruction sheets are well utilized by the more introverted participants. Following the instructions sheet was the first of two BDI-IIs. Each participant was asked to recall their state of being at the *lowest point* of their depression (the *start point*), and fill out the first BDI-II as they would have on that point in time. They were asked to fill out the questionnaire noting only those treatment approaches that they used between this *start point* and *end point*, and how much they felt each treatment helped or hurt (on a five point Likert scale). Then the participant was asked to fill out the second BDI-II for their state of being on the *end point*. Any questions they had were answered according to proper administration of the psychometrics. The participants were encouraged to provide more details of their depressive symptoms, the treatments they used, and any treatments they used that were not listed, to assure the test answers are accurate and precise. If in the interview after filling out the survey, the participant or the interviewer decided it would be more accurate to change a previous answer, both the previous answer and the new answer were duly noted. The participant was then debriefed and informed of the hypothesis and the general reason for the study. They were asked if they would like to let me know how to contact them in the future, either so I can send them the results of the study or so they can participate in future studies.

Finally, after receiving the completed packets and conducting the interview, the participants were categorized into appropriate comparison groups. I totaled the scores for the BDI-II's and I excluded anyone who scored significantly less than 13 for the *start point*, as this score would indicate minimal depression. I counted the number of items that each participant "tried briefly" or "tried often" to give a total number of items tried for each of the four aspects (physical, psych, social, spiritual). I determined the average number of items tried in each aspect over all the participants. If the participant had tried more than the average number of items in an aspect, then he was considered balanced in that aspect. I sorted the participants by the number of balanced aspects. Participants with 3 or 4 balanced aspects were assigned to the *wide spectrum group* and participants with 0, 1, or 2 balanced aspects will be the *narrow spectrum group*.

There are two different values for each participant that might indicate better outcomes. Most significantly, the End Point BDI-II score is most indicative of the final outcome for the participant, i.e. the severity of depression the participant ended up with after treating his depression. Secondly, the change from start point to end point is most indicative of amount of improvement, and not necessarily the final outcome of severity of depression. Therefore, each participant has one Change in Severity of Depression (CSD) score tabulated along with all her other data, the difference between the *start point* scores and the *end point* scores based on BDI-II. If the *start point* BDI score is greater than the *end point* BDI score, then the CSD will be a positive number, and visa versa.

A t-Test was performed twice on each of the End Point BDI-II Scores and on the CSDs, once assuming equal variances and once assuming unequal variances. Our hope is that one of these four will clearly indicate better outcomes in the wide spectrum group. Strictly speaking, my hypothesis states that the *outcome* will be better for the wide spectrum group, so the primary calculation for determining if the data will be considered statistically significant in support of the hypothesis is the End Point BDI-II data. If  $p < 0.05$ , then it is unlikely that the difference in the data is due to random chance, the null hypothesis will be rejected and my hypothesis supported.

### Results

I secured 16 complete surveys, one of which (participant # 2) was excluded because her initial condition was clearly not depressed. She scored 4 on the BDI-II, where the cutoff for minimal depression is 14, and in the follow up interview, she did not report symptoms that would qualify as MDD. On the BDI-II, a total score of 0-13 is considered minimal range, 14-19 is mild, 20-28 is moderate, and 29-63 is severe. Table 1 is the spreadsheet showing the raw data results. Table 2, Determination of Balanced Aspects and CSD, shows whether or not the participant is balanced in each aspect (indicated by a 1) or not (indicated by a 0).

