THE EFFECTS OF REATTRIBUTION TRAINING AND BEHAVIORAL ACTIVATION ON COGNITIVE VULNERABILITIES TO DEPRESSION AMONG COLLEGE STUDENTS

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The Effects of Reattribution Training and Behavioral Activation on Cognitive Vulnerabilities to Depression Among College Students

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ABSTRACT

Depression among adolescents and college students comes with significant negative impacts on multiple areas of functioning as well as burdens on society. It is important to understand what makes young people vulnerable to experiencing depression as well as how to prevent it. This study intended to compare cognitive and behavioral skills training to determine their effect on cognitive vulnerabilities to depression. Participants who have never been depressed were recruited based on high levels of cognitive vulnerabilities to depression. They were randomized to a cognitive condition, a behavioral condition, or a waitlist condition. Pre-, post-, and follow-up measures were collected including cognitive vulnerabilities, symptoms of depression and anxiety, areas of general functioning, and the credibility of the workshops. Overall, participants in all conditions demonstrated decreases in dysfunctional attitudes and state anxiety overtime as well as increases in sleep quality, satisfaction with life, perceived social support, and academic self-concept. Individuals in the both the cognitive and behavioral conditions demonstrated decreases in level of rumination from pre-workshop to the time of follow-up. Decreases in dysfunctional attributional styles were found for those in the cognitive condition. Lastly, individuals in both workshop conditions demonstrated significant increases in behavioral activation whereas those in the waitlist condition demonstrated a significant decrease. This study provides us with inconclusive evidence regarding whether brief skills training workshops may be of use when attempting to reduce cognitive vulnerability to depression.

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THE EFFECTS OF REATTRIBUTION TRAINING AND BEHAVIORAL ACTIVATION ON COGNITIVE VULNERABILITIES TO DEPRESSION AMONG COLLEGE STUDENTS

The age of onset for major depressive disorder (MDD) often takes place during adolescence, ages 10-19 (Hammen & Garber, 2001). This range of individuals includes those in middle and high school as well as college. By age 18, up to 24% of adolescents may have already experienced a depressive episode (Lewinsohn, Rohde, & Seely, 1998). A large survey conducted for the Oregon Adolescent Depression Project found that the mean age of onset for the first depressive episode was 14.9 years (OADP; Lewinsohn et al., 1998). During this period of development there are many changes occurring as well as unique stressors present. Adolescents begin going through puberty which is associated with many physical and emotional changes. When students advance to later elementary, middle school, high school and college, they become confronted by many social pressures. These pressures include things such as developing a social circle, bullying, and exposure to drugs, alcohol, and sexual behaviors among others. While all adolescents and young adults will likely encounter many of the same stressors, it may be that some encounter them in greater intensity or simply are unable to navigate them as successfully. For those who may already be susceptible to developing a disorder like depression, the particular stressors listed above may increase an individual's risk of developing depression.

Hunt and Eisenberg (2010) note that college students are not protected from the consequences of a psychological disorder like depression, though as a group college students tend to be viewed as advantaged or insusceptible. Results from the Oregon Adolescent Depression Project suggest that there are not many differences, between adults and older adolescents in the presentation of depression, suggesting that we should attempt to conceptualize treatments in similar manners (Lewinsohn et al., 1998). Lewinsohn and colleagues (1998) found

that adolescents wanted similar things from treatment as adults. These included help with coping skills, interpersonal relationships, mood and self-esteem. A survey conducted in 2008 by the American College Health Association (2008) found that more than one third of the sample of college students reported experiencing a level of depression that made it hard for them to function. The Healthy Minds Survey conducted in 2007 and 2009 screened students using the PHQ-9 and found that 17% of students screened positive for depression (Hunt & Eisenberg, 2010). Lifetime prevalence rates of MDD among American adolescents ages 17-18 have been found to range from 13.5%, as found by the National Comorbidity Study (NCS, Kessler & Walters, 1998), to 24%, as found by the Oregon Adolescent Depression Project (OADP, Lewinsohn et al., 1998). It appears that prevalence and incidence rates are continuing to increase. Lewinsohn and colleagues estimate that by the time adolescents turn 19 years old, 28% will have experienced a major depressive episode (OADP, Lewinsohn et al., 1998).

The point of life at which most people enter college is a time of many developmental and emotional changes. This is a time when students are most likely transitioning from a life at home with family and close peers to a new environment with more independence. The transition may lead to students having a difficult time managing the new academic workload, maintaining relationships and implementing healthy coping mechanisms (Hunt & Eisenberg, 2010). Not only are students experiencing more independence, they may also experience changes in sleep, daily scheduling, finances, and exposure to unhealthy coping mechanisms such as drugs and alcohol (Andrews & Wilding, 2004; Kadison & DiGeronimo, 2004; Monroe, Rohde, Seeley, & Lewinsohn, 1999). Other sources of stress found when surveying American college students have been pressure from family to do well in school and concerns or issues with roommates (Aselton, 2012). Students not only have to worry about what is going on with their lives during

school, but also have the worry about what is to come following graduation. The job market for many college students is quite competitive so they may also have increased stress resulting from worries about obtaining employment and being able to pay off student debt (Dusselier, Dunn, Wang, Shelley, & Whalen, 2005).

Though it is problematic that many young individuals are facing new challenges in their lives and subsequently may encounter emotional difficulties like depressive symptoms if unable to cope, it is also an opportune time to intervene on those at risk and build protective factors to mitigate likelihood of negative outcomes. Data suggest that less than half of young people affected by depression seek treatment (Eisenberg, Golberstein, & Gollust, 2007; Hunt & Eisenberg, 2010). Chances of experiencing a future episode of depression increase greatly once an individual experiences the first depressive episode (Kessing, 1998). Thus, it is important to attempt to intervene before or near the first episode to enhance the likelihood of success as the adolescent emerges into a more independent phase of life. If we are able to provide preventative efforts in schools or universities, we may be able to combat some of the issues surrounding untreated depression.

A first step in this effort is to identify those who are at-risk. Being able to identify who is at risk involves having a full understanding of the existing theories for depression as well as prominent risk factors. Following appropriate identification of a target population, efforts must be made to reduce the risk of depression for these individuals. Doing so will help to improve social, emotional and overall functioning as well as reduce financial burden, likelihood of other psychopathology and the potential dangers of depression. Several years of research have already begun to tackle these issues by developing prevention programs for adolescents and college

students at risk for depression. There is still work to be done to determine what might be most appropriate and effective for these younger populations.

To begin, this paper discusses the major cognitive and interpersonal theories that underlie adolescent and college student depression. That is followed by a discussion regarding findings of various depression prevention programs that have been designed based on the underlying characteristics of cognitive and interpersonal theories of depression. The paper concludes by identifying shortcomings that remain in the prevention literature and as well as a study designed to begin to address the shortcomings.

Theoretical Perspectives of Depression

There are several theories identifying factors that put individuals at risk of developing depression. Two of the most prominent theoretical perspectives include cognitive factors (Beck, 1967; Abramson, Metalsky, & Alloy, 1989; Nolen-Hoeksema, 1991) and interpersonal factors (Hankin et al., 2015; Lee, Hankin, & Mermelstein, 2010; Lewinsohn, Mischel, Chaplin, & Barton, 1980). These broad theories were originally developed for adults and subsequently resulted in cognitive and interpersonal therapies for adults. They have since been adapted to take on a developmental perspective in order to be applied to younger populations. Depression is a multifactorial disorder for which a number of causes may act in various combinations to produce the disorder. It is unlikely that any one of these vulnerabilities would lead someone to becoming depressed. If this is true, however, it may also mean that if an individual is successful in one of the facets (i.e. cognitive or interpersonal) it may buffer the effect of the vulnerability factor they possess. Despite the fact that individuals may become depressed for different reasons, it has been found that for interventions which are focused on one putative vulnerability (i.e., biology or cognition), changes are often observed equally across symptom categories (DeRubeis, Hollon,

Amsterdam, & et al, 2005; Dimidjian et al., 2006; Rush, Beck, Kovacs, & Hollon, 1977). It is important to understand the various vulnerabilities in isolation as well as how they may interact to inform prevention research.

Cognitive Theories of Depression

Beck's cognitive theory of depression is based on the idea that individuals hold dysfunctional attitudes about themselves and the world that increase the risk for becoming depressed (Beck, 1967). Dysfunctional attitudes can be described as beliefs that are rigid and extreme. Having dysfunctional attitudes makes it difficult for people to interpret negative events in a neutral or positive way. Most events will have negative and positive qualities, but individuals with dysfunctional attitudes will tend to pay excessive attention to the negative aspects. Paying more attention to only negative information can in turn reinforce negative beliefs they have about themselves or the world such as being imperfect or being unlikeable (Beck, 1967).

Dysfunctional attitudes have consistently been a strong predictor of depression. Several investigations of Beck's cognitive theory have demonstrated its predictive validity. In a longitudinal study of adolescents, Beck's cognitive theory was superior to response style theory as well as an integrated model combining Beck's model with response style theory in predicting depressive symptoms (Winkeljohn, Black, & Pössel, 2015). In another study, it was found that adolescents sampled from eight English classes in grade 9-12 who scored high on a measure of dysfunctional attitudes reported greater levels of depression than adolescents with low levels of dysfunctional attitudes (Moilanen, 1995). This finding suggests that when an adolescent begins to experience depressive symptoms at a young age, those symptoms might be especially connected to strong dysfunctional attitudes. Several groups of researchers have found that

adolescents with high levels of dysfunctional attitudes are likely to develop depression in the face of stress which points to Beck's model as a valid prediction for adolescent depression (Abela & Hankin, 2011; Hankin, Abramson, & Siler, 2001; Lewinsohn, Joiner, & Rohde, 2001). Among college students, dysfunctional attitudes have been identified as significant predictors of dysphoric symptoms (Lakdawalla & Hankin, 2008). In a sample of never-depressed college students, dysfunctional attitudes were found to be predictive of future depression (Hunt & Forand, 2005).

The hopelessness theory of depression is based on the idea that in the presence of negative life events, some people become depressed where as others do not because of the causal inferences they make about those events (Abramson et al., 1989). A negative cognitive style is one in which an individual has the tendency to consider the cause of a negative event as stable and global whereas an individual with a neutral or positive cognitive set may consider the causes of events as unstable and specific. A stable cause would mean that the problem is going to be constant over time whereas the identification of an unstable cause leads to an inference that the event is isolated, rare, or likely to change in the future. A global cause would mean that the negative event is going to happen across a variety of contexts and influence many aspects of a person's life as opposed to being specific to one context. Within the hopelessness theory of depression, there is also an assumption or belief it is inevitable that more negative events will happen or that the future holds no promise (i.e., hopelessness). Individuals who possess a negative cognitive style are at an increased risk for developing depression when they experience negative life events (Abramson et al., 1989).

Several studies have found evidence in support of a negative cognitive style serving as predictors of depression. A prospective study found that in the presence of stress, a negative

cognitive style significantly predicted depression in a samples of adolescents in the U.S. and China (Abela & Hankin, 2011; Hankin, 2008). In a review comparing the hopelessness theory with Beck's cognitive theory, the authors found strong support for the hopelessness theory but little support for Beck's theory (Lakdawalla, Hankin, & Mermelstein, 2007). Among college students, a negative cognitive style has been identified as a significant predictor of dysphoric symptoms (Lakdawalla & Hankin, 2008). Negative cognitive style has also been found to predict fluctuations in depressive symptoms among college students (Hankin, 2010).

The response styles theory of depression is based on the idea that some individuals ruminate in response to stress such that they repeatedly think about why a stressful event happened and what may come of it as opposed to how to resolve it (Nolen-Hoeksema, 1991). Rumination is predictive of the onset, severity and duration of a depressive episode (Just & Alloy, 1997; Nolen-Hoeksema, 1991). This theory came from work which was investigating why so many more women develop the disorder than men. Many people who ruminate tend to think that what they are doing is helpful, but it typically results in them feeling worse about the situation. Rumination prolongs a depressive episode because of the primary focus on negative affect or negative cues, which in turn exacerbates a negative bias in thinking and interferes with productive problem-solving.

There is support for the role of response styles theory in adolescent and college student depression. Rumination predicts depressive symptoms among adolescents following stressful live events and increases in depressive symptoms across time (Abela & Hankin, 2011; Hilt, McLaughlin, & Nolen-Hoeksema, 2010; Skitch & Abela, 2008). Gender differences consistent with the adult literature have also been found. Rumination is a significant predictor of depressive symptoms for males and females, but the effect is stronger for females (Jose & Brown, 2008). In

a sample of college students, it was found that a tendency to ruminate in response to a stressful event predicted depression and provided evidence for the mechanisms by which rumination might maintain depression (Ruscio et al., 2015).

As can be seen above, some studies comparing the predictive validity of the various cognitive vulnerabilities found support for one theory vs another. Across all studies, there appears to be a number that provide support for each of the theories and some that do not. In the end, there are more studies that support each of these three cognitive vulnerabilities than studies that do not.

Interpersonal Theories of Depression

Several interpersonal variables have been identified as risk factors for depression. Coyne's (1976) interpersonal theory of depression focuses on the idea that excessive reassurance-seeking and a lack of social support serve as vulnerability factors for depression. The theory suggests that experiencing even subthreshold levels of depressive symptoms can lead individuals to seek out reassurance from others. Typically, individuals are seeking reassurance as to whether other people care about them. Even if the other person provides reassurance, it is unlikely that the individual experiencing depressive symptoms will believe the reassurance as truth. This in turn can lead them to seek more reassurance. The reassurance seeking can then become a vicious cycle in which other people desire less and less to associate with the reassurance seeker. The reassurance seeker subsequently can experience higher levels of depressive symptoms due to perceiving a loss of social support (Coyne, 1976). The components of this theory were originally studied in adults but have been applied to adolescent and young adult samples.

Several researchers have explored Coyne's theory to determine how particular interpersonal variables combine to predict depression in adolescents and young adults. In a study by Joiner (1999), Coyne's interpersonal theory was tested using a psychiatric sample of adolescents. The adolescents completed measures of reassurance-seeking, depression, and interpersonal rejection. The results of the study suggested that excessive reassurance-seeking combined with higher levels of depressive symptoms predicted interpersonal rejection. In another study, adolescents completed measures of anxiety, depression, excessive reassurance, and social support at two time points, five weeks apart (Haeffel, Voelz, & Joiner, 2007). It was found that decreases in perceived social support interacted with excessive reassurance-seeking to predict the development of depressive symptoms. This confirmed that it is unlikely that either excessive reassurance-seeking or lack of social support alone will lead to depressive symptoms but rather some combination of the two (Haeffel et al., 2007). In a sample of college students, support for this theory was found such that individuals who were depressed sought more reassurance which in turn led to more rejection by their roommates (Joiner & Metalsky, 1995).

It also appears that if interpersonal difficulties are not addressed at the time they occur, they can predict depressive episodes even past adolescence. In a study looking at risk of depression across time, the authors studied individuals from birth through the age of 20 (Katz, Conway, Hammen, Brennan, & Najman, 2011). A mediational effect was found in which social impairment at the age of 15 mediated the relationship between social withdrawal at the age of five and depression at the age of 20 (Katz et al., 2011). It is evident that adolescents do not simply "grow out" of these difficulties.

We can gather from the various vulnerabilities discussed above that depression is truly a complex disorder. There are numerous vulnerabilities demonstrated in prospective studies to

show that some individuals have a greater risk than others to develop depression. In order to best understand depression, we need to better understand the individual pieces. Several of the authors mentioned above have attempted to take their findings and apply them to preventative research as well as suggest ideas for future preventative research.

There have been many treatments developed for depression which are broadly based on the theories described above. Some include mainly cognitive-behavioral components or mainly interpersonal components while others use a combination of cognitive-behavioral and interpersonal strategies. Just like the theories, most of the treatments were developed and tested using adult samples and were later applied to adolescents and young adults. When researchers became interested in the prevention of depression, attempts were made to use the same treatment programs, or at least components of treatment programs, as prevention programs. Several of these programs will be described below.

Depression Prevention Programs for Adolescents and Young Adults

To begin, it should be made clear that not all prevention programs are developed with the same goals in mind. Before describing the findings of existing programs, this paper will describe the types of prevention approaches that exist in the mental health field. Like other areas of preventative research, for example in the medical or pharmaceutical fields, different groups of individuals may be targeted (Horowitz, Garber, Ciesla, Young, & Mufson, 2007). Mental health prevention research includes three different program approaches. The first approach is universal (primary prevention). Universal programs are intended for all of those in a certain population regardless of symptom presentation. For example, a universal prevention program for freshmen in college may be investigated by including all incoming freshmen at a university. The universal approach is similar to the way many immunization programs work where youth are immunized

to prevent the occurrence of a particular illness. The second approach is selective (secondary prevention). Selective programs are intended for those who appear to be at risk of developing a particular disorder but are not necessarily displaying symptoms of that disorder. Individuals included in selective programs may exhibit some type of vulnerability factor for a disorder. For example, a selective prevention program for adolescents in grades 7 and 8 might select those students at a familial risk of depression to participate in the program. The third approach is called an indicated approach (tertiary prevention). Indicated programs are intended for those who are already exhibiting signs of a particular disorder or are at a subclinical threshold of a particular disorder (Horowitz et al., 2007) and intend to prevent worsening of the condition or further negative outcomes. These three program approaches are thought of as ways to implement particular types of intervention. In the public health field, the terms primary, secondary and tertiary intervention are used to describe different types of prevention. The definitions of primary, secondary and tertiary prevention align with the definitions of universal, selective and indicated prevention approaches (Rapee, 2008). For example, to achieve primary intervention one would use a universal approach. The decision to choose one type of prevention approach over another can be made for different reasons and each of the three types have both advantages and disadvantages. For the purposes of this paper, selective and indicated prevention programs are of particular interest; however, for comparison some universal programs will also be discussed.

