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Absolutist Thinking and Depression

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Acknowledgments

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Thesis Summary

A key characteristic of depression is the presence of cognitive biases (American Psychiatric Association, 2013). This study added to the growing literature examining absolutist thinking as a potential cognitive bias associated with depression. We used data from a survey conducted at the University of South Carolina Columbia campus which included 116 students to compare the use of absolutist words in participants' writing with their depressive symptomatology. We further compared the difference in the use of absolutist words in participants' responses about success versus their responses about failure. Results revealed that there was not a significant relationship between BDI scores (M=8.55, SD=8.12) and Combined Prompts Absolutist Index (M=1.37, SD=0.95), $r(114)$=-0.026, p=0.390, one-tailed. Results revealed that there was a significant difference in absolutist word use in responses about success between the BDI comparison group (M=1.79, SD=1.01) and elevated BDI group (M=0.8, SD=0.74), $t(24)$=2.799; p=0.05, one-tailed. We discussed the implications of these findings and suggested areas of focus for future studies.

Introduction

The World Health Organization estimates that over 300 million people of all ages suffer from depression and that depression is the leading cause of disability worldwide (WHO, 2016). Furthermore, the literature shows a significant increase in depression diagnoses in adolescents and young adults over the last ten years (Twenge, et al., 2019). These factors bring to our attention the continued need to devote time and resources to studying depression. While it is one of the most widely studied mental disorders, there are still many gaps in our understanding of its characteristics. The Diagnostic and Statistical Manual of Mental Disorders, 5th Edition, describes depressive disorders as being characterized by, "the presence of sad, empty, or irritable mood, accompanied by somatic and cognitive changes that significantly affect the individual's capacity to function (American Psychiatric Association, 2013)." When combined with these key characteristics, differences in intensity, duration, and presumed etiology distinguish several types of depressive disorders that fit under the category of "depression."

The characteristics that this study is most concerned with are the cognitions that accompany depressive disorders. The wide use of Cognitive Behavioral Therapy (CBT) as a treatment for depression necessitates the critical analysis of exactly which cognitive patterns and distortions are associated with its symptoms. In his book *Cognitive Therapy and the Emotional Disorders*, Aaron Beck writes about cognitive distortions that individuals with depression often experience. Cognitive distortions are thoughts that an individual has that causes them to have a negative or irrational outlook on life. The cognitive distortion of dichotomous thinking, for example, is defined as the tendency for individuals with depression to think of life in black and

white terms. The purpose of CBT is to help the patient think critically through these distortions and establish more healthy cognitive patterns (Beck, 1979).

One cognitive pattern that has gained attention in the field of psychology recently (Al-Mosaiwi & Johnstone, 2018) is absolutist thinking. Absolutist thinking can be defined as the frequent use of "words, phrases, or ideas that denote totality, either of magnitude or probability" (Al- Mosaiwi & Johnstone, 2018). Various studies have been conducted to examine the relationship between absolutist thinking and depression. The implications of their results have the potential to change the way we currently view the cognitions associated with depression. They could serve as evidence to either support or oppose the recent trend to change cognitive processes rather than the content of thoughts, through practices such as mindfulness and meditation.

Three major studies have found evidence supporting the hypothesis that absolutist thinking is associated with depression. Teasdale et al. (2001) found that in individuals with depression, an "absolutist, dichotomous thinking style" predicted future depressive relapse. One hundred and fifty-eight individuals with depression participated in this study. They responded to five questionnaires regarding depression-related cognition. The researchers found that the number of times patients used extreme response categories ("totally agree" and "totally disagree") could more reliably predict relapse than the actual content of the answers.

A more recent study attempted to gain insight into the cognitive processes that are associated with depression by observing how often people with self-identified symptoms of depression used words that are considered "absolute." Al- Mosaiwi & Johnstone (2018) conducted a text analysis of 63 internet forums and found that anxiety, depression, and suicidal

ideation forums contained more absolutist words than control forums. The authors of this study used word count software to compare the percentage of absolutist words used in online blogs about anxiety, depression, and suicide to the percentage of absolutist words used in online control blogs. They created a 19-word absolutist dictionary for their study (found in Appendix A). They found that each of these blogs contained more absolutist words than control blogs did, and that suicide blogs contained more absolutist words than anxiety and depression blogs. They noted that one large limitation of the study is that they had limited control. They did not know how depressed the writers of the blogs were and did not have access to demographic information. They noted that future studies should use an experimental design to further their findings.