Table 1  
*Raw Data*

Participant #	Start Point BDI Score	Number of Physical techniques	Number of Psyche techniques	Number of Social techniques	Number of Spiritual techniques	End Point BDI Score
1	32	12	4	12	6	7
2	4	invalid	invalid	invalid	invalid	0
3	43	14	5	14	11	3
4	42	12	4	8	9	12
5	17	5	2	0	1	16
6	47	14	8	3	3	16
7	41	5	4	3	1	21
8	44	14	9	19	1	38
9	51	21	14	10	9	5
10	38	9	14	12	16	6
11	41	22	11	19	11	24
12	38	9	9	8	4	17
13	47	3	4	4	2	18
14	50	6	2	6	0	13
15	37	0	2	6	0	25
16	16	16	6	17	6	5
Average	38.93	10.80	6.53	9.40	5.33	15.07

Table 2  
*Determination of Balanced Aspects and Change in Severity of Depression (CSD)*

Participant Number	Balanced in Physical?	Balanced in Psych?	Balanced in Social?	Balanced in Spiritual?	Number of aspects balanced	Change in Severity of Depression	End Point BDI Score
9	1	1	1	1	4	46	5
11	1	1	1	1	4	17	24
3	1	0	1	1	3	40	3
16	1	0	1	1	3	11	5
10	0	1	1	1	3	32	6
1	1	0	1	1	3	25	7
8	1	1	1	0	3	6	38
4	1	0	0	1	2	30	12
6	1	1	0	0	2	31	16
12	0	1	0	0	1	21	17
14	0	0	0	0	0	37	13
5	0	0	0	0	0	1	16
13	0	0	0	0	0	29	18
7	0	0	0	0	0	20	21
15	0	0	0	0	0	12	25

Note. Participant 2 was disqualified due to extremely low BDI-II scores and omitted from this table. This table is sorted first by the number of balanced aspects, greatest number to lowest number, then by End Point BDI-II Score. The wide spectrum group is above the line, narrow spectrum group is below.

It is noted that participants 9 and 11 are balanced in four aspects, participants 1, 3, 8, 10, and 16 are

balanced in three aspects, and these make up the wide spectrum group. It is noted that participants 4 and 6 are balanced in two aspects, participant 12 is balanced in one aspect, and participants 5, 7, 13, 14 and 15 are balanced in zero aspects. These make up the narrow spectrum group.

In sorting by number of balanced aspects first and then by CSD, it is not intuitively obvious that there is much difference between the wide and narrow groups in comparing the CSD column. It is however very obvious that there is a major difference in End Point BDI-II score, with the wide group obviously better than the narrow group. T-Tests were calculated assuming equal and unequal variances of CSD and of End Point BDI-II Score (Tables 3, 4, 5 and 6). For the t-Test assuming unequal variances, and a one tailed P, the p value was 0.0586. For the t-Test assuming equal variances, and a one tailed P, the p value was 0.0403. The variances are clearly unequal, therefore we must use the p value of 0.06. This shows that our data is not statistically significant, but it is approaching significance in supporting my hypothesis.

Table 3  
 CSD t-Test: Two-Sample Assuming Equal Variances

	Wide Group	Narrow Group
Mean	25.285714	22.625
Variance	222.57143	137.41071
Observations	7	8
Pooled Variance	176.71566	
Hypothesized Mean Difference	2.66	
df	13	
t Stat	0.0001038	
P(T<=t) one-tail	0.4999594	<<< p value
t Critical one-tail	1.7709334	

Table 4  
 CSD t-Test: Two-Sample Assuming Unequal Variances

	Wide Group	Narrow Group
Mean	25.28571	22.625
Variance	222.5714	137.4107
Observations	7	8
Hypothesized Mean Difference	2.66	
df	11	
t Stat	0.000102	
P(T<=t) one-tail	0.49996	<<< p value
t Critical one-tail	1.795885	

Table 5  
 End Point BDI Score t-Test: Two-Sample Assuming Equal Variances

	Wide Group	Narrow Group
Mean	12.571429	17.25
Variance	176.28571	17.642857
Observations	7	8
Pooled Variance	90.862637	
Hypothesized Mean Difference	4.67	
df	13	
t Stat	-1.894964	
P(T<=t) one-tail	0.0402767	<<< p value
t Critical one-tail	1.7709334	