Several different depression prevention programs for adolescents and college students exist. Many of them are based on cognitive-behavioral principles while others are based on interpersonal principles. Adolescent programs have been studied in elementary, middle and high schools. Several packaged programs exist as well as more general programs. To begin, cognitive-

behavioral and interpersonal prevention programs for adolescents that use a universal approach have demonstrated small to moderate effects and these effects do not typically last through follow-ups even as short as three or six months. The effects of these programs include significant decreases in depressive symptoms, improvements in social functioning, and increases in problem-solving (Groen, Pössel, Al-Wiswasi, & Petermann, 2003; Pössel, Baldus, Horn, Groen, & Hautzinger, 2005; Pössel, Horn, Groen, & Hautzinger, 2004; Pössel, Horn, & Hautzinger, 2003, 2006; Pössel, Seemann, & Hautzinger, 2008; Rose, Hawes, & Hunt, 2014; Shochet et al., 2001; Spence, Sheffield, & Donovan, 2003, 2005). There are, however, mixed findings for these types of programs. Thus, it is difficult to provide any strong support for the use of any one of these particular programs.

Selective and indicated prevention programs for adolescents have demonstrated stronger effects, yet the effects often remain relatively small in size. One program based on interpersonal principles was able to decrease depressive symptoms (Horowitz et al., 2007; Young, Mufson, & Davies, 2006) and increase overall functioning (Young et al., 2006). Cognitive-behavioral prevention programs that use selective or indicated approaches for adolescents have also been shown to decrease depressive symptoms on some measures of depression (Clarke et al., 1995, 2001, Gillham et al., 2007, 2012), improve overall functioning (Clarke et al., 2001), and decrease the incidence of depression (Garber et al., 2009). Only one of these studies was able to maintain a significant effect at a longer follow-up of three years (Gillham et al., 2007).

Prevention programs for use with college students seem to appear less in the literature. There are not necessarily as many programs readily available as can be seen in the adolescent literature and those that do exist are not necessarily studied extensively. The limited amount of research among this population can be problematic when considering what problems have been

documented as a result of depression among college students as well as the potential cost to the individual and society. It does not appear that the universal approach is typically used with the college student population. Selective and indicated prevention programs for college students seem to have demonstrated somewhat better outcomes than those for adolescents while also using potentially more appropriate recruitment and measurement strategies. It is unknown why there is such a difference between the studies of adolescents and those of college students. One could speculate that it is less costly to administer a universal program within a middle or high school setting than it is in a college setting as there may be many more students in the college setting. It is also possible that the recruitment and measurement strategies we see used in the studies involving college students add benefit to the programs.

The techniques used in studies using college samples vary but most include a broad array of skills which is similar to what is seen in the adolescent literature. Also similar to the adolescent literature is the use of depressive symptoms to recruit participants and as the primary dependent variable. Lastly, here we also see a typically small to moderate effect size for most prevention programs. Findings from several studies in this literature will be described.

One study used an 8-week cognitive-behavioral workshop that was based in the classroom that also included online resources (Seligman, Schulman, & Tryon, 2007). Immediately following the workshop, those who participated had significantly lower levels of depressive symptoms than those who completed assessments only, however, this finding was not maintained at a 6-month follow-up. The authors did report that the workshop also produced significantly greater improvements on general well-being and optimism.

A brief computerized version of the Cognitive-Behavioral Analysis System of Psychotherapy (CBASP) was used with a sample of college students with the goal of decreasing

mild levels of depressive symptoms (Cukrowicz & Joiner, 2007). Individuals who participated in the intervention showed lower levels of both depressive and anxious symptoms eight weeks later. In another study, a general cognitive-behavioral program was compared to four placebo conditions as well as a waitlist control condition (Stice, Burton, Bearman, & Rohde, 2007). The four placebo conditions included a supportive-expressive group, bibliotherapy, expressive writing and journaling. It was found that there was no effect for a specific intervention immediately following completion of each as they all resulted in significantly fewer depressive symptoms than controls, however, this effect was only maintained for the cognitive-behavioral and bibliotherapy through a 6-month follow-up.

Relaxation training has also been used as a comparison to cognitive-behavioral programs. In a study using college students with elevated depressive symptoms, participants were either part of an 8-week relaxation training program or cognitive-behavioral program (Vázquez et al., 2012). There was no significant difference between the two programs, but both programs significantly reduced depressive symptoms. This study provides support to alternative methods of prevention aside from the typical cognitive-behavioral programs.

Something that does stand out in the college student literature is that there appear to be more studies with a focus on using cognitive vulnerabilities as recruitment tools and intervention targets than are seen in the adolescent literature. I argue that this direction is of more benefit to a prevention approach as opposed to recruiting and targeting based on depressive symptoms alone. It is hard to conclude that by reducing depressive symptoms alone that depression is truly being prevented. Several of these studies that use cognitive vulnerabilities for recruitment and intervention outcomes will be described.

Peden and colleagues (Peden, 2001) recruited college women who were at-risk for depression. Their study used a 6-week cognitive-behavioral prevention program with the goal of reducing negative thinking. Results indicated a significantly greater decrease in depressive symptoms and negative thinking compared to those in a no-intervention control condition as well as significantly greater improvements in self-esteem. These effects lasted through an18-month follow-up. Another study included self-esteem and negative thinking as factors to change as a result of a cognitive-behavioral prevention program along with depressive symptoms (Buchanan, 2013). This program included a 4-week cognitive behavioral intervention where college students were taught ways to change vulnerabilities to depression. It was found that the intervention produced significant decreases in depressive symptoms and negative thinking with a significant increase in self-esteem. Though this study is promising, the sample size was quite small (n = 12) and there were no follow-up assessments reported so we do not know whether the effects of this program were long-lasting.

Another study that shows promise in this area was conducted with a larger sample (n = 231) where at-risk college students participated in an 8-week cognitive-behavioral prevention program (Seligman, Schulman, DeRubeis, & Hollon, 1999). This study recruited using explanatory style (i.e., attributional style). The workshop included a broad range of skills based on Beck's cognitive therapy for depression. It was found that individuals who participated in the program overall did not significantly reduce depressive episodes over a 3-year follow-up but did show a trend in that direction. It was noted, however, that there were significantly less moderate (but not severe) depressive episodes among those who completed the program as well as less depressive symptoms and improved explanatory style, hopelessness, and dysfunctional attitudes scores than those who were in an assessment only control group (Seligman et al., 1999). This

particular study is one of the only to demonstrate significant improvements in outcome measures over a longer follow-up as well as one of the only using cognitive vulnerabilities both as a recruitment tool and outcome measure.

A review of studies administering prevention programs with college students from the years 1987-2011 identified only sixteen studies total (Buchanan, 2012). The authors noted that not all of the studies had the primary intention of preventing depression. Some were focused on treating depressive symptoms whereas others were focused on other outcomes such as stress-management or reduced alcohol problems. This highlights the limited amount of prevention research done with the college student population. This particular review included 16 studies yet could not provide support for the use of any one particular program or strategy due to small effect sizes and lack of comparison among programs. There was a variety of recruitment measures used as well as a variety of skills taught in the prevention programs. There appears to be evidence that a variety of strategies have the potential to be useful in the prevention of depression. It, however, remains unclear what is most effective for the prevention of depression for both adolescents and college students.

There are several problem areas within this literature that contribute the inability to make any strong conclusions about the effectiveness of one program vs another. If these problems are investigated, they may help to better understand why prevention programs have not resulted in lasting change. It may also help to understand what other outcome variables the key components of the program may be impacting, what we can do to improve their effectiveness, and determine what might be most acceptable by younger populations. Some of the main problems that may be best to target first include identifying effective content and mechanisms of change in prevention programs, using appropriate and thorough measurement in prevention programs, and using better

recruiting strategies. Considering the lack of research done using prevention programs with college students, it will be helpful to investigate these problems with this population as well as with adolescents.

Many of the programs mentioned above were adapted directly from, or are based on, existing cognitive-behavioral and interpersonal treatments for depression. Most of them are programs that involve a wide variety of skills to be taught based on cognitive-behavioral or interpersonal principles. Those based on principles of cognitive-behavior therapy include components such as mood tracking, increasing positive activities, and cognitive restructuring. Others based on principles of interpersonal therapy include components such as communication, conflict-resolution, and social support. We could benefit from knowing whether different components (i.e., various cognitive-behavioral or interpersonal techniques or exercises) of a program can impact vulnerabilities in the same way or if changes in cognition occur only as a result of targeting cognitive vulnerabilities. From the studies cited in this paper, with the exception of studies using measures aside from depressive symptoms, it is hard to see actual prevention effects due to the problem of only measuring depressive symptoms. It is difficult to know whether focusing on one skill might allow for greater learning and potentially more useful application than multiple skills or if any one skill might be more acceptable to students or more impactful on reducing risk for developing depression.

As noted above, many studies evaluating prevention programs only measure depressive symptoms and rarely measure other related problems, with the exception of a couple of studies involving college students. When they do measure other variables, it seems that not much attention is focused on their relevance or relationship to the primary variables. Several issues arise from this. One is that prevention programs are aimed at helping those who are not yet at

clinical levels of depression. It may be that researchers limited their ability to detect meaningful differences because of floor effects by only including measures of depression to track change, because the amount of change that could occur is quite small. Another problem is that we are not able to see if any other areas of life are improving for the adolescents in these programs. It should be noted that some studies described above did measure other variables such as adolescents' enjoyment of the program (Pössel et al., 2005; Shochet et al., 2001; Spence et al., 2003), group leaders' adherence to the program (Gillham et al., 2012; Pössel, Martin, Garber, & Hautzinger, 2013; Pössel, Seemann, & Hautzinger, 2008; Shochet et al., 2001; Spence et al., 2003), negative thinking (Buchanan, 2013; Seligman et al., 1999), self-esteem (Buchanan, 2013), overall functioning (Young et al., 2006), coping (Gillham et al., 2012; Horowitz et al., 2007), cognitive style (Gillham et al., 2012; Horowitz et al., 2007; Spence et al., 2003), relationships (Horowitz et al., 2007; Rose et al., 2014; Spence et al., 2003), stressful events (Spence et al., 2003), problem-solving (Spence et al., 2003), and other psychopathology (Gillham et al., 2012; Spence et al., 2003). Despite this list of variables, they are not often considered in the analyses, nor is it the norm, or a focal point to include measures of general functioning. More importantly, we do not see any attempt to measure whether a particular skill or set of skills was actually learned as a result of the program. In order to progress research on the prevention of depression, we must go beyond the simple measurement of depressive symptoms. The studies investigating prevention of depression among college students appear to do a better job of including other measures of change. It would be recommended to follow this strategy as we are better able to understand if factors such as cognitive vulnerabilities are able to be changed.

Adolescents and college students have been accessible in school settings for both the recruitment for and implementation of prevention programs. It appears beneficial to continue

assessing and implementing prevention programs within an academic setting. Most of the studies included in an extensive review of the prevention literature by Horowitz and Garber (2006), as well as the studies reviewed in this paper, did not recruit based on vulnerabilities to depression but instead recruited based on symptom presentation but still yielded small, yet significant effects. At least one of the studies using a college sample recruited based on vulnerabilities (Seligman et al., 1999). In some ways, the timing of prevention in cases where recruitment is based solely on depressive symptoms seems late as most of the students have not yet had a full-blown depressive episode. It is possible that recruiting individuals based on vulnerabilities in a way that some of the studies described above have, rather than symptoms, may have a stronger and longer-lasting effect than targeting subclinical levels of symptoms and could be thought of as a truer implementation of prevention. This was demonstrated in the study done by Seligman and colleagues (Seligman et al., 1999).

Since the types of intervention offered in these programs are preventative in nature as opposed to treatment, it is worth considering how the individuals involved in the program perceive them. It will be important to ensure that the individuals deem the interventions we use as acceptable and credible as well as including strategies they are likely to use. Comparing the efficacy of different intervention techniques as well as assessing their acceptance and credibility among those involved in them seems a reasonable place to start.

This study took a focused approach specifically on college students through a selective recruitment process by identifying individuals who are at risk for developing depression based on cognitive vulnerabilities. Important components of treatments were chosen for use in this study as it is important to know if they each are capable of reducing vulnerability to depression. Two different skills were taught with one skill being taught in each group. This was done to

determine if students can learn the skills and if either one of the skills taught makes a difference on outcome measures. Lastly, this study assessed the acceptability, expectancy and credibility of different interventions.

Participants were recruited based on high scores on three standardized measures of cognitive vulnerabilities. Participants who scored high on measures of cognitive vulnerability to depression were randomized into one of three conditions: 1) cognitive (reattribution training), 2) behavioral (behavioral activation) or 3) waitlist control. Measures specific to each of the cognitive and behavioral conditions were obtained as well as other measures related to general functioning. It was hypothesized that participants in both the cognitive and behavioral conditions would show evidence of having learned the skill. It was also hypothesized that both the cognitive and behavioral conditions would show improvements on measures of vulnerabilities as well as improvements in general functioning.

Method

Recruitment

Undergraduate participants were recruited through campus-wide advertisements and the university's online sign-up system for psychology studies. The study was advertised as a workshop with an opportunity for students to learn more about depression as well as go through exercises to learn how to cope with stressful life events that may lead to depression.

Students completed a one-time survey. The survey indicated to participants that they may be contacted for participation in a follow-up study. 1,883 students were screened through the survey. The survey included a brief demographics questionnaire, a measure of dysfunctional attitudes, a measure of rumination, a measure of attributional styles, and a depression screener. These materials can be found in Appendices B-N. The survey concluded with a debriefing

message. Respondents to the survey were either awarded course extra credit if signing up through the department sign-up system or entered in a drawing for gift cards for their participation.

Participants

A total of 600 undergraduate participants were invited for the intervention portion of the study based on responses to the screening survey. Individuals who scored in the top third on any one of the cognitive vulnerability measures were invited to participate. Participants were required to be at least 18 years old and fluent in English. Any individual who was currently being treated for depression or had been depressed in the past was excluded from participating in the intervention study in keeping with the intended primary prevention perspective.