Lastly, in 2012, a similar study was conducted but used recorded speech instead of writing. This study measured fanaticism and extremism in the speech patterns of over 400 individuals and compared the data to the participants' mental health information. They found a positive correlation between negative emotionality and "cognitive rigidity" (Cohen, 2012).

While each of these studies found significant results, there are still notable gaps in our understanding. Our study sought to fill some of these gaps by implementing an experimental design to test the relationship between depression and absolutist thinking. Furthermore, we found ourselves interested in the potential differences in absolutist thinking between depressed and non-depressed participants when responding to personal experiences of success and failure.

Several studies have shown that while non-depressed individuals are more self-focusing after success than after failure, depressed individuals are more self-focusing after failure than after success (Kuiper, 1978; Pinkley, et al., 1988; Pyszczynski, & Greenberg, 1985). These results are consistent with the suggestion made by many researchers that depressed individuals

attribute their failures to themselves rather than to extenuating circumstances. One could hypothesize that individuals who are depressed show more absolutist thinking when discussing failure than discussing success. Because they see success as relying on extenuating circumstances, and extenuating circumstances can change, it is possible that they would use less absolutist words when discussing success.

Given the results of each of the studies mentioned previously, we attempted to design an experiment that would test the following hypotheses:

Hypothesis 1: Absolutist thinking is positively associated with depression.

Hypothesis 2: Depression is associated with less absolutist thinking when discussing success (prompt 1) and more absolutist thinking when discussing failure (prompt 2).

We decided to test each hypothesis using two statistical measures (Pearson correlation and independent sample t-test). This would allow us to look at the results we found for the entire sample (n=116), as well as the difference between a comparison group and a group with elevated BDI scores. Additionally, for the entire sample and for the subsets, we performed paired-sample t-tests to determine whether the Absolutist Index (AI) for the success prompt was significantly different from the Absolutist Index for the failure prompt. Although our study was mainly concerned with the relationship between depression and absolutist thinking, we also measured other variables such as participants' symptoms of anxiety, the use of positive emotion words, etc.

Methods

Participants

We used data from a survey conducted at the University of South Carolina Columbia campus. One hundred and sixteen students between the ages of 18 and 27 (M=20.17, SD=1.64)

participated in the survey. The sample was 81.89% female; 85.34% were Caucasian, 5.17% were African American, 2.59% were Asian American, 2.59% were Hispanic or Latino, and 4.31% were of mixed or other races or did not state their ethnic background.

Measures

Beck Depression Inventory (BDI). The BDI is a 20-item questionnaire designed to assess symptoms of depression. The questionnaire was modified to eliminate questions that were not integral to our hypothesis. Participants indicated which statement (e.g., 'I do not feel sad' or 'I am sad all the time') applied to them most by checking a box beside that statement. Participants could score anywhere on a range from 0 to 60 (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). The questions on the BDI can be found in Appendix B.

Beck Anxiety Inventory (BAI). The BAI is a 21-item questionnaire designed to assess symptoms of anxiety. Participants indicated how much each symptom (e.g., unable to relax) had been bothered them in the last month by choosing one of four options- not at all, mildly, moderately, or severely. Participants could score anywhere on a range from 0 to 63 (Beck, Epstein, Brown, & Steer, 1988). The questions on the BAI can be found in Appendix C.

Writing Prompts. Participants responded to the following two prompts: "Write three paragraphs about a time when you experienced success" and "Write three paragraphs about a time when you experienced failure."

Procedures

Participants completed a survey which included the BDI, the BAI, and the two prompts. This survey was created through SurveyMonkey and was provided on the USC Psychology Department SONA system. After all responses were collected, they were searched for words in the absolutist dictionary using Google Documents software. Google Spreadsheet was used to calculate an individual's "Absolutist Index" (AI)- a percentage determined by the number of absolutist words in their responses divided by the total number of words in their responses.

Additionally, the participants' responses were analyzed for other linguistic trends using the Linguistic Inquiry and Word Count (LIWC2015) software. Five categories were examined: Negations (e.g., no, not, never), Affective Processes, (e.g., happy, cried), Positive Emotion (e.g., love, nice, sweet), Negative Emotion (e.g., hurt, ugly, nasty), and Certainty (e.g., always, never). The "Certainty" measure bears a resemblance to the Absolutist Index but includes more words (Pennebaker, Boyd, Jordan, & Blackburn, 2015). For all variables, we analyzed the score for the Success Prompt, Failure Prompt, and Combined Prompts.