Table 6

*End Point BDI Score t-Test: Two-Sample Assuming Unequal Variances*

	Wide Group	Narrow Group
Mean	12.57143	17.25
Variance	176.2857	17.64286
Observations	7	8
Hypothesized Mean Difference	4.67	
df	7	
t Stat	-1.78631	
P(T<=t) one-tail	0.058604	<<< p value
t Critical one-tail	1.894579	

### Discussion

I expected that collecting data would be difficult. Having worked with the general public and depressed people, I know that typically attention spans are short, concentration ability is hampered, and not following directions is common. In each case, I expect that the individual interview at the end helped to correct errors resulting from these problems. I also am well aware that my data will be almost entirely self-reported. Therefore, the client's bias will surely be expressed in his report. This bias may be understatement or over-exaggeration. In each case, I will make a qualitative personal evaluation of the likelihood that the client is either misrepresenting or unable to understand the question. None of these participants seemed to be reporting anything out of the ordinary or misrepresenting.

I expected that on a rare occasion during the interview, the participant may become emotional, or show some negative or otherwise undesirable response. It is of course my ethical obligation to attempt to avoid such, and if it occurs to suggest a course of treatment for the more severe responses. In this case, I would consult with my colleagues (my supervisors and professors) to create a plan of action for each individual case. Because of the simple nature of the data being gathered, I did not expect this would occur often. In fact, no participant displayed any significantly emotional reactions at any time during their participation. In my follow up interview, each person reported feeling fine, having no flashbacks or suddenly recurrent unpleasant memories.

I expect that the data will support the hypothesis. In fact, I expect that the data from this pilot study may show an especially distinct difference between the wide spectrum group and the narrow spectrum group. Personally knowing some of the participants, I can clearly see the difference in happiness and overall quality of life between participants in the two groups. I expect that a full study might show less distinction between the groups than this pilot study.

I believe my methodology to be particularly sound, given the recommendations of Tennen et al. (1999), Ingram & Hamilton (1999), and the other articles regarding methodology. I am aware that the full study would have to have even more precise and accurate testing tools, an improved questionnaire, and many more multivariate calculations to differentiate between participants within each group. For example, one wide spectrum group participant may practice one of her approaches more intensely, more often, or for a long period of time than another participant. One participant may receive better psychotherapy than another. One participant may be an extrovert, socialize twice a week and feel he does not socialize much, while an introvert may socialize twice a week and feel he socializes an enormous amount. One participant may have a better initial condition in one aspect of life and not need as much remedial time and effort to correct that aspect's imbalance. These variations in intensity, time duration, initial conditions, need for more work in a certain aspect, and perception of the participants would be better quantified in a full research study.

One complication that should be accounted for in future studies is the possibility that some of these MDD participants have actually been misdiagnosed and are actually Bipolar Disorder participants or suffering from some other co-morbid or co-occurring disorder that significantly influences their self-reports. In such a case, how the person approaches treatment of the depressive episode is fairly moot, as it is expected that over time, the Bipolar person will come out of her depressive episode and move towards a

manic episode. In such a case, they may report extremely significant improvement (out of depression, into euphoria of mania) but none of it due to any treatment they received and all of it due to the change in their brain chemistry. On the opposite end of the scale, a client who has schizophrenia, other psychotic disorders, or somatoform disorders may be much more refractory and skew the results when compared with others who are only MDD. In fact, I suspect that participant 11 may be one of these, as I have known her for about 7 years and she reports only minor improvement in her depression over time and a continued mild depression similar to Dysthymic Disorder. Further study would be needed to determine if dysthymia responds to the same treatment that MDD responds to.

In seeking feedback from my participants, I learned of several items on which I would improve in a full study. First, some participants finished in 20 minutes and some in 45. I realized that when I gave individual attention to the participant filling out the survey, they were more likely to give me running comments and valuable feedback. In future studies, I will attend to the survey participation one participant at a time. They also gave me several suggestions for other treatment items in each aspect. My most glaring omission was “AA-NA Program” from the spiritual aspects list. Other common additions, “walking” under both physical and social, “gardening” under physical and spiritual, “pet therapy” under psych or spiritual, “fantasy” under psych, “walking in the forest” and “communing with nature” under spiritual, “biking” under physical, and “riding my motorcycle” under spiritual. The first few participants gave me suggestions for clarifying my wording of the instructions which I implemented with later participants. Finally, some formatting of borders and boxes on the questionnaire would help clarify and speed up the process.