A total of 80 participants committed to participate in the study with a total of 70 completing the entire study resulting in 70 sets of complete data (pre to post) to be used for analyses. A total of 21 participants completed all follow-up measures and an additional seven participants completed some follow-up measures. Seven participants (three in the workshop conditions and four in the waitlist condition) withdrew from the study after consenting and three participants only attended one workshop session. Participant characteristics can be found in *Table 1.* An overview of screening and assignment procedures as well as completion rates can be found in *Figure 1.*

Table 1

Characteristics of Participants

Variable	Full Sample	Condition		
		Waitlist	Behavioral	Cognitive
N (female)	70 (49)	22 (16)	20 (13)	28 (20)
Age (M, *SD*)	19.8 (3.65)	20.9 (5.32)	18.75 (1.78)	19.71 (2.68)
% Caucasian	88.6	86.4	90.0	89.3
% Attendance	N/A	N/A	92.5	96.4
% HW Complete	N/A	N/A	88.3	96.4

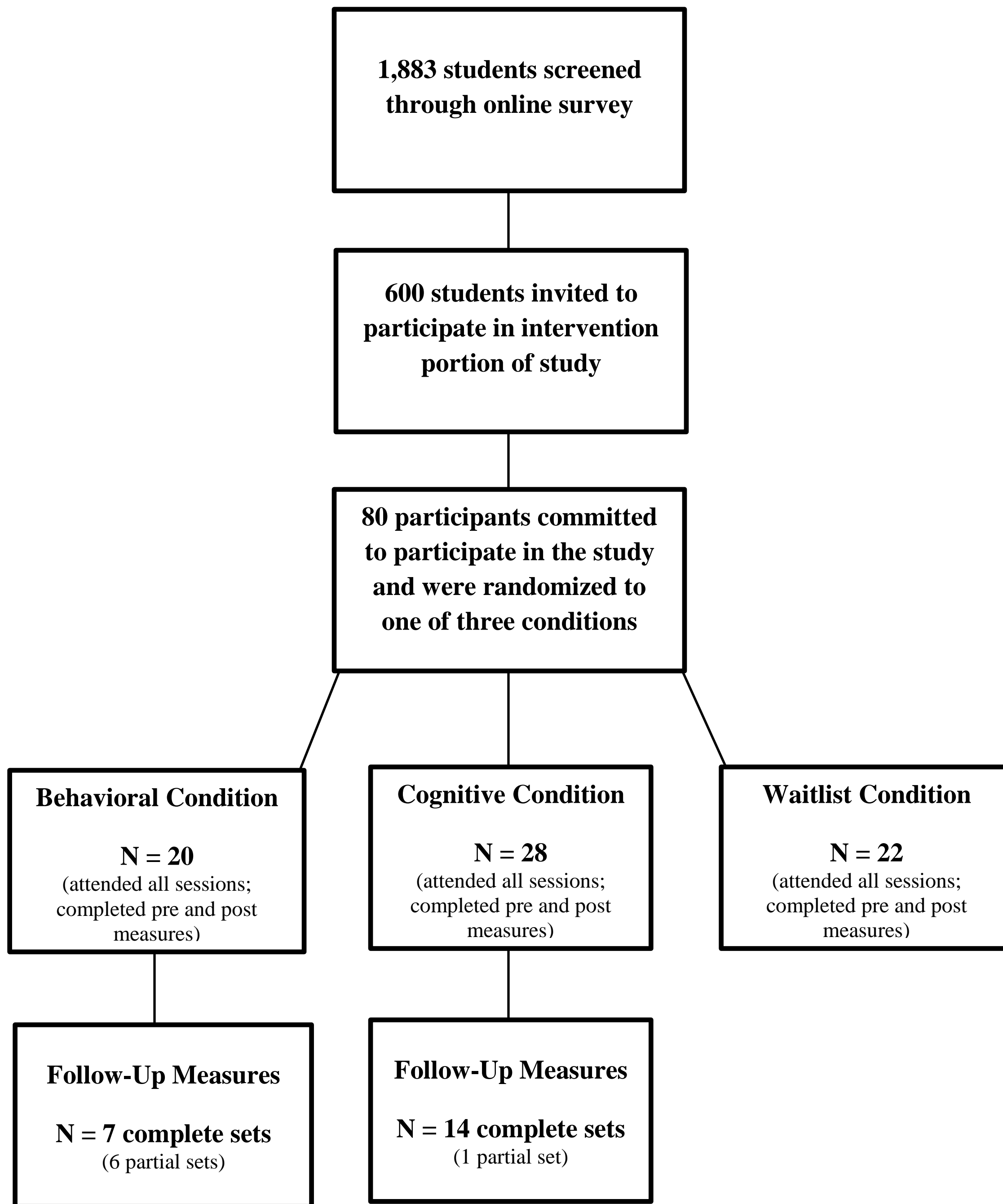

Figure 1. Screening, Assignment, and Completion Overview

Treatment of Human Subjects

All participants were given written informed consent and were fully debriefed at the end of the study. All participants were treated in accordance with the American Psychological Association's ethical code of conduct and guidelines. Participants were awarded course extra credit if signing up through the department sign-up system or entered in a drawing for gift cards for their participation. All participants were informed of the potential risks and benefits of participating in the study. They were informed that there were no known risks to their participation in the study, but that benefits might include learning more about the development of depression and developing healthy coping skills.

Conditions

Cognitive Skill (Reattribution Training). A cognitive skill condition served as an active condition. This condition taught reattribution skills based on the underlying principles of the hopelessness theory of depression (Abramson et al., 1989). As described above, attributions are clearly predictive of depression in young adults but there have not been many studies looking at reattribution training as a stand-alone intervention. Because of the importance of dysfunctional attributions as a vulnerability factor within the literature, it is worth investigating to see if changes in the way people think about negative events will be impactful on the way they feel. Participants were provided with psychoeducation on the impact dysfunctional attributions on mood. They were provided with exercises based on an existing reattribution training technique (Cleaver, 1981) to complete in session to help develop alternative ways of coping with negative events as well as through homework assignments to encourage using the skills outside of the session.

Cleaver's (1981) technique involves four stages. The stages were divided across four sessions with psychoeducation involved in each session related to the topic of that week's session. The first session covered Stage 1. In session one, participants were presented with hypothetical situations and asked to imagine themselves in those situations. The situations were ones which someone with a dysfunctional attributional style may interpret negatively. An example is "A friend has passed by you on the way to class and ignored you." After imagining the situations, the participants were asked to report what a natural response might be for them to that situation. The group leader then helped participants go through the responses to determine the types of attributions the group members reported. Stage 2 was covered in session two where participants were asked to describe negative situations from their own lives that may elicit dysfunctional attributions. As a group they then discussed how to change their dysfunctional attributions into more functional attributions. In session three, Stage 3 was covered. The participants were provided with hypothetical situations that would typically elicit positive reactions. However, for people with a dysfunctional attributional style, they may not. An example is "You've been complimented on your appearance by a friend." Participants were again asked to discuss their typical response to such situations and discussed ways to modify dysfunctional attributions into more functional ones. In the final stage (session four), the participants were asked to describe positive situations from their own lives. As a group they then discussed functional vs dysfunctional attributions that could result from those situations. After each stage, a homework assignment was distributed that encouraged the participants to use the information from the lesson in their lives throughout the week. They then brought their homework assignments back to the workshop each week for a discussion at the beginning of each session. Session outlines and homework assignments can be found in the Appendix.

Behavioral Activation Condition. A behavioral activation condition served as an active condition. Behavioral activation is the first component of cognitive-behavioral therapy for depression (Jacobson et al., 2000). It was first developed based on Lewinsohn and colleague's research on the scheduling of positive activities (Lewinsohn & Libet, 1972). Behavioral activation is typically a brief intervention where the main goals include an increase in activities that positively influence mood and a decrease in activities that negatively influence mood (Dimidjian, Barrera, Martell, Muñoz, & Lewinsohn, 2011). There are a variety of exercises that can be used in behavioral activation. Some of the exercises used most often include scheduling positive activities, social skills training, and monitoring of activities and mood.

By itself, behavioral activation has shown to be effective in reducing depressive symptoms. A manual was created for a Brief Behavioral Activation Treatment for Depression (Lejuez, Hopko, Acierno, Daughters, & Pagoto, 2011; Lejuez, Hopko, LePage, Hopko, & McNeil, 2001). The original manual was published in 2001 with a revised manual published in 2011. This treatment was intended to be used as a supplement to other modes of treatment or as a standalone in individual therapy. The manual has demonstrated effectiveness in outpatient primary care clinics (Hopko, Bell, Armento, Hunt, & Lejuez, 2005) and inpatient mental health clinics (Freij & Masri, 2008). BATD was modified for use in a college orientation class to investigate its impact on alcohol and depression outcomes (E. K. Reynolds, MacPherson, Tull, Baruch, & Lejuez, 2011). It was found that BATD significantly reduced problem drinking in college students but no significant differences between the BATD class and the standard orientation class were found. The authors noted, however, that this could have been due to the lack of elevated depression scores to begin with. The authors did not measure other outcomes related to depression including any measure of behavioral activation or cognitive vulnerability.

Another study modified the BATD manual to be used as a one-session intervention over a two week treatment period in a sample of college students presenting with moderate levels of depressive symptoms (Gawrysiak, Nicholas, & Hopko, 2009). In this study it was found that when compared to the control condition, even a very brief administration of BATD significantly decreased depressive symptoms. Thus, it is still worth investigating its use in a sample of college students who are at-risk for depression.

The creators of the BATD manual highlight one of its benefits as being easily implemented and adaptable (Lejuez et al., 2001). For this study, the manual was adapted for use in groups as opposed to with individuals and was also reduced from nine to four sessions. Psychoeducation was used in all four sessions. In the first session, the workshop leader provided information on depression as well as how level of activity can relate to mood and depressive symptoms. The participants were then taught to keep a daily activity diary for one week to establish a baseline activity level. In session two, following the establishment of a baseline activity level, the workshop leader helped participants decide which types of activities they would like to target based on life areas and values within those life areas (i.e., family relationships, social relationships, intimate relationships, education, employment, hobbies or recreational activities, volunteer, charity or political activities, physical or health issues, spirituality, or psychological or emotional issues). They were encouraged to select activities which they deem to be enjoyable or important, measurable, and varying in difficulty. Following that, each participant again completed a daily monitoring record. The daily monitoring record was intended to help participants with planning activities to increase the likelihood they would engage in them. The daily monitoring record was also used throughout the week to track frequency and duration of activities. Participants then began tracking target activities for the

following week. In session three, participants discussed their progress from the previous week. The workshop leader helped participants make modifications as necessary. The participants were then instructed to select 15 activities to begin implementing and rank each activity in terms of difficulty. The workshop leader provided psychoeducation on the importance of starting with 1-3 activities that would be the easiest to incorporate into their schedule as well as the importance of breaking the activities down into their smallest pieces. Participants again tracked activities for the following week. In the fourth and final session, the workshop leader again had the participants review their progress for the previous week. The workshop leader then provided information on mastery of activities and adding new activities when mastery is reached. This session served as a review and termination session. The session outlines and materials can be found in the Appendix.

Control Condition (Waitlist). The third condition served as a waitlist control condition. Ahead of time, participants were told that there are two workshops being tested that are aimed at getting people to make changes in the way they think and what they do but that not all participants can go through at once. They were told that they may have to wait one month before being assigned to a workshop, that they are not required to participate in a workshop following the waitlist period if they choose not to in the end, and that they will be requested to complete a set of questionnaires at two time-points, four weeks apart. Participants in this condition completed the same measures as those in the workshop aside from the credibility and expectancy measure. Following the completion of measures at the second time point, they had the choice to be randomized to a workshop condition where they would then go through the workshop in the same way those who were not in the waitlist condition did. No participants chose to complete the workshop following the waitlist condition.

Measures

Dysfunctional Attitudes Scale-Form A (DAS-A). The DAS-A is a 40-item scale assessing individuals' dysfunctional beliefs or attitudes that have been linked to depression (Weissman & Beck, 1978). The specific attitudes measured in the DAS-A have to do with an individual's conditions for happiness, a need to be likeable or approved of by others, and perfectionism. A couple of example items include "If I do not do as well as other people, it means I am a weak person" or "If someone disagrees with me, it probably indicates he does not like me". Respondents are asked to rate each statement on a 7-point scale ranging from 1 (*totally agree*) to 7 (*totally disagree*) as to how they think. Each response is summed to form a total score. Scores can range from 40 to 280 with lower scores reflecting more positive or adaptive beliefs and lower levels of cognitive distortions. The DAS-A has been found to have good internal consistency with α ranging from .84 to .92 (Beevers, Strong, Meyer, Pilkonis, & Miller, 2007; Weissman & Beck, 1978) as well as good test-retest reliability with α ranging from .79 to .88 (Olinger, Shaw, & Kuiper, 1987). The DAS-A has also been shown to have good concurrent validity (Weissman & Beck, 1978).

Ruminative Responses Scale (RRS). The RRS is a 22-item subscale of the Response Styles Questionnaire (RSQ; Nolen-Hoeksema, 1991b). Respondents are asked to describe how they typically cope with negative mod by responding to items on a 4-point scale ranging from 1 (*almost never*) to 4 (*almost always*). A single total score is derived by summing the responses to the 22 items. Scores range from 22 to88 with higher scores indicating more rumination. The RRS is a continuous measure so there is no distinct cut-off score. Items on the RRS describe responses that are self-focused, symptom-focused and focused on consequences of the individual's mood. The RRS has been shown to have god construct and test-retest reliability, acceptable convergent,

predictive and discriminant validity as well as high levels of internal consistency with α > .89 (Butler & Nolen-Hoeksema, 1994; Just & Alloy, 1997; Nolen-Hoeksema & Davis, 1999; Nolen-Hoeksema & Morrow, 1991).

College Attribution Styles Questionnaire (CASQ). The CASQ is a modified version of the Cognitive Styles Questionnaire (CSQ) (Haeffel et al., 2008). Similar to the original CSQ, there are twelve hypothetical situations presented where the respondent is asked to endorse what they think the cause might be attributed to if the situation happened to them and what that situation might mean. An example situation is "As an assignment, you give an important talk in class, and the class reacts negatively to your talk." Respondents then provide responses as to what the major cause of the event would be and then respond to six questions on a 7-point scale. The CASQ has demonstrated good reliability and good construct validity (Haeffel et al., 2008).

Behavioral Activation for Depression Scale (BADS). The BADS is a 25-item, self-report measure of behavioral activation (Kanter, Mulick, Busch, Berlin, & Martell, 2006). Respondents are asked to respond to each item as to how true it was for them during the past week. Each item is rated on a seven point scale ranging from 0 (*not at all*) to 6 (*completely*). There are four subscales within the BADS including an activation subscale, an avoidance and rumination subscale, a work and school impairment subscale, and a social impairment subscale. Items for each subscale can be summed to form subscale scores and all 25 items can be summed to form a total score. Eighteen of the items are reverse score items. For each of the subscales, a higher score reflects a higher level of the subject title. For example, a higher score on the social impairment scale indicates more social impairment. The BADS has demonstrated good internal consistency and test-retest reliability (Kanter et al., 2006). It has also been shown to have good construct and predictive validity (Kanter et al. , 2006; Kanter, Rusch, Busch, & Sedivy, 2008).

Center for Epidemiologic Studies Depression Scale-Revised (CESD-R). The CESD-R is a revised version of the original Center for Epidemiologic Studies Depression Scale (CES-D). The CESD-R contains 20 items measuring nine symptom groups of depression. The nine symptom groups include: 1) sadness, 2) loss of interest, 3) appetite, 4) sleep, 5) thinking or concentration, 6) guilt or worthlessness, 7) tiredness or fatigue, 8) movement or agitation, and 9) suicidal ideation. Respondents are asked to respond to each statement as it pertains to them in the past week. Responses are selected from a 5-point scale where 0 = not at all *or* less than one day, 1 = 1-2 days, 2 = 3-4 days, 3 = 5-7 days, and 4 = nearly every day for 2 weeks. Total scores are summed and can range from 0-60. Based on an individual's total score, they may be considered to meet criteria for a major depressive episode, to have had a probable major depressive episode, to have possibly had a major depressive episode, to exhibit subthreshold depressive symptoms, or to have no clinical significance. This measure has been noted to have high internal consistency and good convergent and divergent validity. The CESD-R is considered to be an accurate and valid measure of depression (Eaton, Smith, Ybarra, Muntaner, & Tien, 2004; Van Dam & Earleywine, 2011).

State-Trait Inventory for Cognitive and Somatic Anxiety (STICSA)-State Version. The STICSA-State is a 21-item is the state anxiety scale of the STICSA (Ree, French, MacLeod, & Locke, 2008). The STICSA was created to measure the general cognitive and somatic symptoms of anxiety. Respondents are asked to rate the items according to how true each statement is for them "right now at this very moment" on a 4-point scale ranging from 1 (*not at all*) to 4 (*very much so*). Scores are obtained by summing the responses to the 21 items. There are 10 cognitive anxiety items and 11 somatic anxiety items on the STICSA. An example of a cognitive item would read "I think that the worst will happen," while an example of a somatic item would read

"I feel trembly and shaky". A cut-off score of 43 is used for determining clinically significant levels of anxiety. A cut-off score of 40 is used for identifying the possible presence of an anxiety disorder (Grös, Antony, Simms, & McCabe, 2007). The entire STICSA has been found to be more correlated with other measures of anxiety (rs ≥ .67) while being less correlated with measures of depression (rs ≤ .61) as compared to the State-Trait Anxiety Inventory (Grös, Antony, Simms, & McCabe, 2007; Grös, Simms, & Antony, 2010). Anxiety is highly correlated with depression so by including this measure we can observe any changes as a result of the technique used.

Pittsburgh Sleep Quality Index (PSQI). The PSQI is a 24-item measure that was designed to assess various aspects of sleep quality (Buysse, Reynolds, Monk, Berman, & Kupfer, 1989). Quality of sleep has been shown to be an important variable in the onset of depression (Chen, Burley, & Gotlib, 2012; Lee et al., 2013; Selvi et al., 2010). It is not often studied in college students so the PSQI will be included in this study to better understand the relationship between depression and sleep among college students. Each item on the PSQI pertains to one of seven sleep disturbance dimensions including: 1) subjective sleep quality, 2) sleep latency, 3) sleep duration, 4) habitual sleep efficiency, 5) sleep disturbances, 6) use of sleep medications, and 7) daytime dysfunction (Buysse et al., 1989). Respondents are asked to answer each item based on the days and nights of the previous month. Scores from the 24 items are summed together to form a global score. The PSQI has demonstrated high internal and rest-retest reliability as well as good convergent, discriminant and construct validity (Carpenter & Andrykowski, 1998; Grandner, Kripke, Yoon, & Youngstedt, 2006).

Perceived Stress Scale (PSS). The PSS is a 10-item scale designed to assess the degree to which individuals rate the events in their lives as stressful (Cohen, Kamarck, & Mermelstein,

1983). The questions pertain to the previous month. Respondents are asked to respond to each item as to how often they felt the way described by the statement. Each item is rated on a 5-point scale ranging from 0 (*never*) to 4(*very often*). The PSS has demonstrated good internal consistency as well as good construct validity (Roberti, Harrington, & Storch, 2006).

The Satisfaction with Life Scale (SWLS). The SWLS is a 5-item scale designed to assess an individual's general life satisfaction (Diener, Emmons, Larsen, & Griffin, 1985). Respondents are asked to rate each item as to the degree to which they agree with the item on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Scores can range from five to 35. Lower scores reflect lower life satisfaction while higher scores reflect higher life satisfaction. The SWLS has demonstrated high internal and test-retest reliability as well as good construct validity (W. Pavot & Diener, 1993; W. G. Pavot, Diener, Colvin, & Sandvik, 1991).