Data Analysis

Paired-Samples T-Tests. In total, five paired-samples t-tests were conducted through SPSS software. Analyses were conducted to determine whether the success prompt Absolutist Index differed significantly from the failure prompt Absolutist Index in the following five groups: entire sample, BDI comparison group, elevated BDI scores group, BAI comparison group, and elevated BAI scores group. Detailed results can be found in Appendix D.

Pearson Correlations. In total, 36 Pearson correlation analyses were conducted through SPSS software. 18 correlation analyses were conducted to test the strength of the association between BDI scores and the following 18 variables: Prompt One Absolutist Index, Prompt Two Absolutist Index, Combined Prompts Absolutist Index, Prompt One Certainty, Prompt Two Certainty, Combined Prompts Certainty, Prompt One Negations, Prompt Two Negations, Combined Prompts Negations, Prompt One Affective Processes, Prompt Two Affective Processes, Combined Prompts Affective Processes, Prompt One Positive Emotions, Prompt Two Positive Emotions, Combined Prompts Positive Emotions, Prompt One Negative Emotions, Prompt Two Negative Emotions, and Combined Prompts Negative Emotions. Additionally, 18 correlation analyses were conducted to test the strength of the association between BAI scores and the variables mentioned above. Detailed results can be found in Appendix E.

Independent Sample T-Tests. In total, 36 independent sample t-tests were conducted through SPSS software. 18 independent sample t-tests were conducted to determine if the average score of the 18 variables mentioned above differed significantly between subjects whose BDI scores were zero (BDI comparison group), and subjects whose BDI scores were greater than or equal to 19 (elevated BDI group). Additionally, 18 independent sample t-tests were conducted to determine if the average score of the 18 variables mentioned above differed significantly between subjects whose BAI scores were less than or equal to three (BAI comparison group), and subjects whose BAI scores were greater than or equal to 16 (elevated BAI group). Detailed results can be found in Appendix F.

Results

Paired-Samples T-Tests

A one-tailed, paired-samples t-test was conducted to determine whether Prompt One Absolutist Index differed significantly from Prompt Two Absolutist Index in the entire sample. Results indicated that mean AI scores from Prompt One (M=1.34, SD=1.09) did not differ significantly from the mean AI scores from Prompt Two (M=1.43, SD=1.28), t(115)=-0.786, p=0.241. These results were consistent across the four subsets (BDI comparison group, elevated BDI scores group, BAI comparison group, elevated BAI scores group), showing no significant difference between Prompt One Absolutist Index and Prompt Two Absolutist Index.

Pearson Correlations

Pearson correlation analysis revealed that there was not a significant relationship between BDI scores (M=8.55, SD=8.12) and Prompt One Absolutist Index (M=1.34, SD=1.09), r(114)=-0.118, p=0.103, one-tailed. Additionally, there was not a significant relationship between BDI scores and Prompt Two Absolutist Index (M=1.43, SD=1.28), r(114)=0.072, p=0.220, one-tailed. Nor was there a significant relationship between BDI scores and Combined Prompts Absolutist Index (M=1.37, SD=0.95), r(114)=-0.026, p=0.390, one-tailed.

Similar results were found in relation to BAI scores. Pearson correlation analysis revealed that there was not a significant relationship between BAI scores (M=12.16, SD=12.29) and Prompt One Absolutist Index, r(114)=-0.104, p=0.133, one-tailed, or BAI scores and Prompt Two Absolutist Index, r(114)=0.130, p=0.082, one-tailed. Nor was there a significant correlation between BAI scores and Combined Prompts Absolutist Index, r(114)=0.017, p=0.430.

All other Pearson correlation analyses revealed that there were no significant relationships.

Independent Sample T-Tests

An independent sample t-test revealed that the average Prompt One Absolutist Index differed between the BDI comparison group (M=1.79, SD=1.01) and elevated BDI group (M=0.8, SD=0.74). Results show that the BDI comparison group had significantly higher Absolutist Index scores in Prompt One than the elevated BDI group, $t(24)=2.799$; $p=0.05$, one-tailed (Figure 1).