Further study may also want to gather data on why participants practice what approaches they do practice, and why they do not practice what they do not. Also the question of which treatment approaches help which participant the most is a multivariate, complicated and detailed question that will be better left to future studies.

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Appendix A, Consent, Cover Sheet, Instructions and Questionnaire  
Bellevue University  
Research Consent Form

1. I have freely consented to participate in the research project titled "The influence of a wide spectrum of treatment approaches on outcomes for major Depressive Disorder" conducted by Robert. D. Neve under the supervision of Dr. Roxanne L. Sullivan of the Department of Behavioral Sciences, Bellevue University.
2. The study has been explained to me and I understand the explanation that has been given and what my participation will involve.
3. I understand that I am free to discontinue my participation in the project at any time without penalty.
4. I understand that the results of the study will be treated in strict confidence.
5. I understand that at my request, I will be able to receive additional explanation of the purpose of the study and the results of the study will be made available to me after my participation is completed.
6. I understand that no personal names will be used in connection with the data or results that will be used in writing up the final research paper.

Signed \_\_\_\_\_

Date \_\_\_\_\_

Questionnaire Demographics

Participant First Name Only: _____
Participant Date of Birth: _____
Participant E-mail address: _____ Other E-mail: _____
Participant Phone Number: _____
Requested (not required): Full Name, _____ Address, _____ City, State, Zip _____
Optional (not required): Phone 1, _____ Phone 2 _____
Approximate Date of low point: _____
Approximate period of addressing low point: _____
Approximate Date you stopped addressing the low point (either because it got better or because you gave up). _____

<u>If applicable, (not required)</u> Approximate date you recognized you were depressed: _____ Approximate date diagnosed with major depressive disorder: _____ Diagnosing doctor: _____ Co-occurring conditions: (e.g. PTSD, GAD, Substance Dependence (what kind of substance), Borderline PD, Schizoaffective Disorder, etc.) _____
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Marital Status: <u>Never married</u> , <u>Coupled not married</u> , <u>Engaged to be married</u> , <u>Married</u> , <u>Separated</u> , <u>Divorced</u> , on <u>2nd</u> <u>3rd</u> <u>4th</u> <u>5th</u> Marriage, <u>Widowed</u> . Medications currently taking: _____ Counseling method currently using: _____ Support groups currently attending: _____ Spiritual or Religious activities currently practicing: _____
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Questionnaire Instructions

If you would, I would like you to remember a time when you were at a low point in your life. Possibly a time when you were very pessimistic in your view of the future, possibly a time when you felt there was no way to feel good again, possibly a time when your thoughts were confused and you couldn't figure out a solution to your problem no matter how hard you thought about it. If you would, I would like you to fill out this first BDI-II answering it as you would have if you were filling it out on the day that was the lowest point in your life. After you have completed that, if you would, I would like you to fill out this questionnaire, telling me what you tried to do to get out of this low point, how much you tried it, and how well it helped or hurt to get out of the low point. Finally, if you would, I would like you to fill out this second BDI-II answering it as you would have if you were filling it out on the day that you were generally done thinking about addressing this low point problem. That day may have been the day you reached some plateau of success in getting out of the low point, or it may have been the day you gave up trying to address the low point problem. Next, I want to give you the opportunity to tell me if you would like to clarify any of your answers, give me any additional comments, input or feedback. Finally, we will conclude by reviewing all your answers and give you a last opportunity to comment in a more detailed way on any part of the questionnaire. This would be a chance for you to ask me questions about the study, how to find the results, and let me know if this survey brought up any issues (co-morbid or co-occurring conditions and symptoms) that you think you need to address at this time. If any part of this survey is too disturbing for you to complete, I will gladly refer you to a professional for help, if you would like.