Multidimensional Scale of Perceived Social Support (MSPSS). The MSPSS is a 12-item scale used to assess perceived social support (Zimet, Dahlem, Zimet, & Farley, 1988). Respondents are asked to rate the degree to which they agree with each item on a 7-point scale ranging from 1 (*very strongly disagree*) to 7 (*very strongly agree*). Items on the MSPSS measure perceived social support from significant other (ex. "There is a special person in my life who cares about my feelings", family (ex. "I can talk about my problems with my family"), and friends (ex. "My friends really try to help me"). A total score is derived by summing all 12 items and then dividing by 12. Subscale scores can be derived by adding the four items pertaining to a subscale and then dividing by 4. The MSPSS has been shown to have good internal reliability as well as strong factorial validity (Clara, Cox, Enns, Murray, & Torgrudc, 2003; Osman, Lamis, Freedenthal, Gutierrez, & McNaughton-Cassill, 2014; Zimet, Powell, Farley, Werkman, & Berkoff, 1990).

Academic Self-Concept Scale (ASCS). The ASCS is a 40-item measure designed to asses students' self-concept about their academic capabilities (Reynolds, Ramirez, Magriña, & Allen, 1980). Respondents are asked to respond to each item using a 4-point scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*) as to how much each item pertains to them personally. Eighteen of the items are to be reverse scored. An example of a reverse score item is "No matter how hard I try I do not do well in school." To obtain a total score, score the reverse score items and then sum all 40 items. Higher scores indicate higher levels of academic self-concept. The ASCS has demonstrated good discriminant validity and construct validity as well as good internal consistency (Reynolds, 1988; Reynolds et al., 1980).

Credibility Questionnaire (CQ). The CQ was developed based on a measure by Borkovec and Nau (1972) and is designed to assess how credible individuals feel a particular treatment is (Rokke, Carter, Rehm, & Veltum, 1990). The CQ includes seven items. Respondents are asked to indicate a response that best describes their opinion of the treatment they will be or are receiving. Responses are made on a 7-point scale ranging from 1 (*not at all logical; not at all scientific; not at all complete; not at all; not at all likely; not at all effective; definitely*) to 7 (*very logical; very scientific; very complete; a great deal; very likely; very effective; definitely*). An example item from the CQ is "How effective do you think this therapy would be for most people?".

Adherence. To measure adherence to the program, the therapist collected weekly homework assignments from each participant to monitor the percentage of completion. Participants' homework was considered completed if they attempted 75% of the assignment. Participants turned homework assignments in to the workshop leader who would then make a

copy for study records and give a copy back to the participant. This was done to ensure that participants were following through with participation outside of the workshop sessions.

Group Facilitators

Five master's level clinical psychology graduate students served as the workshop facilitators for the active conditions. All sessions were structured and outlined. The workshop facilitators went through all sessions in advance with the study coordinator to ensure accuracy and consistency. They were instructed to adhere to the structured session outlines for all conditions. Workshop facilitators were crossed with the conditions such that each group facilitator was able to lead a relatively equal proportion of participants in each condition.

Procedure

Participants were randomized to one of three conditions (cognitive, behavioral or control). Participants in the cognitive and behavioral conditions were then randomized into groups of 4-10 members. Informed consent was obtained from all participants. All participants completed baseline, post-intervention, and follow-up assessments of the DAS-A, RRS, ASQ, BADS, CESD-R, STICSA-State, PSQI, PSS, SWLS, MSPSS, ASCS, and CEQ. Both of the active conditions met in groups at four time points, once every week for four weeks, for 60 minutes at a time. Participants in the waitlist control condition completed assessments at baseline and post, which was four weeks later. Participants in the active conditions completed post-workshop assessments at the last workshop session. Participants in the active conditions completed one-month follow-up assessments online including the same twelve measures listed above.

Results

Correlations Among Dependent Variables

Pearson correlation coefficients were calculated to determine if there were relationships among the dependent variables. These correlations can be found in *Table 2*. Several notable relationships were observed. There was an overall relationship among the cognitive vulnerability measures such that if an individual scored high on one measure of cognitive vulnerability, they were likely to score high on the other two as well. Perceived stress was positively correlated with cognitive vulnerabilities, depression, anxiety, and sleep quality and negatively correlated with behavioral activation. Depression was found to be negatively correlated with behavioral activation. As can be expected, depression and anxiety were found to be positively correlated. Perceived social support was positively correlated with satisfaction with life and behavioral activation.

Table 2

Pearson Correlation Coefficients among Dependent Variables

	Mean	SD	DAS_1	RRS_1	CAQ_1	BADS_1	CESD_1	STICSA_1	PSQI_1	PSS_1	SWLS_1	MSPSS_1	ASCS_1
DAS_1	192.48	30.13	1.000	.479***	.474	-.296*	.221	.236*	.337*	.338*	-.218	-.250*	-.282*
RRS_1	41.97	11.23	-	1.000	.274*	-.348**	.270*	.203	.275*	.438**	-.301*	-.203	-.267*
CAQ_1	85.12	21.94	-	-	1.000	-.304*	.346**	.364**	.182	.434***	-.282*	-.059	-.235
BADS_1	111.21	24.71	-	-	-	1.000	-.606***	-.435***	-.213	-.518***	.508***	.285*	.633***
CESD_1	12.47	10.31	-	-	-	-	1.000	.685***	.484***	.667***	-.502***	-.241*	-.483***
STICSA_1	32.37	8.75	-	-	-	-	-	1.000	.386**	.614***	-.315**	-.213	-.390***
PSQI_1	6.41	3.14	-	-	-	-	-	-	1.000	.422***	-.292*	-.263*	-.220
PSS_1	25.17	6.32	-	-	-	-	-	-	-	1.000	-.590***	-.390***	-.394***
SWLS_1	25.41	5.52	-	-	-	-	-	-	-	-	1.000	.507***	.511***
MSPSS_1	69.07	11.81	-	-	-	-	-	-	-	-	-	1.000	.415***
ASCS_1	112.63	15.71	-	-	-	-	-	-	-	-	-	-	1.000

Note. *p < .05, ** p < .01, *** p < .001. DAS_1 = Dysfunctional Attitudes Scale Pre-Workshop/Waitlist, RRS_1 = Ruminative Responses Scale Pre-Workshop/Waitlist, CAQ_1 = College Attributional Styles Questionnaire Pre-Workshop/Waitlist, BADS_1 = Behavioral Activation for Depression Scale Pre-Workshop/Waitlist, CESD_1 = Center for Epidemiological Studies for Depression Scale Pre-Workshop/Waitlist, STICSA_1 = State Trait Inventory of Cognitive and Somatic Anxiety-State Version Pre-

Planned Comparisons

The two interventions targeted specific thoughts or behaviors. Because these targets are considered to be vulnerabilities to depression, in addition to reducing vulnerability, the interventions should also lead to reductions in anxiety, stress, and depressive symptoms and improvements in other areas of an individual's life. In addition to analyses conducted to investigate the impact of the interventions on cognitive vulnerabilities to depression, analyses were conducted to investigate the impact of the interventions on all factors to determine what extent the effects generalize to other aspects of the individual's life. It cannot be said if other areas of functioning will benefit but it is an important consideration to explore.

Four sets of planned comparisons were conducted. The first was a 3 (condition: waitlist vs behavioral vs cognitive) x 2 (time: pre vs post) repeated measures ANOVA on each outcome measure. The second was a 2 (condition: behavioral vs cognitive) x 2 (time: post vs follow-up) repeated measures ANOVA on each outcome measure completed by participants in the workshop conditions. This was used to assess for maintenance gains four weeks following completion of the workshops. The third was a 2 (condition: behavioral vs cognitive) x 2 (time: pre vs follow-up) to assess for overall gains. The fourth was a 2 (condition: behavioral vs cognitive) x 2 (time: pre vs post) repeated measures ANOVA on the credibility outcome measure. This was used to assess whether participants in the workshop conditions reported any change in how credible they deemed the workshop before or after completion. Means and standard deviations for outcome measures can be found in *Table 3*.

Immediate Outcomes

A 3 (condition: waitlist control vs behavioral vs cognitive) x 2 (time: pre vs post) repeated measures ANOVA was conducted on each of the outcome measures completed by all

participants. A significant main effect of time on DAS scores was found, $F(1, 67) = 102.88$, $p < .0001$. Regardless of condition, there was a decrease in dysfunctional attitudes from pre-workshop or pre-waitlist ($M = 192.49$, $SD = 30.33$) to post-workshop or post-waitlist ($M = 124.76$, $SD = 32.12$). The main effect for condition was not significant, $F(2, 67) = .76$, $p = .4702$. The interaction between condition and time was not significant, $F(2, 67) = .39$, $p = .6760$.

The main effect for time on RRS scores was not significant, $F(1, 67) = .08$, $p = .7752$. The main effect for condition on RRS scores was not significant, $F(2, 67) = .89$, $p = .4174$. Lastly, the interaction between time and condition on RRS scores was not significant, $F(2, 67) = .09$, $p = .9115$.

The main effect for time on CAQ scores was not significant, $F(1, 66) = .02$, $p = .8943$. The main effect for condition on CAQ scores was not significant, $F(2, 66) = 1.50$, $p = .2316$. Lastly, the interaction between time and condition on CAQ scores was not significant, $F(2, 66) = .20$, $p = .8228$.

A significant main effect of time on BADS scores was found, $F(1, 67) = 23.15$, $p < .0001$. The main effect for condition was not significant, $F(2, 67) = 0.00$, $p = .9999$. A significant interaction of condition and time was found for BADS scores. Post-hoc paired-samples t-tests revealed that prior to the workshop and waitlist periods, the behavioral and waitlist conditions differed significantly, $t(40) = -.370$, $p = .0007$, as did the cognitive and waitlist conditions, $t(48) = -4.68$, $p < .0001$. It was also revealed that the behavioral and waitlist conditions differed significantly at the end of the workshop and waitlist periods, $t(40) = 3.24$, $p = .0024$, as did the cognitive and waitlist conditions, $t(48) = 4.75$, $p < .0001$. Participants in the waitlist condition reported a decrease in behavioral activation from pre-waitlist period ($M = 128.86$, $SD = 15.15$) to post-waitlist period ($M = 104.55$, $SD = 18.13$) whereas participants in

both the workshop conditions reported an increase in behavioral activation from pre-workshop (behavioral: $M = 103.13$, $SD = 23.76$; cognitive: $M = 101.04$, $SD = 23.83$) to post-workshop (behavioral: $M = 130.33$, $SD = 23.74$; cognitive: $M = 132.36$, $SD = 21.56$).

The main effect for time on CESD scores was not significant, $F(1, 66) = 1.79$, $p = .1853$. The main effect for condition on CESD scores was not significant, $F(2, 66) = .12$, $p = .8833$. Lastly, the interaction between time and condition on CESD scores was not significant, $F(2, 66) = 2.92$, $p = .0608$.

A significant main effect of time on STICSA scores was found, $F(1, 67) = 5.03$, $p = .0282$. Regardless of condition, all participants reported a decrease in state anxiety from pre-workshop or waitlist ($M = 32.37$, $SD = 8.74$) to post-workshop or waitlist ($M = 30.24$, $SD = 9.90$). The main effect for condition was not significant, $F(2, 67) = .76$, $p = .4705$. The interaction between time and condition was not significant, $F(2, 67) = .93$, $p = .3981$.

A significant main effect of time on PSQI scores was found, $F(1, 67) = 8.22$, $p =.0055$. Healthier sleep quality was found following the workshop and waitlist period ($M = 5.56$, $SD = 3.02$) than before the workshop and waitlist period ($M = 6.41$, $SD = 3.14$). The main effect for condition was not significant, $F(2, 67) = .70$, $p = .4975$. The interaction between time and condition was not significant, $F(2, 67) = .90$, $p = .4100$.

There was also a significant main effect for time on SWLS scores, $F(1, 66) = 6.76$, $p = .0115$. Satisfaction with life increased from pre-workshop and waitlist ($M = 25.41$, $SD = 5.52$) to post-workshop and waitlist ($M = 26.83$, $SD = 5.45$). The main effect for condition was not significant, $F(2, 66) = .45$, $p = .6393$. The interaction between time and condition was not significant, $F(2, 66) = .46$, $p = .6326$.

A significant main effect of time on MSPSS scores was found, $F(1, 67) = 4.40$, $p = .0396$. Regardless of condition, participants reported an increase in perceived social support post-workshop and waitlist ($M = 71.13$, $SD = 11.55$) compared to pre-workshop and waitlist ($M = 69.07$, $SD = 11.81$). The main effect for condition was not significant, $F(2, 67) = .86$, $p = .4261$. The interaction between time and condition was not significant, $F(2, 67) = .64$, $p = .5283$.

Lastly, a significant main effect of time for ASCS scores was found, $F(1, 67) = 7.03$, $p = .0100$. Academic self-concept increased from pre-workshop and waitlist ($M = 112.63$, $SD = 15.71$) to post-workshop and waitlist ($M = 115.91$, $SD = 17.14$). The main effect for condition was not significant, $F(2, 67) = 1.20$, $p = .3080$. The interaction between time and condition was not significant, $F(2, 67) = 2.14$, $p = .1260$.

Maintenance Gains

A 2 (condition: behavioral vs cognitive) x 2 (time: post vs follow-up) repeated measures ANOVA on each outcome measure completed by participants in the workshop conditions was conducted. The main effect for time on DAS scores was not significant, $F(1, 20) = 0$, $p = .9606$. The main effect for condition on DAS scores was not significant, $F(1, 20) = .14$, $p = .7141$. The interaction of time and condition on DAS scores was not significant, $F(1, 20) = .01$, $p = .9416$.

There was a significant main effect found for time on RRS scores, $F(1, 19) = 7.59$, $p = .0126$. Regardless of condition, participants in the workshop conditions demonstrated lower levels of rumination at follow-up ($M = 36.14$, $SD = 14.57$) than at the end of the workshop ($M = 41.13$, $SD = 14.70$). The main effect for condition was not significant, $F(1, 19) = .59$, $p = .4535$. the interaction of time and condition on RRS scores was not significant, $F(1, 19) = 2.36$, $p = .1406$.

The main effect for time on CAQ scores was not significant, $F(1, 21) = .07$, $p = .7935$. There was a significant main effect found for condition on CAQ scores, $F(1, 21) = 5.14$, $p = .0341$. There was also a significant interaction of time and condition on CAQ scores, $F(1, 21) = 6.65$, $p = .0175$. A post-hoc paired samples t-test revealed that at follow-up, the behavioral and cognitive conditions differed significantly, $t(21) = 3.03$, $p = .0063$. It was found that participants in the behavioral activation workshop reported an increase in dysfunctional attributional style at follow-up ($M = 109.11$, $SD = 31.36$) compared to the end of the workshop ($M = 87.00$, $SD = 23.65$) whereas those in the reattribution training workshop demonstrated decreases in dysfunctional attributional style at follow-up ($M = 74.00$, $SD = 21.66$) compared to the end of the workshop ($M = 80.25$, $SD = 24.06$).

The main effect for time on BADS scores was not significant, $F(1, 26) = 1.39$, $p = .2498$. the main effect for condition on BADS scores was not significant, $F(1, 26) = .07$, $p = .7954$. The interaction of time and condition on BADS scores was not significant, $F(1, 26) = .62$, $p = .4368$.

The main effect for time on CESD scores was not significant, $F(1, 21) = .07$, $p = .5977$. The main effect for condition on CESD scores was not significant, $F(1, 21) = .24$, $p = .6277$. The interaction of time and condition on CESD scores was not significant, $F(1, 21) = .10$, $p = .7524$.

The main effect for time on STICSA scores was not significant, $F(1, 18) = .29$, $p = .5977$. The main effect for condition on STICSA scores was not significant, $F(1, 18) = .01$, $p = .9269$. The interaction of time and condition on CESD scores was not significant, $F(1, 18) = .02$, $p = .8895$.

The main effect for time on PSQI scores was not significant, $F(1, 19) = .56$, $p = .4616$. The main effect for condition on PSQI scores was not significant, $F(1, 19) = .21$, $p = .6534$. The interaction of time and condition on PSQI scores was not significant, $F(1, 19) = .00$, $p = .9462$.

A significant main effect for time on PSS scores was found, $F(1, 19) = 4.75$, $p = .0421$. Overall, participants reported a slight increase in perceived stress from the end of the workshop ($M = 23.71$, $SD = 6.00$) to the time of follow-up ($M = 24.62$, $SD = 6.27$). The main effect for condition on PSS scores was not significant, $F(1, 19) = .03$, $p = .8594$. There was also a significant interaction of time and condition on PSS scores, $F(1, 19) = 15.58$, $p = .0009$, however, post-hoc paired samples t-tests did not reveal any significant differences between conditions at either time point.

The main effect for time on SWLS scores was not significant, $F(1, 18) = .20$, $p = .6572$. The main effect for condition on SWLS scores was not significant, $F(1, 18) = 1.19$, $p = .2891$. The interaction of time and condition on SWLS scores was not significant, $F(1, 18) = 1.13$, $p = .3021$.