Additionally, an independent sample t-test revealed that the average Prompt One Certainty score differed between the BDI comparison group (M=2.4, SD=1.35) and the elevated BDI group (M=1.43, SD=1.08). Results show that the BDI comparison group had significantly higher Certainty scores in Prompt One than the elevated BDI group, $t(24)=2.004$; $p<0.05$, one-tailed (Figure 2). An independent sample t-test also revealed that the average combined prompts Certainty score differed between the BDI comparison group (M=2.14, SD=1.06) and the elevated BDI group (M=1.44, SD=0.43). Results show that the BDI comparison group had significantly higher Certainty Scores in combined prompts than the elevated BDI group, $t(24)=2.125$; $p<0.05$, one-tailed (Figure 3).

Analysis revealed that there was no significant difference in Prompt Two Absolutist Index between BDI comparison group (M=1.46, SD=1.58) and elevated BDI group (M=1.49, SD=1.58), $t(24)=-0.051$; $p=0.48$, one-tailed. There was also not a significant difference in Prompt Two Certainty scores between the BDI comparison group (M=1.93, SD=1.3) and elevated BDI group (M=1.49, SD=0.71), $t(24)=1.022$; $p=0.159$, one-tailed. All other independent

sample t-tests revealed that there were no significant differences between the BDI comparison group and elevated BDI group besides ones mentioned above.

Independent sample t-tests revealed only one measure that differed significantly between the BAI comparison group and the elevated BAI group. Analysis revealed that the average Prompt Two Positive Emotions differed significantly between the BAI comparison group (M=3.0, SD=1.34) and the elevated BAI group (M=2.36, SD=1.43). Results show that the BAI comparison group used significantly more positive emotion words, $t(66)=1.911$; $p<0.05$, one-tailed (Figure 4).

Discussion

Contrary to results found in previous studies, our results indicate that absolutist thinking is not positively correlated with depressive tendencies, nor is there a significant difference in absolutist thinking in combined prompts between the elevated depression group and the comparison group. This leads us to reject our first hypothesis. There are several possible reasons why we may not have found significant results, including errors in the study design and a limited sample, as I will discuss below. An alternative explanation is that the degree of absolutist word use relies on the motivation the writer has for writing about their experiences. In our study's design, participants were required to write about experiences of success and failure to receive extra credit for psychology courses. In previous studies which used an observation design, participants wrote about their experiences out of their own volition in the form of blogging (Al-Mosaiwi & Johnstone, 2018). It is possible that people who are more inclined to freely share their experiences with depression are also more inclined to use absolutist words. Further investigation is necessary to determine if this is the case.

Our results indicated that individuals in the elevated depression group did have significantly lower AI scores in responses about success than the comparison group, but there was no significant AI difference between elevated depression group and comparison groups in responses about failure. This leads us to partially accept our second hypothesis and partially reject it. We correctly hypothesized that depressed individuals would use less absolutist words in responses about success, but were incorrect in our hypothesis that depressed individuals would use more absolutist words in responses about failure.

The results regarding anxiety were moderately similar to the results regarding depression. Our results indicate that absolutist thinking is not positively correlated with anxiety, nor is there a significant difference in absolutist thinking in combined prompts between the elevated anxiety group and the comparison group. The only major difference was that the anxiety comparison group used more positive emotion words when discussing failure than the elevated anxiety group. This difference was not present in the elevated depression and depression comparison groups. An explanation for this finding could be due to the fact that anxiety is a predictor of aversion to failure (Lucas, 1952).

What do these results mean in regards to the use of Cognitive Behavioral Therapy to treat depression? Although absolutist thinking could have negative effects on a patient's mental health, our results indicate that absolutist thinking is not associated with depressive symptoms. More research is needed to test if our results are consistent across various settings and populations. Alternatively, our results suggest that it could be beneficial to individuals with depressive symptoms if CBT focused on their mindset towards success and failure. This could manifest in treatment related to self-esteem, motivation, or growth-mindset. More research is

needed to determine how CBT should be oriented when discussing failure and success with depressed patients.

There were many notable limitations to this study, the first and foremost being the small sample size. There were 116 participants total, but only 12 participants had BDI scores equal to or higher than 19, indicating moderate to severe depressive tendencies. This was due to the limited amount of time available to complete this project as well as the limited pool of participants available in the Psychology Department SONA system. Future studies may benefit from conducting this study in a clinical setting with access to more participants who have been diagnosed with depression. Secondly, the method of gathering data for this study was through an online survey, which may have had an effect on participants' focus. Future studies may benefit from having participants come into a lab to write their responses, so as to monitor that the participants are focused on the prompts and are putting sufficient effort into their writing. Lastly, participants were limited in the topics which they could write about. They were asked to write about experiences of success and experiences of failure. Future studies may benefit from asking participants to write about anything they choose.