There was a significant main effect found for time on MSPSS scores, $F(1, 20) = 4.26$, $p = .0522$. Regardless of condition participants in the workshops reported decreases in perceived social support from the end of the workshop ($M = 72.58$, $SD = 8.80$) to the time of follow-up ($M = 63.09$, $SD = 20.48$). The main effect for condition on SWLS scores was not significant, $F(1, 20) = .59$, $p = .4532$. The interaction of time and condition on SWLS scores was not significant, $F(1, 20) = 1.38$, $p = .2539$.

The main effect for time on ASCS scores was not significant, $F(1, 26) = .55$, $p = .4669$. The main effect for condition on ASCS scores was not significant, $F(1, 26) = .02$, $p = .8927$. The interaction of time and condition on ASCS scores was not significant, $F(1, 26) = 1.32$, $p = .2603$.

Overall Gains

A 2 (condition: behavioral vs cognitive) x 2 (time: pre vs follow-up) repeated measures ANOVA on each outcome measure completed by participants in the workshop conditions was

conducted. This was done to determine whether participants demonstrated improvement in outcome measures from the beginning of the workshop to the time of follow-up. There was a significant main effect found for time on DAS scores, $F(1, 20) = 26.16$, $p < .0001$. Regardless of condition, participants in the workshops reported less dysfunctional attitudes at the time of follow-up ($M = 130.64$, $SD = 32.17$) than they did pre-workshop ($M = 194.04$, $SD = 30.33$). The main effect for condition on DAS scores was not significant, $F(1, 20) = .32$, $p = .5783$. The interaction of time and condition on DAS scores was not significant, $F(1, 20) = .45$, $p = .5081$.

There was a significant main effect for time on RRS scores, $F(1, 19) = 5.24$, $p = .0337$. Regardless of condition, participants in the workshops reported lower levels of rumination at the time of follow-up ($M = 36.14$, $SD = 14.57$) than they did prior to beginning the workshop ($M = 41.25$, $SD = 10.76$). The main effect for condition was not significant, $F(1, 19) = .22$, $p = .6413$. The interaction of time and condition on RRS scores was not significant, $F(1, 19) = .16$, $p = .6928$.

The main effect for time on CAQ scores was not significant, $F(1, 21) = 3.27$, $p = .0847$. There was a significant main effect found for condition on CAQ scores, $F(1, 21) = 4.64$, $p = .0429$. There was also a significant interaction of time and condition on CAQ scores, $F(1, 21) = 8.32$, $p = .0089$. It was found that participants in the behavioral activation workshop reported increases in dysfunctional attributional style at follow-up ($M = 109.11$, $SD = 31.36$) than prior to beginning the workshop ($M = 84.25$, $SD = 18.14$), whereas those in the reattribution training condition reported decreases in dysfunctional attributional style at follow-up ($M = 74.00$, $SD = 21.66$) than prior to beginning the workshop ($M = 81.18$, $SD = 23.23$).

There was a significant main effect found for time on BADS scores, $F(1, 26) = 44.53$, $p < .0001$. Regardless of condition, participants in the workshops reported increased levels of

behavioral activation at follow-up (M = 122.96, SD = 21.57) than prior to beginning the workshop (M = 103.13, SD = 23.76). The main effect for condition was not significant, $F(1, 26) = .04$, $p = .8356$. The interaction of time and condition on BADS scores was not significant, $F(1, 26) = 3.86$, $p = .0603$.

The main effect for time on CESD scores was not significant, $F(1, 21) = 2.00$, $p = .1718$. The main effect for condition on CESD scores was not significant, $F(1, 21) = 0.00$, $p = .9258$. The interaction of time and condition on CESD scores was not significant, $F(1, 21) = 1.33$, $p = .2610$.

There was a significant main effect for time on STICSA scores, $F(1, 18) = 9.48$, $p = .0065$. Regardless of condition, participants in the workshops reported lower levels of state anxiety at the time of follow-up (M = 27.7, SD = 9.03) than prior to beginning the workshop (M = 32.02, SD = 8.88). The main effect for condition was not significant, $F(1, 18) = 0.00$, $p = .9920$. The interaction of time and condition on STICSA scores was not significant, $F(1, 18) = .25$, $p = .6258$.

The main effect for time on PSQI scores was not significant, $F(1, 19) = 2.60$, $p = .1236$. The main effect for condition on PSQI scores was not significant, $F(1, 19) = .43$, $p = .5785$. The interaction of time and condition on PSQI scores was not significant, $F(1, 19) = .10$, $p = .7508$.

The main effect for time on PSS scores was not significant, $F(1, 19) = .02$, $p = .8940$. The main effect for condition on PSS scores was not significant, $F(1, 19) = .04$, $p = .8400$. The interaction of time and condition on PSS scores was not significant, $F(1, 19) = .89$, $p = .3566$.

The main effect for time on SWLS scores was not significant, $F(1, 19) = 1.99$, $p = .1749$. The main effect for condition on SWLS scores was not significant, $F(1, 19) = .50$, $p = .4902$. The interaction of time and condition on SWLS scores was not significant, $F(1, 19) = .07$, $p = .7902$.

The main effect for time on MSPSS scores was not significant, $F(1, 20) = 1.95$, $p = .1784$. The main effect for condition on MSPS scores was not significant, $F(1, 20) = .33$, $p = .5706$. The interaction of time and condition on MSPSS scores was not significant, $F(1, 20) = 2.21$, $p = .1526$.

The main effect for time on ASCS scores was not significant, $F(1, 26) = 2.61$, $p = .1180$. The main effect for condition on ASCS scores was not significant, $F(1, 26) = .07$, $p = .7995$. The interaction of time and condition on ASCS scores was not significant, $F(1, 26) = .19$, $p = .6688$.

Workshop Credibility

A 2 (condition: behavioral vs cognitive) x 2 (time: pre vs post) repeated measures ANOVA was conducted on the credibility outcome measure. A significant main effect for time on CEQ scores was found, $F(1, 46) = 12.77$, $p = .001$. Participants in both conditions found the workshops to be less credible following completion of the workshops ($M = 23.21$, $SD = 7.20$) than prior to the workshops ($M = 25.67$, $SD = 5.27$). The main effect for condition was not significant, A significant interaction of time and condition on CEQ scores was also found, $F(1, 46) = 7.95$, $p = .007$. Participants in the behavioral condition reported the greatest decrease in their rating of the workshop's credibility following the workshop ($M = 20.80$, $SD = 7.26$).

Table 3

Means and (SDs) for Outcome Measures Pre and Post

	Full Sample (N = 70)		Waitlist (N = 22)		Behavioral (N = 20)		Cognitive (N = 28)	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
DAS	192.48 (30.13)	124.76 (31.12)	189.09 (28.70)	125.77 (29.88)	200.50 (24.13)	123.45 (33.57)	189.43 (33.32)	124.90 (32.13)
RRS	41.97 (11.23)	41.50 (14.18)	43.55 (11.80)	42.32 (12.56)	38.70 (8.06)	39.15 (13.76)	43.07 (12.01)	42.54 (15.19)
CAQ	85.12 (21.94)	85.29 (23.94)	91.19 (21.61)	90.14 (22.30)	84.25 (18.14)	87.00 (23.65)	82.46 (21.31)	80.25 (24.06)
BADS	111.21 (24.71)	122.23 (25.34)	128.86 (15.15)	104.55 (18.13)	106.05 (23.34)	127.50 (26.23)	101.04 (23.83)	132.36 (21.56)
CESD	12.47 (10.31)	11.17 (8.74)	12.18 (7.78)	12.95 (8.11)	12.00 (10.20)	11.65 (10.46)	13.04 (11.81)	9.37 (7.19)
STICSA	32.37 (8.75)	30.24 (9.90)	33.14 (8.19)	32.82 (11.57)	32.70 (10.40)	30.00 (9.02)	31.54 (7.57)	28.39 (8.33)
PSQI	6.41 (3.14)	5.56 (3.02)	6.96 (3.04)	6.05 (2.82)	5.60 (3.04)	5.30 (2.81)	6.57 (3.11)	5.36 (3.22)
PSS	25.17 (6.32)	24.13 (6.22)	25.91 (6.15)	25.05 (6.44)	25.45 (6.05)	24.75 (6.62)	24.40 (6.44)	22.96 (5.39)
SWLS	25.41 (5.52)	26.83 (5.45)	25.77 (6.06)	26.50 (6.30)	24.35 (5.43)	26.35 (4.52)	25.90 (4.91)	27.44 (5.17)
MSPSS	69.07 (11.81)	71.13 (11.55)	67.14 (16.43)	67.95 (15.31)	70.15 (7.74)	71.90 (8.72)	69.82 (9.18)	73.07 (8.83)
ASCS	112.63 (15.71)	115.91 (17.14)	118.27 (15.70)	118.77 (17.11)	110.50 (14.61)	113.10 (16.30)	109.71 (15.00)	115.68 (17.09)
CEQ	N/A	N/A	N/A	N/A	25.65 (5.52)	20.80 (7.26)	25.68 (5.09)	25.11 (6.60)

Note. Means are presented with standard deviations in parentheses.

Discussion

Depression is a debilitating psychological problem that can lead to impairment in several areas of life as well as have a negative effect on society as a whole. Most of the depression research that exists focuses on adults, but many of the concepts including vulnerabilities to and treatment of depression have been modified and applied to younger populations such as adolescents and college students. With that, several of the treatments for depression have been modified for use as prevention programs for these younger populations. Numerous cognitive-behavioral and interpersonal prevention programs exist for adolescents while fewer exist for college students. The programs that do exist overall tend to produce small to moderate effects

and do not provide adequate information as to how the effects may generalize to other areas of a person's life. It remains unknown, for either of these populations, what the most effective strategies may be.

This study intended to address some of the issues within the literature including the areas of recruitment, measurement, and content. This study compared two different skills to one another to determine if one was more effective in modifying cognitive vulnerabilities to depression, if either of the skills could be learned, and also if one particular skill was viewed as more credible to the college student population. This study compared reattribution training workshops with behavioral activation workshops. First, this study recruited college students who were at-risk of depression based on cognitive vulnerabilities to depression. This was done by identifying those who scored high on measures of dysfunctional attitudes, negative cognitive style, or rumination. These variables were then measured over time to observe any changes that occurred as a result of the workshop. Other measurements were included to determine if the effects of the workshops generalize to other areas of life.

It was hypothesized that both of the skills would be effective in decreasing depressive symptoms as well as reducing cognitive vulnerabilities. Results demonstrated that neither the behavioral skill or the cognitive skill was effective in reducing depressive symptoms. Due to the recruitment of participants who were not currently in a depressive episode, there may not have been a great deal of room for improvement on depressive symptoms as it was a seemingly healthy sample.

A significant reduction in dysfunctional attitudes from pre-post was found for all conditions, with an overall significant reduction also being found when looking at workshop participant scores prior to the workshop and at the time of follow-up. Due to there being no

specific effect for the workshop conditions, I am unable to conclude that the workshops influenced the reduction in dysfunctional attitudes. It is possible that dysfunctional attitudes are not a stable characteristic and are amenable to change due to varying life circumstances or the influence of an intervention.

There was a significant reduction in level of rumination found for both the behavioral and cognitive conditions from pre-workshop to the time of follow-up (four weeks after the completion of the workshop), however there was no significant reduction from pre to post for any of the three conditions. It appears that both behavioral and cognitive skills can influence levels of rumination, and that the effect may be delayed. It is possible that engaging in behaviors that are important to one's values has an impact on the way one thinks about their life. Also, like is often observed in the treatment of conditions such as depression, symptoms at times remain stable or even get worse before they show improvement. It is possible that the skills learned in this study may not demonstrate substantial benefit until the thinking style or behavior has had adequate time to change.

While investigating the change in dysfunctional attributional styles, a unique finding resulted. It was found that participants in the behavioral condition demonstrated increases in dysfunctional attributional styles both at post-workshop and follow-up whereas those in the cognitive condition demonstrated decreases at both time points. It is unclear what is responsible for the increase in dysfunctional attributional styles among the behavioral condition. One possibility is that there were a small number of participants in that condition who completed the follow-up measures so there could be a strong influence of outliers among that group. It is plausible that the reduction of dysfunctional attributional styles among those in the cognitive

condition is a result of those individuals becoming more aware of the impact of their cognitions on their mood and behavior and such attempting to modify dysfunctional attributions.

It was also hypothesized that we may observe improvements in areas of life such as sleep, stress, satisfaction with life, social support, and academic success. There appeared to be little influence of the workshops on these variables. It was found that those in both the waitlist and skills training conditions demonstrated improvement in sleep quality, satisfaction with life, perceived social support and academic self-concept from pre to post. Additionally, all conditions demonstrated a decrease in state anxiety pre to post. In looking at overall gains, those in both the behavioral and cognitive conditions demonstrated increases in behavioral activation and decreases in state anxiety from pre-workshop to the time of follow-up four weeks following completion of the workshop.

There was an interesting finding regarding level of behavioral activation in the waitlist condition compared to the skills training conditions. It was found that participants in the waitlist condition reported a significant decrease in behavioral activation at the end of the waitlist period whereas those in the active conditions reported a significant increase in behavioral activation. The increase in behavioral activation for the workshop conditions remained significant at follow-up. This could be due to participants in the skills training conditions becoming more active behaviorally and aware emotionally leading to change whereas those in the waitlist condition remained unprompted.

This study also asked participants to rate the credibility of the workshops they were participating in. It was found that participants in the behavioral activation workshop reported decreases in the credibility of the workshop following completing the workshop. It is unclear as to why this may be. It is possible that participants did not follow through with maintenance of

skill practice and thus viewed the workshop as less credible once they were no longer actively participating.

It is evident that research on the prevention of depression among college students is lacking. Having a better understanding of what this population deems credible as a prevention approach will be helpful in setting up future prevention programs. College campuses may benefit from employing screening tools at the beginning of the school year. If a college counseling center is accessible, they may be able to create a referral process where those who are already displaying symptoms of depression may be referred for counseling whereas those who may be at risk of developing depression are referred for a prevention program.

Overall, this study provides inconclusive evidence as to whether brief skills training interventions that are either cognitive or behavioral in nature have the potential to reduce cognitive vulnerabilities to depressed and improve areas of life that are commonly negatively impacted by depression. There are several issues remaining, however, that are worthy of investigation. It is recommended that future studies assess more in depth the reason for these types of workshops not being viewed as overly credible. It is worth asking students more about preferences regarding time commitment, skills offered, and course of delivery. There may be several factors within this study that impacted participants' view of the workshop including the workshops being limited to the learning of one specific skill, the brief nature of the workshop, and the lack of individualized attention received. It is also recommended that larger scale studies of this nature are conducted to determine whether brief cognitive or behavioral interventions have the potential utility to serve as prevention measures and could be implemented as part of a wellness course or through a college counseling center. Lastly, it may be helpful to incorporate

comprehension checks in future studies to ensure that participants are learning the skills being taught.

There are several limitations of this study that should be noted. First, there were issues in recruiting a well-represented sample in that it was somewhat difficult to find individuals who scored high on measures of cognitive vulnerability to depression who were not currently depressed or being treated for depression. It may be helpful to adjust inclusion criteria in order to obtain a sample that may benefit more from such programs or potentially use a clinical sample. Second, as with prevention studies in general, the effects that this study was intending to find were small in nature and may have been even more difficult to obtain due to the small sample size. Lastly, it was difficult to obtain follow-up measures from the majority of participants, thus the comparisons from pre-workshop to the time of follow-up and post-workshop to the time of follow-up are limited.

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APPENDIX A. CONSENT FORM

Title of Research Study: The Effects of Reattribution Training and Behavioral Activation on Cognitive Vulnerabilities to Depression among College Students

This study is being conducted by: Samantha Myhre, M.S., North Dakota State University, Graduate Student, Department of Psychology, samantha.myhre@ndsu.edu and Paul Rokke, Ph.D, North Dakota State University, Department of Psychology, Principal Investigator, paul.rokke@ndsu.edu.

Why am I being asked to take part in this research study? You have been invited to participate in this study because you responded to a survey about coping with stress. Based on your responses we believe you might benefit from participating in a workshop about different ways in which people cope with stress. You are eligible to participate in this study because you are enrolled in an undergraduate psychology course that includes research participation as a requirement or offers extra-credit for participating or are a member of the NDSU student body. You must be at least 18 years old to participate.

What is the reason for doing the study? The way individuals respond to life events can impact mood. Mood can then impact other areas of life. This study is being conducted to determine if the way individuals respond to life events can be changed and if so, if there is subsequent change in other areas of life.

What will I be asked to do? You will be asked to respond to questions about responses to events, depression, and general life functioning. You will then be asked to complete a workshop. The workshop will include psychoeducation as well as weekly exercises. The workshop will last four weeks, meeting once a week for an hour. There will be up to eight members in each workshop as well as one workshop leader. You will be asked to keep information discussed in the workshop confidential. Immediately following completion of the workshop as well as 4 weeks following completion of the workshop, you will be asked to complete questionnaires about responses to events, depression and general life functioning.

Where is the study going to take place, and how long will it take? The study will be conducted in the Psychology Lab in Minard Hall. The study will take approximately 6 weeks to complete. There will be a total of four in-person meetings lasting approximately one hour each. Some questionnaires will be completed online and are expected to take up to one hour total.

What are the risks and discomforts? It is not possible to identify all potential risks in research procedures, but we have taken reasonable safeguards to minimize any known risks. There may be questions which you do not feel comfortable answering or information that you may feel uncomfortable disclosing. We will ask all workshop participants to maintain confidentiality and respect the privacy of others, but due to the nature of a group setting we cannot guarantee confidentiality.

What are the benefits to me? You are not expected to benefit directly in any other way as a result of participating in this study.

What are the benefits to other people? We are conducting this study so that we may learn about how individuals, in particular college students, respond to the abovementioned workshops. It is hoped that the knowledge gained will contribute to our understanding.

Do I have to take part in the study? Your participation in this research is your choice. If you decide to participate in the study, you may change your mind and stop participating at any time without penalty or loss of benefits to which you are already entitled.

What are the alternatives to being in this research study? There are other studies to participate in besides this one. In addition, every psychology instructor will have specified alternative means for satisfying course requirements or earning extra credit. Please see your course syllabus or visit with your instructor to learn about these options.

Who will see the information that I give? All information collected in this study will remain completely confidential. The only exception to this is an instance where an individual discloses a threat to harm themselves or others. In such an instance, confidentiality may need to be broken in order to get an individual the help they need. All forms and data will be marked with a unique code. Names and identifying information will be stored with the data, but will be confined to a secured lab room. Only authorized research personnel will have access to the data. When reporting on the results of this study the data will be reported only in summary form, combining the information collected from all participants.

Will I receive any compensation for taking part in this study? All participants in this study will receive credit of seventeen points towards course requirements or extra-credit towards course grades or be entered into a gift card drawing.

What if I have questions?

Before you decide whether to accept this invitation to take part in the research study, please ask any questions that might come to mind now. Later, if you have any questions about the study, you can contact the researcher, Samantha Myhre, at samantha.myhre@ndsu.edu or the principal investigator, Paul D. Rokke, at Paul.Rokke@ndsu.edu, or 701.231-8626.

What are my rights as a research participant?

You have rights as a participant in research. If you have questions about your rights, or complaints about this research, you may talk to the researcher or contact the NDSU Institutional Review Board Office by:

- Telephone: 701.231.8995 or toll-free 1.855.800.6717
- Email: ndsu.irb@ndsu.edu

- Mail: NDSU, Research 1, 1735 NDSU Research Park Drive, NDSU Dept. 4000, PO Box 6050, Fargo, ND 58108-6050.

The role of the Human Research Protection Program is to see that your rights are protected in this research; more information about your rights can be found at: www.ndsu.edu/irb.

Documentation of Informed Consent:

You are freely making a decision whether to be in this research study. Signing this form means that

1. you have read and understood this consent form
2. you have had your questions answered, and
3. you have decided to be in the study.

You will be given a copy of this consent form to keep.

______________________________________ ______________

Your signature Date

____

Your printed name

______________________________________ ______________

Signature of researcher explaining study Date

____

Printed name of researcher explaining study

APPENDIX B. DYSFUNCTIONAL ATTITUDES SCALE-FORM A (DAS-A)

This questionnaire lists different attitudes or beliefs which people sometimes hold. Read each statement carefully and decide how much you agree or disagree with the statement. For each of the attitudes, indicate to the left of the item the number that best describes how you think. Be sure to choose only one answer for each attitude. Because people are different, there is no right answer or wrong answer to these statements. Your answers are confidential, so please do not put your name on this sheet. To decide whether a given attitude is typical of your way of looking at things, simply keep in mind what you are like most of the time.

1 = Totally agree
2 = Agree very much
3 = Agree slightly
4 = Neutral
5 = Disagree slightly
6 = Disagree very much
7 = Totally disagree

_____ 1. It is difficult to be happy unless one is good looking, intelligent, rich, and creative.

_____ 2. Happiness is more a matter of my attitude towards myself than the way other people feel about me.

_____ 3. People will probably think less of me if I make a mistake.

_____ 4. If I do not do well all the time, people will not respect me.

_____ 5. Taking even a small risk is foolish because the loss is likely to be a disaster.

_____ 6. It is possible to gain another person's respect without being especially talented at anything.

_____ 7. I cannot be happy unless most people I know admire me.

_____ 8. If a person asks for help, it is a sign of weakness.

_____ 9. If I do not do as well as other people, it means I am a weak person.

_____ 10. If I fail at my work, then I am a failure as a person.

_____ 11. If you cannot do something well, there is little point in doing it at all.

_____ 12. Making mistakes is fine because I can learn from them.

_____ 13. If someone disagrees with me, it probably indicates he does not like me.

_____ 14. If I fail partly, it is as bad as being a complete failure.

_____ 15. If other people know what you are really like, they will think less of you.

_____ 16. I am nothing if a person I love doesn't love me.

_____ 17. One can get pleasure from an activity regardless of the end result

_____ 18. People should have a chance to succeed before doing anything.

_____ 19. My value as a person depends greatly on what others think of me.

_____ 20. If I don't set the highest standards for myself, I am likely to end up a second-rate person.

_____ 21. If I am to be a worthwhile person, I must be the best in at least one way.

_____ 22. People who have good ideas are better than those who do not.

_____ 23. I should be upset if I make a mistake.

_____ 24. My own opinions of myself are more important than others' opinions of me.

_____ 25. To be a good, moral, worthwhile person I must help everyone who needs it.

_____ 26. If I ask a question, it makes me look stupid.

_____ 27. It is awful to be put down by people important to you.

_____ 28. If you don't have other people to lean on, you are going to be sad.

_____ 29. I can reach important goals without pushing myself.

_____ 30. It is possible for a person to be scolded and not get upset.

_____ 31. I cannot trust other people because they might be cruel to me.

_____ 32. If others dislike you, you cannot be happy.

_____ 33. It is best to give up your own interests in order to please other people.

_____ 34. My happiness depends more on other people than it does on me.

_____ 35. I do not need the approval of other people in order to be happy.

_____ 36. If a person avoids problems, the problems tend to go away.

_____ 37. I can be happy even if I miss out on many of the good things in life.

_____ 38. What other people think about me is very important.

_____ 39. Being alone leads to unhappiness.

_____ 40. I can find happiness without being loved by another person.

APPENDIX C. RUMINATIVE RESPONSES SCALE (RRS)

People think and do many different things when they feel depressed. Please read each of the items below and indicate whether you almost never, sometimes, often, or almost always think or do each one when you feel down, sad, or depressed. Please indicate what you *generally* do, not what you think you should do.

1 almost never 2 sometimes 3 often 4 almost always

______1. think about how alone you feel

______2. think "I won't be able to do my job if I don't snap out of this"

______3. think about your feelings of fatigue and achiness

______4. think about how hard it is to concentrate

______5. think "What am I doing to deserve this?"

______6. think about how passive and unmotivated you feel.

______7. analyze recent events to try to understand why you are depressed

______8. think about how you don't seem to feel anything anymore

______9. think "Why can't I get going?"

______10. think "Why do I always react this way?"

______11. go away by yourself and think about why you feel this way

______12. write down what you are thinking about and analyze it

______13. think about a recent situation, wishing it had gone better

______14. think "I won't be able to concentrate if I keep feeling this way."

______15. think "Why do I have problems other people don't have?"

______16. think "Why can't I handle things better?"

______17. think about how sad you feel.

______18. think about all your shortcomings, failings, faults, mistakes

______19. think about how you don't feel up to doing anything

______20. analyze your personality to try to understand why you are depressed

______21. go someplace alone to think about your feelings

______22. think about how angry you are with yourself

APPENDIX D. COLLEGE ATTRIBUTIONAL STYLES QUESTIONNAIRE (CAQ)

Please try to vividly imagine yourself in each of the situations that follow. Picture each situation as clearly as you can and as if the events were happening to you right now. Place yourself in each situation and decide what you feel would have caused it if it actually happened to you. Although events may have many causes, we want you to choose only one – the major cause if the situation actually happened to you. For each situation, you will write down this cause in the blank provided. Then you will answer some questions about the cause. After you have answered the questions about the cause of the situation, think about what the occurrence of the situation would mean to you.

You also will answer some questions about what the occurrence of the situation would mean to you. Use the numerical scale 1-7 and place your answer in the blank provided for each question.

It is important to remember that there are no right or wrong answers to the questions. The important thing is to answer the questions in a way that corresponds to what you would think and feel if the situations actually were occurring in your life.

Questions A-D ask about the cause of the situation.
Questions E-G ask for your views about the meaning of the situation rather than about the cause.

SITUATION 1: An important romantic relationship you are involved in breaks up because the other person no longer wants a relationship with you.

A) On the line below, type the one major cause of the person not wanting a romantic relationship with you.
CAUSE: ____

B) Think about the cause (i.e., what you wrote down on the line above) of the person not wanting a romantic relationship with you. Is it something about you or something about other people or circumstances that causes the person to not want a romantic relationship with you?

Totally caused by other people or circumstances	1	2	3	4	5	6	7	Totally caused by me

C) Think about the cause (i.e., what you wrote down on the line above) of the person not wanting a romantic relationship with you. Is this cause something that leads to problems just in your romantic relationship in that instance, or does this cause also lead to problems in other areas

This cause leads to problems just in my romantic relationship in that instance	1	2	3	4	5	6	7	This cause leads to problems in all areas of my life

of your life?

D) Think about the cause (i.e., what you wrote down on the line above) of the person not wanting a romantic relationship with you. Now assume that in the future, you approach the same person on other occasions to find out how the person feels about having a romantic relationship with you. Will the cause of the person not wanting a romantic relationship with you now as described above again cause that person to not want a romantic relationship with you in the future?

Will never again cause that person to not want a romantic relationship with me	1	2	3	4	5	6	7	Will always cause that person to not want a romantic relationship with me

E) How likely is it that the other person no longer wanting a romantic relationship with you will lead to other negative things happening to you?

Not at all likely to lead to other negative things happening to me	1	2	3	4	5	6	7	Extremely likely to lead to other negative things happening to me

F) To what degree does the other person no longer wanting a romantic relationship with you mean to you that you are flawed in some way?

Definitely does not mean I am flawed in some way	1	2	3	4	5	6	7	Definitely does mean I am flawed in some way

G) How much does the other person no longer wanting a romantic relationship with you matter to you?

Doesn't matter at all	1	2	3	4	5	6	7	Matters greatly

SITUATION 2: As an assignment, you give an important talk in class, and the class reacts negatively to your talk.

A) On the line below, write down the one major cause of the class reacting negatively to your talk.

CAUSE:

___

B) Think about the cause (i.e., what you wrote down on the line above) of the class reacting negatively to your talk. Is it something about you or something about other people or circumstances that causes the class to react negatively to your talk?

Totally caused by other people or circumstances	1	2	3	4	5	6	7	Totally caused by me

C) Think about the cause (i.e., what you wrote down on the line above) of the class reacting negatively to your talk. Is this cause something that leads to failure just in the class reaction to that talk, or does this cause also lead to failure in other areas of your life?

This cause leads to failure just in the class reaction to that talk	1	2	3	4	5	6	7	This cause leads to failures in all areas of my life

D) Think about the cause (i.e., what you wrote down on the line above) of the class reacting negatively to your talk. Now assume that in the future, you give a talk to a class on other occasions. Will the cause of the class reacting negatively now as described above again cause a class to react negatively in the future?

Will never again cause a class to react negatively to my talk	1	2	3	4	5	6	7	Will always cause a class to react negatively to my talk

E) How likely is it that the class reacting negatively to your talk will lead to other negative things happening to you?

Not at all likely to lead to to other negative things happening to me	1	2	3	4	5	6	7	Extremely likely to lead to other negative things happening to me

F) To what degree does the class reacting negatively to your talk mean to you that you are flawed in some way?

Definitely does not mean I am flawed in some way	1	2	3	4	5	6	7	Definitely does mean I am flawed in some way

G) How much does the class reacting negatively to your talk matter to you?

Doesn't matter at all	1	2	3	4	5	6	7	Matters greatly

SITUATION 3: During your first year of working in the career, of your choice, you receive a negative evaluation of your job performance.

A) On the line below, write down the one major cause of the class reacting negatively to your talk.

CAUSE:

B) Think about the cause (i.e., what you wrote down on the line above) of you receiving a negative evaluation of your job performance. Is it something about you or something about other people or circumstances that causes a negative evaluation of your job performance?

Totally caused by other people or circumstances	1	2	3	4	5	6	7	Totally caused by me

C) Think about the cause (i.e., what you wrote down on the line above) of you receiving a negative evaluation of your job performance. Is this cause something that leads to failure just in that job evaluation, or does this cause also lead to failure in other areas of your life?

This cause leads to failure just in that job evaluation	1	2	3	4	5	6	7	This cause leads to failure in all areas of my life

D) Think about the cause (i.e., what you wrote down on the line above) of you receiving a negative evaluation of your job performance. Now assume that in the future, you receive evaluations of your job performance on other occasions. Will the cause of you receiving a negative evaluation of your job performance now as described above again cause you to receive negative evaluations of your job performance in the future?

Will never again cause me to receive negative evaluations of my job	1	2	3	4	5	6	7	Will always cause me to receive negative evaluations of my job performance

E) How likely is it that your receiving a negative evaluation of your job performance will lead to other negative things happening to you?

Not at all likely to lead to other negative things happening to me	1	2	3	4	5	6	7	Extremely likely to lead to other negative things happening to me

F) To what degree does your receiving a negative evaluation of your job performance mean to you that you are flawed in some way?

Definitely does not mean I am flawed in some way	1	2	3	4	5	6	7	Definitely does mean I am flawed in some way

G) How much does receiving a negative evaluation of your job performance matter to you?

Doesn't matter at all	1	2	3	4	5	6	7	Matters greatly

SITUATION 4: You go to a party with some friends and throughout the whole party people don't act interested in you.

A) On the line below, write down the one major cause of people not acting interested in you throughout the whole party.

CAUSE:
____

B) Think about the cause (i.e., what you wrote down on the line above) of people not acting interested in you throughout the whole party. Is it something about you or something about other people or circumstances that causes people to not act interested in you throughout the whole party?

Totally caused by other people or circumstances	1	2	3	4	5	6	7	Totally caused by me

C) Think about the cause (i.e., what you wrote down on the line above) of people not acting interested in you throughout the whole party. Is this cause something that leads to problems just

in people's interest in you at that party, or does this cause also lead to problems in other areas of your life?

This cause leads to problems just in people's interest in me at that party	1	2	3	4	5	6	7	This cause leads to problems in all areas of my life

D) Think about the cause (i.e., what you wrote down on the line above of people not acting interested in you throughout the whole party. Now assume that in the future, you go to parties similar to that on other occasions. Will the cause of people not acting interested in you throughout the whole party now as described above again cause people to not act interested in you in the future?

Will never again cause people at similar parties to not act interested in me	1	2	3	4	5	6	7	Will always cause people at similar parties to not act interested in me

E) How likely is it that people not acting interested in you throughout the whole party will lead to other negative things happening to you?

Not at all likely to lead to other negative things happening to me	1	2	3	4	5	6	7	Extremely likely to lead to other negative things happening to me

F) To what degree does people not acting interested in you throughout the whole party mean to you that you are flawed in some way?

Definitely does not mean I am flawed in some way	1	2	3	4	5	6	7	Definitely does mean I am flawed in some way

G) How much does people not acting interested in you at the party matter to you?

Doesn't matter at all	1	2	3	4	5	6	7	Matters greatly

SITUATION 5: You don't look as good as you would like in terms of physical appearance.

A) On the line below, write down the one major cause of your not looking as good as you would like.

CAUSE:

____

B) Think about the cause (i.e., what you wrote down on the line above) of your not looking as good as you would like. Is it something about you or something about other people or circumstances that causes you to not look as good as you would like?

Totally caused by other people or circumstances	1	2	3	4	5	6	7	Totally caused by me

C) Think about the cause (i.e., what you wrote down on the line above) of your not looking as good as you would like. Is this cause something that leads to problems just in your physical appearance in that instance, or does this cause also lead to problems in other areas of your life?

This cause leads to problems just in my physical appearance in that instance	1	2	3	4	5	6	7	This cause leads to problems in all areas of my life

D) Think about the cause (i.e., what you wrote down on the line above) of your not looking as good as you would like. Now assume that in the future, you want to look good in terms of physical appearance on other occasions. Will the cause of your not looking as good as you would like now as described above again cause you to not look as good as you would like in the future?

Will never again cause me to not look as good as I would like	1	2	3	4	5	6	7	Will always cause me to not look as good as I would like

E) How likely is it that of your not looking as good as you would like will lead to other negative things happening to you?

Not at all likely to lead to other negative things happening to me	1	2	3	4	5	6	7	Extremely likely to lead to other negative things happening to me

F) To what degree does people of your not looking as good as you would like mean to you that you are flawed in some way?

Definitely does not mean I am flawed in some way	1	2	3	4	5	6	7	Definitely does mean I am flawed in some way

G) How much does your not looking as good as you would like matter to you?

Doesn't matter at all	1	2	3	4	5	6	7	Matters greatly

SITUATION 6: You take an exam and receive a low grade on it.

A) On the line below, write down the one major cause of your receiving a low grade on the exam.