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Graphs and Figures

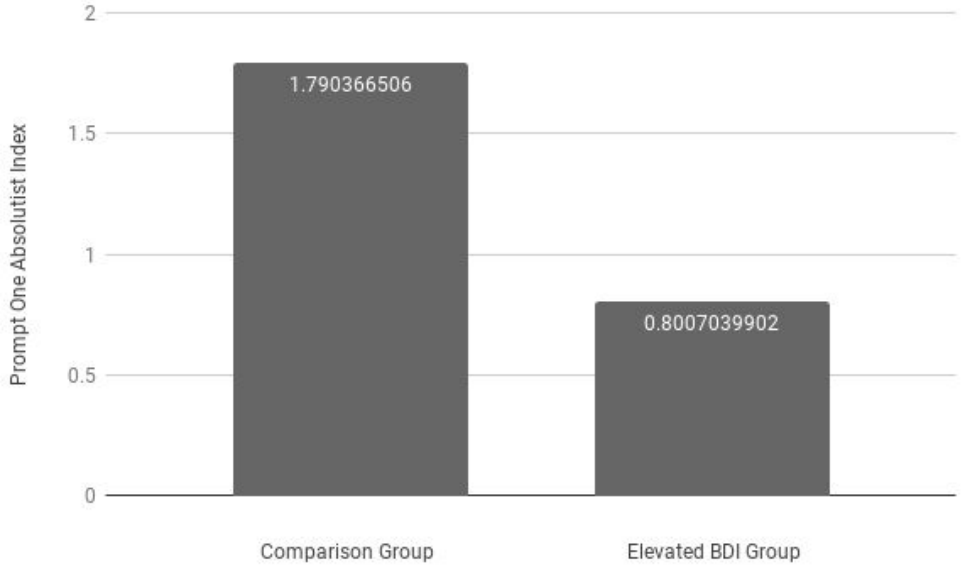

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Figure 1: Mean score for Prompt 1 Absolutist Index in BDI Comparison Group and Elevated BDI Group.

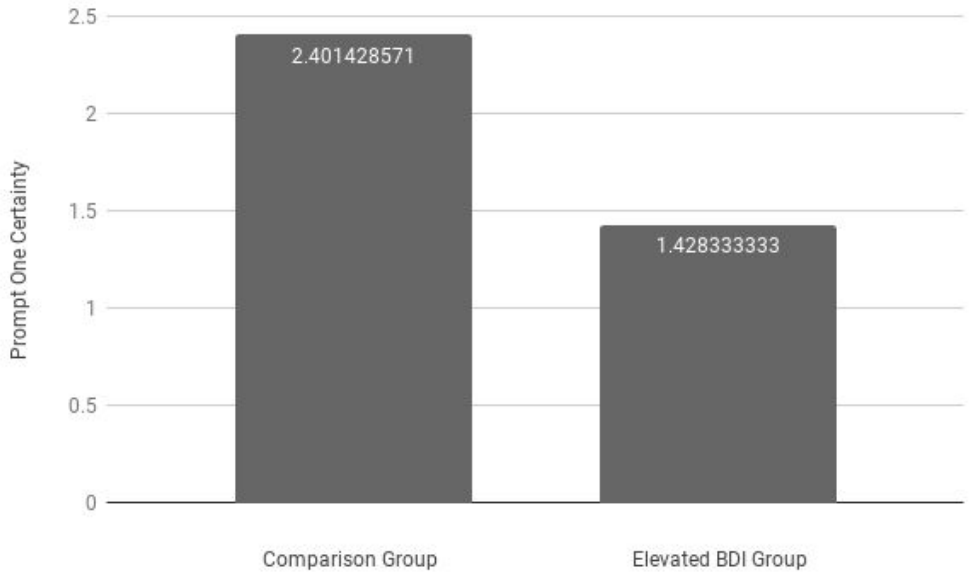

Figure 2: Mean score for Prompt 1 Certainty in BDI Comparison Group and Elevated BDI Group.

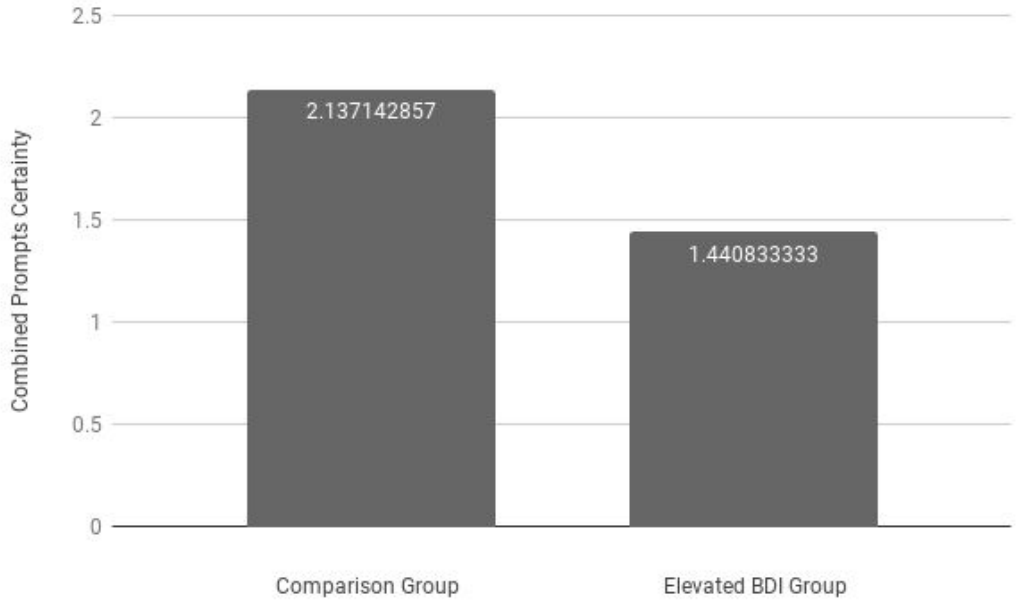

Figure 3: Mean score for Combined Prompts Certainty in BDI Comparison Group and Elevated BDI Group.

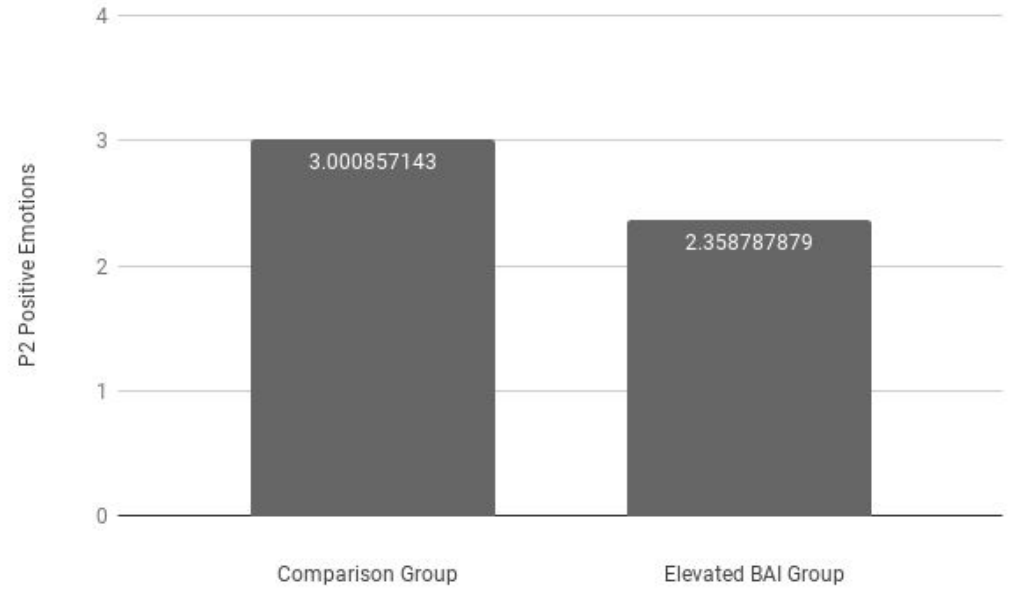

Figure 4: Mean score for Prompt 2 Positive Emotions in BAI Comparison Group and Elevated BAI Group.

Appendices

Appendix A

Absolutist Words

Absolutely

All

Always

Complete

Completely

Constant

Constantly

Definitely

Entire

Ever

Every

Everyone

Everything

Full

Must

Never

Nothing

Totally

Whole

Appendix B

Beck Depression Inventory

Below is a list of statements. Please read each statement very carefully and rate which one you agree with most by circling the appropriate statement.