CAUSE:
____

B) Think about the cause (i.e., what you wrote down on the line above) of your receiving a low grade on the exam. Is it something about you or something about other people or circumstances that causes you to receive a low grade on the exam?

Totally caused by other people or circumstances	1	2	3	4	5	6	7	Totally caused by me

C) Think about the cause (i.e., what you wrote down on the line above) of your receiving a low grade on the exam. Is this cause something that leads to failure just in your grade on that exam, or does this cause also lead to failure in other areas of your life?

This cause leads to failure just in my grade on that exam	1	2	3	4	5	6	7	This cause leads to failure in all areas of my life

D) Think about the cause (i.e., what you wrote down on the line above) of your receiving a low grade on the exam. Now assume that in the future, you take exams on other occasions and are graded on them. Will the cause of your receiving a low grade on the exam now as described above again cause you to receive a low grade on other exams in the future?

Will never again cause me to receive a low grade on other exams	1	2	3	4	5	6	7	Will always cause me to receive a low grade on other exams

E) How likely is it that your receiving a low grade on the exam will lead to other negative things happening to you?

Not at all likely to lead to other negative things happening to me	1	2	3	4	5	6	7	Extremely likely to lead to other negative things happening to me

F) To what degree does your receiving a low grade on the exam mean to you that you are flawed in some way?

Definitely does not mean I am flawed in some way	1	2	3	4	5	6	7	Definitely does mean I am flawed in some way

G) How much does your receiving a low grade on the exam matter to you?

Doesn't matter at all	1	2	3	4	5	6	7	Matters greatly

SITUATION 7: In an important class, you can't get all of the work done that your professor expects of you.

A) On the line below, write down the <u>one</u> major cause of your not getting all of the work done that your professor expects of you.

CAUSE:

____

B) Think about the <u>cause</u> (i.e., what you wrote down on the line above) of your not getting all of the work done that your professor expects of you. Is it something about you or something about other people or circumstances that causes your not getting all of the work done that your professor expects of you?

Totally caused by other people or circumstances	1	2	3	4	5	6	7	Totally caused by me

C) Think about the cause (i.e., what you wrote down on the line above) of your not getting all of the work done that your professor expects of you. Is this cause something that leads to failure just in that instance of getting all of the work done that your professor expects of you, or does this cause also lead to failure in other areas of your life?

This cause leads to failure just in getting all of that work done	1	2	3	4	5	6	7	This cause leads to failure in all areas of my life

D) Think about the cause (i.e., what you wrote down on the line above) of your not getting all of the work done that your professor expects of you. Now assume that in the future, are expected to get the same amount of work done in similar classes. Will the cause of your not getting all of the work done that your professor expects of you, now as described above again cause you to not get all of the expected work done in the similar classes in the future?

Will never again cause me to not get all of the expected work done in the similar classes	1	2	3	4	5	6	7	Will always cause me to not get all of the expected work done in the similar classes

E) How likely is it that your not getting all of the work done that your professor expects of you will lead to other negative things happening to you?

Not at all likely to lead to other negative things happening to me	1	2	3	4	5	6	7	Extremely likely to lead to other negative things happening to me

F) To what degree does your not getting all of the work done that your professor expects of you mean to you that you are flawed in some way?

Definitely does not mean I am flawed in some way	1	2	3	4	5	6	7	Definitely does mean I am flawed in some way

G) How much does your not getting all of the work done that your professor expects of you matter to you?

Doesn’t matter at all	1	2	3	4	5	6	7	Matters greatly

SITUATION 8: You really want to be in an intimate, romantic relationship but you aren't.

A) On the line below, write down the one major cause of your not being in an intimate, romantic relationship.

CAUSE:

B) Think about the cause (i.e., what you wrote down on the line above) of your not being in an intimate, romantic relationship. Is it something about you or something about other people or circumstances that causes your not being in an intimate, romantic relationship?

Totally caused by other people or circumstances	1	2	3	4	5	6	7	Totally caused by me

C) Think about the cause (i.e., what you wrote down on the line above) of your not being in an intimate, romantic relationship. Is this cause something that leads to problems just in that instance of your wanting to be in an intimate, romantic relationship, or does this cause also lead to problems in other areas of your life?

This cause leads to failure just in that instance of wanting to be in a romantic relationship	1	2	3	4	5	6	7	This cause leads to problems in all areas of my life

D) Think about the cause (i.e., what you wrote down on the line above) of your not being in an intimate, romantic relationship. Now assume that in the future, you really want to be in an intimate, romantic relationship on other occasions. Will the cause of your not being in an intimate, romantic relationship now as described above again cause you not be in an intimate, romantic relationship in the future?

Will never again cause me to not be in an intimate, romantic relationship	1	2	3	4	5	6	7	Will always cause me to not be in an intimate, romantic relationship

E) How likely is it that your not being in an intimate, romantic relationship will lead to other negative things happening to you?

Not at all likely to lead to other negative things happening to me	1	2	3	4	5	6	7	Extremely likely to lead to other negative things happening to me

F) To what degree does your not being in an intimate, romantic relationship mean to you that you are flawed in some way?

Definitely does not mean I am flawed in some way	1	2	3	4	5	6	7	Definitely does mean I am flawed in some way

G) How much does your not being in an intimate, romantic relationship matter to you?

Doesn't matter at all	1	2	3	4	5	6	7	Matters greatly

SITUATION 9: Your grade point average (GPA) for the semester is low.

A) On the line below, write down the <u>one</u> major cause of your receiving a low grade point average for the semester.

CAUSE:

___

B) Think about the <u>cause</u> (i.e., what you wrote down on the line above) of your receiving a low grade point average for the semester. Is it something about you or something about other people or circumstances that causes you to receive a low grade point average for the semester?

Totally caused by other people or circumstances	1	2	3	4	5	6	7	Totally caused by me

C) Think about the <u>cause</u> (i.e., what you wrote down on the line above) of your receiving a low grade point average (GPA) for the semester. Is this <u>cause</u> something that leads to failure <u>just</u> in your grade point average for that semester, or does this <u>cause</u> also lead to failure in <u>other</u> areas of your life?

This cause leads to failure <u>just</u> in my grade point average for that semester	1	2	3	4	5	6	7	This cause leads to failure in <u>all</u> areas of my life

D) Think about the <u>cause</u> (i.e., what you wrote down on the line above) of your receiving a low grade point average (GPA) for the semester. Now assume that in the future, you receive your semester grade point average on other occasions. Will the <u>cause</u> of your receiving a low grade point average for the semester now as described above again cause you to receive a low semester grade point average in the future?

Will never again cause me to receive a low semester grade point average	1	2	3	4	5	6	7	Will always cause me to receive a low semester grade point average

E) How likely is it that your receiving a low grade point average (GPA) for the semester will lead to other negative things happening to you?

Not at all likely to lead to other negative things happening to me	1	2	3	4	5	6	7	Extremely likely to lead to other negative things happening to me

F) To what degree does your receiving a low grade point average (GPA) for the semester mean to you that you are flawed in some way?

Definitely does not mean I am flawed in some way	1	2	3	4	5	6	7	Definitely does mean I am flawed in some way

G) How much does your receiving a low grade point average (GPA) for the semester matter to you?

Doesn’t matter at all	1	2	3	4	5	6	7	Matters greatly

SITUATION 10: A person you’d really like to develop a close friendship with does not want to be friends with you.

A) On the line below, write down the <u>one</u> major cause of the person not wanting to be friends with you.

CAUSE:

____

B) Think about the cause (i.e., what you wrote down on the line above) of the person not wanting to be friends with you. Is it something about you or something about other people or circumstances that causes the person to not want to be friends with you?

Totally caused by other people or circumstances	1	2	3	4	5	6	7	Totally caused by me

C) Think about the cause (i.e., what you wrote down on the line above) of the person not wanting to be friends with you. Is this cause something that leads to problems just in developing a close friendship with that person, or does this cause also lead to problems in other areas of your life?

This cause leads to problems just in developing a close friendship with that person	1	2	3	4	5	6	7	This cause leads to problems in all areas of my life

D) Think about the cause (i.e., what you wrote down on the line above) of the person not wanting to be friends with you. Now assume that in the future, you approach the same person on other occasions. Will the cause of the person not wanting to be friends with you now as described above again cause that person to not want to be friends with you in the future?

Will never again cause that person to not want to be friends with me	1	2	3	4	5	6	7	Will always cause that person to not want to be friends with me

E) How likely is it that of the other person not wanting to be friends with you will lead to other negative things happening to you?

Not at all likely to lead to other negative things happening to me	1	2	3	4	5	6	7	Extremely likely to lead to other negative things happening to me

F) To what degree does other person not wanting to be friends with you mean to you that you are flawed in some way?

Definitely does not mean I am flawed in some way	1	2	3	4	5	6	7	Definitely does mean I am flawed in some way

G) How much does the other person not wanting to be friends with you matter to you?

Doesn't matter at all	1	2	3	4	5	6	7	Matters greatly

SITUATION 11: You are unhappy.

A) On the line below, write down the one major cause of your being unhappy.

CAUSE:

____

B) Think about the cause (i.e., what you wrote down on the line above) of your being unhappy. Is it something about you or something about other people or circumstances that causes you to be unhappy?

Totally caused by other people or circumstances	1	2	3	4	5	6	7	Totally caused by me

C) Think about the cause (i.e., what you wrote down on the line above) of your being unhappy. Is this cause something that leads to problems just in your mood in that instance, or does this cause also lead to problems in other areas of your life?

This cause leads to problems just in my mood in that instance	1	2	3	4	5	6	7	This cause leads to problems in all areas of my life

D) Think about the cause (i.e., what you wrote down on the line above) of your being unhappy. Now assume that in the future, you check your mood on other occasions. Will the cause of your being unhappy now as described above again cause you to be unhappy in the future?

Will never again cause me to be unhappy	1	2	3	4	5	6	7	Will always cause me to be unhappy

E) How likely is it that your being unhappy will lead to other negative things happening to you?

Not at all likely to lead to other negative things happening to me	1	2	3	4	5	6	7	Extremely likely to lead to other negative things happening to me

F) To what degree does your being unhappy mean to you that you are flawed in some way?

Definitely does not mean I am flawed in some way	1	2	3	4	5	6	7	Definitely does mean I am flawed in some way

G) How much does your being unhappy matter to you?

Doesn't matter at all	1	2	3	4	5	6	7	Matters greatly

SITUATION 12: You write a paper for a course and you get a low grade on it.

A) On the line below, write down the one major cause of your getting a low grade on the paper.

CAUSE:
____

B) Think about the cause (i.e., what you wrote down on the line above) of your getting a low grade on the paper. Is it something about you or something about other people or circumstances that causes you to get a low grade on the paper?

Totally caused by other people or circumstances	1	2	3	4	5	6	7	Totally caused by me

C) Think about the cause (i.e., what you wrote down on the line above) of your getting a low grade on the paper. Is this cause something that leads to failure just in the grade on that paper, or does this cause also lead to failure in other areas of your life?

This cause leads to failure just in the grade on that paper	1	2	3	4	5	6	7	This cause leads to failures in all areas of my life

D) Think about the cause (i.e., what you wrote down on the line above) of your getting a low grade on the paper. Now assume that in the future, you write papers on other occasions and are graded on them. Will the cause of your receiving a low grade now as described above again cause you to receive low grades on other papers in the future?

Will never again cause me to receive a low grade on a paper	1	2	3	4	5	6	7	Will always cause me to receive a low grade on a paper

E) How likely is it that your getting a low grade on the paper will lead to other negative things happening to you?

Not at all likely to lead to other negative things happening to me	1	2	3	4	5	6	7	Extremely likely to lead to other negative things happening to me

F) To what degree does your getting a low grade on the paper mean to you that you are flawed in some way?

Definitely does not mean I am flawed in some way	1	2	3	4	5	6	7	Definitely does mean I am flawed in some way

G) How much does your getting a low grade on the paper matter to you?

Doesn't matter at all	1	2	3	4	5	6	7	Matters greatly

APPENDIX E. DEPRESSION SCREENER

PART I:

1. Are you currently being treated for depression?
   YES NO

2. Do you have a family history of depression?
   YES NO

   *If yes, please explain:____

PART II:

The current criteria for major depression are listed below. Depression is a complex problem that occurs differently for everyone . Symptoms often last for a few weeks or more. Based on the symptoms listed below, have you ever been depressed?

1. Little interest or pleasure in doing things
2. Feeling down, depressed or hopeless
3. Trouble falling or staying asleep, or sleeping too much
4. Feeling tired or having little energy
5. Poor appetite or overeating
6. Feeling bad about yourself – or that you are a failure or have let yourself or your family down
7. Trouble concentrating on things, such as reading the newspaper or watching television
8. Moving or speaking so slowly that other people could have noticed? Or the opposite – being so fidgety or restless that you have been moving around a lot more than usual
9. Thoughts that you be better off dead or of hurting yourself in some way

YES NO

APPENDIX F. BEHAVIORAL ACTIVATION FOR DEPRESSION SCALE (BADS)

Please read each statement carefully and then respond with the number which best describes how much the statement was true for you DURING THE PAST WEEK, INCLUDING TODAY.

0 = not at all
1
2 = a little
3
4 = a lot
5
6 = completely

______ 1. I stayed in bed for too long even though I had things to do.
______ 2. There were certain things I needed to do that I didn't do.
______ 3. I am content with the amount and types of things I did.
______ 4. I engaged in a wide and diverse array of activities.
______ 5. I made good decisions about what type of activities and/or situations I put myself in.
______ 6. I was active, but did not accomplish any of my goals for the day.
______ 7. I was an active person and accomplished the goals I set out to do.
______ 8. Most of what I did was to escape from or avoid something unpleasant.
______ 9. I did things to avoid feeling sadness or other painful emotions.
______ 10. I tried not to think about certain things.
______ 11. I did things even though they were hard because they fit in with my long-term goals for myself.
______ 12. I did something that was hard to do but it was worth it.
______ 13. I spent a long time thinking over and over about my problems.
______ 14. I kept trying to think of ways to solve a problem but never tried any of the solutions.
______ 15. I frequently spent time thinking about my past, people who have hurt me, mistakes I've made, and other bad things in my history.
______ 16. I did not see any of my friends.
______ 17. I was withdrawn and quiet, ever around people I know well.
______ 18. I was not social, even though I had opportunities to be.
______ 19. I pushed people away with my negativity.
______ 20. I did things to cut myself off from other people.
______ 21. I took time off of work/school/chores/responsibilities simply because I was too tired or didn't feel like going in.
______ 22. My work/schoolwork/chores/responsibilities suffered because I was not as active as I needed to be.
______ 23. I structured my day's activities.
______ 24. I only engaged in activities that would distract me from feeling bad.

______ 25. I began to feel badly when others around me expressed negative feelings or experiences.

APPENDIX G. CENTER FOR EPIDEMIOLOGICAL STUDIES DEPRESSION SCALE-REVISED (CESD-R)

Below is a list of ways you might have felt or behaved. Please check the boxes to tell me how often you have felt this way in the past week or so.

	Last Week				Nearly every day for 2 weeks
	Not at all *or* less than 1 day	1-2 days	3-4 days	5-7 days	
My appetite was poor.					
I could not shake off the blues.					
I had trouble keeping my mind on what I was doing.					
I felt depressed.					
My sleep was restless.					
I felt sad.					
I could not get going.					
Nothing made me happy.					
I felt like a bad person.					
I lost interest in my usual activities.					
I slept much more than usual.					
I felt like I was moving too slowly.					
I felt fidgety.					
I wished I were dead.					
I wanted to hurt myself.					
I was tired all the time.					
I did not like myself.					
I lost a lot of weight without trying to.					
I had a lot of trouble getting to sleep.					
I could not focus on the important things.					

APPENDIX H. STATE TRAIT INVENTORY FOR COGNITIVE AND SOMATIC ANXIETY (STICSA-STATE VERSION)

Instructions
Below is a list of statements which can be used to describe how people feel.
Beside each statement are four numbers which indicate how often each statement is true of you (e.g., 1 _ *not at all,* 4 _ *very much so*). Please read each statement carefully and circle the number which best indicates how you feel right now, at this very moment, even if this is not how you usually feel.

1 Not at all 2 A little 3 Moderately 4 Very much so

1. My heart beats fast. 1 2 3 4
2. My muscles are tense. 1 2 3 4
3. I feel agonized over my problems. 1 2 3 4
4. I think that others won't approve of me. 1 2 3 4
5. I feel like I'm missing out on things because I can't make up my mind soon enough. 1 2 3 4
6. I feel dizzy. 1 2 3 4
7. My muscles feel weak. 1 2 3 4
8. I feel trembly and shaky. 1 2 3 4
9. I picture some future misfortune. 1 2 3 4
10. I can't get some thought out of my mind. 1 2 3 4
11. I have trouble remembering things. 1 2 3 4
12. My face feels hot. 1 2 3 4
13. I think that the worst will happen. 1 2 3 4
14. My arms and legs feel stiff. 1 2 3 4
15. My throat feels dry. 1 2 3 4
16. I keep busy to avoid uncomfortable thoughts. 1 2 3 4
17. I cannot concentrate without irrelevant thoughts intruding. 1 2 3 4
18. My breathing is fast and shallow. 1 2 3 4
19. I worry that I cannot control my thoughts as well as I would like to. 1 2 3 4
20. I have butterflies in the stomach. 1 2 3 4
21. My palms feel clammy. 1 2 3 4

APPENDIX I. PITTSBURGH SLEEP QUALITY INDEX (PSQI)

Name________________________________ Date________

Instructions:

The following questions relate to your usual sleep habits during the past month *only*. Your answers should indicate the most accurate reply for the *majority* of days and nights in the past month. Please answer all the questions.