1.
   0 I do not feel sad.
   1 I feel sad
   2 I am sad all the time and I can't snap out of it.
   3 I am so sad and unhappy that I can't stand it.
2.
   0 I am not particularly discouraged about the future.
   1 I feel discouraged about the future.
   2 I feel I have nothing to look forward to.
   3 I feel the future is hopeless and that things cannot improve.
3.
   0 I do not feel like a failure.
   1 I feel I have failed more than the average person.
   2 As I look back on my life, all I can see is a lot of failures.
   3 I feel I am a complete failure as a person.
4.
   0 I get as much satisfaction out of things as I used to.
   1 I don't enjoy things the way I used to.
   2 I don't get real satisfaction out of anything anymore.
   3 I am dissatisfied or bored with everything.
5.
   0 I don't feel particularly guilty
   1 I feel guilty a good part of the time.
   2 I feel quite guilty most of the time.
   3 I feel guilty all of the time.
6.
   0 I don't feel I am being punished.
   1 I feel I may be punished.
   2 I expect to be punished.
   3 I feel I am being punished.

7.

0 I don't feel disappointed in myself.
1 I am disappointed in myself.
2 I am disgusted with myself.
3 I hate myself.

8.

0 I don't feel I am any worse than anybody else.
1 I am critical of myself for my weaknesses or mistakes.
2 I blame myself all the time for my faults.
3 I blame myself for everything bad that happens.

9.

0 I don't cry any more than usual.
1 I cry more now than I used to.
2 I cry all the time now.
3 I used to be able to cry, but now I can't cry even though I want to.

10.

0 I am no more irritated by things than I ever was.
1 I am slightly more irritated now than usual.
2 I am quite annoyed or irritated a good deal of the time.
3 I feel irritated all the time.

11.

0 I have not lost interest in other people.
1 I am less interested in other people than I used to be.
2 I have lost most of my interest in other people.
3 I have lost all of my interest in other people.

12.

0 I make decisions about as well as I ever could.
1 I put off making decisions more than I used to.
2 I have greater difficulty in making decisions more than I used to.
3 I can't make decisions at all anymore.

13.

0 I don't feel that I look any worse than I used to.
1 I am worried that I am looking old or unattractive.
2 I feel there are permanent changes in my appearance that make me look unattractive
3 I believe that I look ugly.

14.

0 I can work about as well as before.
1 It takes an extra effort to get started at doing something.
2 I have to push myself very hard to do anything.
3 I can't do any work at all.

15.

0 I can sleep as well as usual.
1 I don't sleep as well as I used to.
2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.
3 I wake up several hours earlier than I used to and cannot get back to sleep.

16.

0 I don't get more tired than usual.
1 I get tired more easily than I used to.
2 I get tired from doing almost anything.
3 I am too tired to do anything.

17.

0 My appetite is no worse than usual.
1 My appetite is not as good as it used to be.
2 My appetite is much worse now.
3 I have no appetite at all anymore.

18.

0 I haven't lost much weight, if any, lately.
1 I have lost more than five pounds.
2 I have lost more than ten pounds.
3 I have lost more than fifteen pounds.

19.

0 I am no more worried about my health than usual.
1 I am worried about physical problems like aches, pains, upset stomach, or constipation.
2 I am very worried about physical problems and it's hard to think of much else.
3 I am so worried about my physical problems that I cannot think of anything else.

20.

0 I have not noticed any recent change in my interest in sex.
1 I am less interested in sex than I used to be.
2 I have almost no interest in sex.
3 I have lost interest in sex completely.

Appendix C

Beck Anxiety Inventory

Below is a list of common symptoms of anxiety. Please carefully read each item in the list. Indicate how much you have been bothered by that symptom during the past month, including today, by marking the appropriate box.

	Not At All	**Mildly, but it didn't bother me much**	**Moderately - it wasn't pleasant at times**	**Severely- it bothered me a lot**
Numbness or tingling				
Feeling hot				
Wobbliness in legs				
Unable to relax				
Fear of worst happening				
Dizzy or lightheaded				
Heart pounding/racing				
Unsteady				
Terrified or afraid				
Nervous				
Feeling of choking				
Hands trembling				
Shaky/unsteady				
Fear of losing control				
Difficulty in breathing				
Fear of dying				

Scared				
Indigestion				
Faint/lightheaded				
Face flushed				
Hot/Cold sweats				

Appendix D

Paired-Samples T-Tests

	Total	BDI Comparison Group	Elevated BDI Group	BAI Comparison Group	Elevated BAI Group
P1 AI & P2 AI	$t(115)=-0.706$; $p=0.241$	$t(13)=0.964$; $p=0.176$	$t(11)=-1.286$; $p=0.113$	$t(34)=0.712$; $p=0.241$	$t(32)=-1.638$; $p=0.056$

Appendix E

Pearson Correlation Analyses

	P1 AI	P2 AI	(P1 + P2) AI
BDI	r=-0.118, p=0.103	r=0.072, p=0.220	r=-0.026, p=0.390
BAI	r=-0.104, p=0.133	r=0.130, p=0.082	r=0.017, p=0.430

	P1 certain	P2 certain	(P1 + P2) certain
BDI	r=-0.113, p=0.113	r=-0.01, p=0.458	r=-0.074, p=0.216
BAI	r=-0.029, p=0.378	r=0.094, p=0.158	r=0.041, p=0.331

	P1 negate	P2 negate	(P1 + P2) negate
BDI	r=-0.103, p=0.137	r=-0.03, p=0.373	r=-0.103, p=0.135
BAI	r=-0.115, p=0.11	r=-0.022, p=0.408	r=-0.105, p=0.132

	P1 affect	P2 affect	(P1 + P2) affect
BDI	r=-0.006, p=0.476	r=0.025, p=0.396	r=0.006, p=0.474
BAI	r=-0.006, p=0.473	r=0.007, p=0.471	r=-0.011, p=0.452

	P1 posemo	P2 posemo	(P1 + P2) posemo
BDI	r=-0.010, p=0.457	r=-0.06, p=0.262	r=-0.038, p=0.341
BAI	r=-0.013, p=0.446	r=-0.094, p=0.158	r=-0.051, p=0.294

	P1 negemo	P2 negemo	(P1 + P2) negemo
BDI	r=-0.008, p=0.468	r=0.075, p=0.213	r=0.053, p=0.286
BAI	r=0.014, p=0.441	r=0.075, p=0.212	r=0.041, p=0.333

Appendix F

Independent Sample T-Tests

	BDI Comparison Group & Elevated BDI Group	BAI Comparison Group & Elevated BAI Group
P1 AI	***t*(24)=2.799; *p*=0.05**	*t*(66)=0.442; *p*=0.33
P1 certain	***t*(24)=2.004; *p*=0.028**	*t*(66)=0.165; *p*=0.435
P1 negate	*t*(24)=0.397; *p*=0.348	*t*(66)=0.677; *p*=0.251
P1 affect	*t*(24)=0.069; *p*=0.473	*t*(66)=-0.387; *p*=0.35
P1 posemo	*t*(24)=-0.138; *p*=0.446	*t*(66)=-0.176; *p*=0.431
P1 negemo	*t*(24)=0.256; *p*=0.4	*t*(66)=-0.549; *p*=0.293
P2 AI	*t*(24)=-0.051; *p*=0.48	*t*(66)=-1.565; *p*=0.061
P2 certain	*t*(24)=1.022; *p*=0.159	*t*(66)=-1.407; *p*=0.082
P2 negate	*t*(24)=-0.093; *p*=0.463	*t*(66)=-0.224; *p*=0.412
P2 affect	*t*(24)=0.121; *p*=0.453	*t*(66)=0.167; *p*=0.434
P2 posemo	*t*(24)=-0.123; *p*=0.452	***t*(66)=1.911; *p*=0.03**
P2 negemo	*t*(24)=0.307; *p*=0.381	*t*(66)=-1.178; *p*=0.122
(P1+P2) AI	*t*(24)=1.29; *p*=0.105	*t*(66)=-0.628; *p*=0.266
(P1+P2) certain	***t*(24)=2.125; *p*=0.022**	*t*(66)=-0.658; *p*=0.257
(P1+P2) negate	*t*(24)=0.287; *p*=0.389	*t*(66)=0.481; *p*=0.316
(P1+P2) affect	*t*(24)=0.232; *p*=0.409	*t*(66)=-0.009; *p*=0.497
(P1+P2) posemo	*t*(24)=-0.174; *p*=0.432	*t*(66)=0.76; *p*=0.23
(P1+P2) negemo	*t*(24)=0.488; *p*=0.315	*t*(66)=-0.914; *p*=0.182

Boldface: p-value ≤ 0.05