1. During the past month, when have you usually gone to bed at night?

   usual bed time__________________

2. During the past month, how long (in minutes) has it usually taken you to fall asleep each night?

   number of minutes_____________________

3. During the past month, when have you usually got up in the morning?

   usual getting up time___________________

4. During the past month, how many hours of *actual* sleep did you get at night? (This may be different than the number of hours you spend in bed).

   hours of sleep per night_________________

For each of the remaining questions, check the one best response. Please answer *all* questions.

5. During the past month, how often have you had trouble sleeping because you……

(a) Cannot get to sleep within 30 minutes

Not during the past month____ Less than once a week_____ Once or twice a week_____ three or more times a week_____

(b) Wake up in the middle of the night or early morning

Not during the past month____ Less than once a week_____ Once or twice a week_____ Three or more times a week_____

(c) Have to get up to use the bathroom

Not during the past month____ Less than once a week_____ Once or twice a week_____ three or more times a week_____

(d) Cannot breathe comfortably

Not during the past month____ Less than once a week_____ Once or twice a week_____ three or more times a week_____

(e) Cough or snore loudly

Not during the past month____	Less than once a week_____	Once or twice a week_____	three or more times a week_____

(f) Feel too cold

Not during the past month____	Less than once a week_____	Once or twice a week_____	three or more times a week_____

(g) Feel too hot

Not during the past month____	Less than once a week_____	Once or twice a week_____	three or more times a week_____

(h) Had bad dreams

Not during the past month____	Less than once a week_____	Once or twice a week_____	three or more times a week_____

(i) Have pain

Not during the past month____	Less than once a week_____	Once or twice a week_____	three or more times a week_____

(j) Other reason(s), please describe____
____
____

How often during the past month have you had trouble sleeping because of this?

Not during the past month____	Less than once a week_____	Once or twice a week_____	three or more times a week_____

6. During the past month, how would you rate your sleep quality overall?

   Very good__________
   Fairly good_________
   Fairly bad__________
   Very bad___________

7. During the past month, how often have you taken medicine (prescribed or “ over the counter”) to help you sleep?

Not during the past month____	Less than once a week_____	Once or twice a week_____	three or more times a week_____

8. During the past month, how often have you had trouble staying awake while driving, eating meals, or engaging in social activity?

Not during the past month____	Less than once a week_____	Once or twice a week_____	three or more times a week_____

9. During the past month, how much of a problem has it been for you to keep up enough enthusiasm to get things done?

No problem at all__________
Only a very slight problem__
Somewhat of a problem_____
A very big problem________

10. Do you have a bed partner or roommate?

No bed partner or roommate ______
Partner/roommate in other room ______
Partner in same room, but not same bed____
Partner in same bed ______

11. How often do you feel tired during the following times during the day?

Morning:

0	1	2	3
most days	often	occasionally	never

Afternoon:

0	1	2	3
most days	often	occasionally	never

Evening:

0	1	2	3
most days	often	occasionally	never

APPENDIX J. PERCEIVED STRESS SCALE (PSS)

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate by circling *how often* you felt or thought a certain way.

0 = Never
1 = Almost Never
2 = Sometimes
3 = Fairly Often
4 = Very Often

______ 1. In the last month, how often have you been upset because of something that happened unexpectedly?

______ 2. In the last month, how often have you felt that you were unable to control the important things in your life?

______ 3. In the last month, how often have you felt nervous and "stressed"?

______ 4. In the last month, how often have you felt confident about your ability to handle your personal problems?

______ 5. In the last month, how often have you felt that things were going your way?

______ 6. In the last month, how often have you found that you could not cope with all the things that you had to do?

______ 7. In the last month, how often have you been able to control irritations in your life?

______ 8. In the last month, how often have you felt that you were on top of things?

______ 9. In the last month, how often have you been angered because of things that were outside of your control?

______ 10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

APPENDIX K. SATISFACTION WITH LIFE SCALE (SWLS)

Instructions:
Below are five statements that you may agree or disagree with. Using the 1-7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding.

7 = Strongly agree
6 = Agree
5 = Slightly agree
4 = Neither agree nor disagree
3 = Slightly disagree
2 = Disagree
1 = Strongly disagree

____ In most ways my life is close to my ideal.

____ The conditions of my life are excellent.

____ I am satisfied with my life.

____ So far I have gotten the important things I want in life.

____ If I could live my life over, I would change almost nothing.

APPENDIX L. MULTIDIMENSIONAL SCALE OF PERCEIVED SOCIAL SUPPORT (MSPSS)

Instructions: We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

1 = Very Strongly Disagree
2 = Strongly Disagree
3 = Mildly Disagree
4 = Neutral
5 = Mildly Agree
6 = Strongly Agree
7 = Very Strongly Agree

______ 1. There is a special person who is around when I am in need.

______ 2. There is a special person with whom I can share joys and sorrows.

______ 3. My family really tries to help me.

______ 4. I get the emotional help & support I need from my family.

______ 5. I have a special person who is a real source of comfort to me.

______ 6. My friends really try to help me.

______ 7. I can count on my friends when things go wrong.

______ 8. I can talk about my problems with my family.

______ 9. I have friends with whom I can share my joys and sorrows.

______ 10. There is a special person in my life who cares about my feelings.

______ 11. My family is willing to help me make decisions.

______ 12. I can talk about my problems with my friends.

APPENDIX M. CREDIBILITY QUESTIONNAIRE (CQ)

Read each of the following questions and circle the number that best describes your opinion of the workshop you are participating in.

1. How logical does this workshop seem to you?

1	2	3	4	5	6	7
Not at all logical			Somewhat logical			Very logical

2. How scientific does this workshop seem to you?

1	2	3	4	5	6	7
Not at all scientific			Somewhat scientific			Very scientific

3. How complete does this workshop seem to you? In other words, do you think this workshop covers all the types of people who may become depressed?

1	2	3	4	5	6	7
Not at all complete			Somewhat complete			Very complete

4. To what extent would this workshop help an individual in other areas of his/her life?

1	2	3	4	5	6	7
Not at all			Somewhat			Very

5. How likely would you be in the future to participate in this workshop if you were depressed?

1	2	3	4	5	6	7
Not at all likely			Somewhat likely			Very likely

6. How effective do you think this workshop would be for most people?

1	2	3	4	5	6	7
Not at all effective			Somewhat effective			Very effective

7. If a close friend or relative were depressed, would you recommend this workshop to them?

1	2	3	4	5	6	7
Definitely would not			Maybe			Definitely would

APPENDIX N. ACADEMIC SELF-CONCEPT SCALE (ASCS)

Listed below are a number of statements concerning school-related attitudes. Rate each item as it pertains to <u>you</u> personally. Base your ratings on how you feel most of the time. INDICATE YOUR RESPONSE BY CIRCLING THE APPROPRIATE NUMBERS. <u>Be sure to answer all items</u>. Please respond to each item independently; do not be influenced by your previous choices.

	1 Strongly Disagree	2 Disagree	3 Agree	4 Strongly Agree
1. Being a student is a very rewarding experience.				
2. If I try hard enough, I will be able to get good grades.				
3. Most of the time my efforts in school are rewarded.				
4. No matter how hard I try I do not do well in school.				
5. I often expect to do poorly on exams.				
6. All in all, I feel I am a capable student.				
7. I do well in my courses given the amount of time I dedicate to studying.				
8. My parents are not satisfied with my grades in college.				
9. Others view me as intelligent.				
10. Most courses are very easy for me.				
11. I sometimes feel like dropping out of school.				
12. Most of my classmates do better in school than I do.				
13. Most of my instructors think that I am a good student.				
14. At times I feel college is too difficult for me.				
15. All in all, I am proud of my grades in college.				
16. Most of the time while taking a test I feel confident.				
17. I feel capable of helping others with their class work.				
18. I feel teachers' standards are too high for me.				
19. It is hard for me to keep up with my class work.				
20. I am satisfied with the class assignments that I turn in.				
21. At times I feel like a failure.				

22. I feel I do not study enough before a test.				
23. Most exams are easy for me.				
24. I have doubts that I will do well in my major.				
25. For me, studying hard pays off.				
26. I have a hard time getting through school.				
27. I am good at scheduling my study time.				
28. I have a fairly clear sense of my academic goals.				
29. I'd like to be a much better student than I am now.				
30. I often get discouraged about school.				
31. I enjoy doing my homework.				
32. I consider myself a very good student.				
33. I usually get the grades I deserve in my courses.				
34. I do not study as much as I should.				
35. I usually feel on top of my work by finals week.				
36. Others consider me a good student.				
37. I feel that I am better than the average college student.				
38. In most of the courses, I feel that my classmates are better prepared than I am.				
39. I feel that I do not have the necessary abilities for certain courses in my major.				
40. I have poor study habits.				

APPENDIX O. BEHAVIORAL ACTIVATION WORKSHOP SESSION OUTLINES

Behavioral Activation Workshop - WEEK 1:

Session Outline:

1. Informed consent
2. Introduction and guidelines
3. Completion of forms
4. Workshop rationale
5. Cover and distribute HW assignment 1
6. Summary, reminders, CE questionnaire and sign-in sheet

***Materials needed**: Informed Consent, Workshop Guidelines, Pre-Workshop Questionnaire Packet, Sample Items, HW1 packet, CE Questionnaire, Sign-In Sheet

1. Informed Consent

- *Hello, my name is _______ and I will be your workshop leader for the next 4 weeks. You have all been invited to participate in a study titled The Effects of Reattribution Training and Behavioral Activation on Cognitive Vulnerabilities to Depression among College Students. Before we can start, we must inform every one of the nature of the study. I am going to pass out an informed consent form. Everyone will get two copies, but you only need to read one as they are identical.* (distribute informed consent) *Please read through the informed consent. Once you have finished reading, please sign and date both copies.*

2. Introduction and Guidelines:

- *Let's start by getting to know each other a little bit. I am a doctoral student in Psychological Clinical Science here at NDSU in my _____ year of training. Why don't we go around the room and introduce ourselves. Please state your first name, what you are studying and where you are in school.* (Thank them for doing so)
- *We want to ensure that everyone's privacy and confidentiality is respected to our best ability, so we have created some guidelines for these workshops. Please take time to read through the guidelines when you leave here today. A main point I would like to stress is that information discussed in this workshop should remain private. The data you provide will be seen by myself, other workshop leaders, research assistants, and our advisor, all whom are trained in research ethics, however, we will not include your names in any reporting of data.* (distribute guidelines)

3. Completion of Forms:

- *Before we get started and I let you all know why you are here and what this will look like, we have some forms for you to complete. There are several here so I just ask that you*

carefully read and answer each question on each form. Please let me know if you have any questions. When you are finished with your forms, please wait quietly for others to finish. (Distribute one packet to each participant)

4. Workshop Rationale:

- *Some of you may be wondering why you were invited to participate in this study. Three of the questionnaires we had you complete in the survey were measuring how you think about and respond to stressful situations. Here are some of the typical items you may remember seeing* (read list of sample items). *There is research to suggest that people who endorse these items are more likely to be upset or distressed more often than others. It has been suggested that these can be vulnerability factors for depression. However, I want to be clear that these scores are simply scores. This does not mean that any of you will become depressed. Some people with these scores do become depressed but that does not mean everyone does. At any given point in time 5% of the adult population experiences depression and 15-20% will experience an episode of depression at some point in their life. Those with higher scores on these measures are more likely to experience depression than those who have lower scores and may not possess the skills to overcome these difficulties. The reason for doing these workshops is to provide an opportunity to learn about how you may be thinking about yourself and your circumstances that make it more likely for you to be upset sometimes as well as provide you with some different, more helpful ways to think about or respond to life circumstances.*
- *The workshop you are in will focus on a skill that is often used in the treatment of emotional problems like depression. This skill is called Behavioral Activation. Has anyone heard of this before? According to this approach, the key to reducing the likelihood of depression is to develop healthier patterns of behavior where each day contains important and/or enjoyable activities that help you feel fulfilled and as if your life has purpose. Once you have identified the areas of your life you want to focus on and your values within those areas, we will identify and plan daily activities that help you to live according to the values that are most important to you. This is important because when you accomplish activities that are closely linked to what you value in life, you are more likely to have positive and enjoyable experiences, which will improve how you feel and think about your life. Sometimes people don't engage in these types of behaviors because they are lacking motivation to do so, sometimes following a negative event, or they have become overinvolved in other people's circumstances so much that they do not have time to manage their own. When someone experiences negative feelings or events, it becomes hard not to think about it or feel terrible it happened. Doing so in turn typically leads us to feel worse and creates a vicious cycle. This workshop is intended to help you identify activities that might be making you feel poorly, and help you modify and change those activities to help you experience more positive feelings.*

5. Cover and Distribute HW1:

- *Today we are covering a lot of information. How is everyone doing so far? The next few sessions will be less information-heavy and focused more on exercises related to helping you develop the skills of behavioral activation. Along with that, each week we will have an assignment for you to complete outside of session. The reason for doing this is to ensure that you are able to practice the skills you learn here in your daily life and hopefully incorporate them in your routine.*
- *The assignment you will complete this week will help to give us a baseline of where you are as well as let us know where you would like to go. The first part of the assignment for this week is called the Daily Monitoring Form. Since the main goal of Behavioral Activation is to identify why activities might be making you feel poorly vs what activities might be helpful for your mood, it is important for us to learn what your activities look like throughout the day. We probably all have a generally good sense of what we do each day, but here we want to know exactly what is happening each day. When we get more detailed we can start identifying patterns in our mood and activities. Even if the activities seem insignificant to you (like sleeping or watching Netflix), please include them. Also, please do not try to change your activities because of this form. Go about your week as you normally would.*
- *Once you have recorded the activity, you then rate the activity in terms of two things: enjoyment and importance. For the enjoyment rating, think about how much you enjoy the activity. You will use a scale from 0-10 to rate enjoyment. A 0 means you do not enjoy that activity at all and 10 would be that you enjoy it very much. For the importance rating, think about how important it is to have this activity in your life. You will use a scale from 0-10 to rate importance. A 0 means that activity has no importance whereas a 10 would be it is of the highest importance in your life. Consider for the moment that some activities might be very important but not very enjoyable and others might be very enjoyable but not very important. For example, washing clothes might be very important but not very enjoyable whereas watching your favorite movie might be very enjoyable but not necessarily very important. Other activities may be high on both or low on both. Lastly, at the very bottom of the form each day you should provide an average mood rating for the day on a scale from 0-10 where 0 is the lowest or most negative mood and 10 is the most positive mood. Again the mood rating only needs to be done once and it is an average for the entire day.*
- *This form should be completed every day. It becomes difficult to recall everything we have done in the previous days if we do not document it near the time it happened. It is important that you document all activities. This may seem overwhelming, but it will be very helpful to have this information as we move forward.*

6. **Summary, Reminders, Credibility Questionnaire, Sign-In Sheet:**
   - Summary: *Alright, this was a LOT of information for the first day. As I mentioned before the following weeks will be much more focused on skill development. Are there any questions right now as to why you are here or about the workshop?*
   - Reminders: *A reminder that we will meet here each week at the same time unless we notify you otherwise. Also, please make sure that you bring your assignments back to the next workshop session. At that time we will make a copy for you to keep as well as make a copy for our records. Lastly, a reminder to please read through the guidelines and respect the privacy and confidentiality of your fellow workshop members.*
   - Credibility Questionnaire: *Now that you have all learned what the workshop will be about, we have one more form for you to complete before you go.* (distribute CQ)
   - Sign-In Sheet: *Lastly, before you leave, please sign in on this sheet and behind your name indicate if you are participating for Sona credits. We will have a sign-in sheet every week to keep record of who was in attendance.*
   - *Thank you all very much for coming today. We greatly appreciate your participation in this study and we will see you next week! There is contact information on the workshop guidelines if you need anything in the meantime.*

Behavioral Activation Workshop - WEEK 2:

Session Outline:

7. Homework Review
8. Session Rationale
9. In-session Activity
10. Cover and distribute HW assignment 2
11. Summary and Reminders

***Materials needed**: Sign-In Sheet, Life Areas Form, Life Areas/Values/Activities Inventory, HW2 (daily monitoring)

1. Homework Review:

- (have participants sign in as they arrive) *Thanks everyone for coming again! Today we are going to start by reviewing the monitoring logs you completed this week so if everyone could please take those out. What I want you all to do first is take a look through your week and see if you notice any patterns in your activities. Does your mood differ on days when you to less enjoyable or important activities?* **(ask for volunteers to discuss any patterns they notice; have them speculate why those patterns might emerge)**

2. Session Rationale:

- *As I mentioned last week, a key component to behavioral activations is focused on finding activities that are associated with the areas of life you value. So an important step involves thinking about the most important areas of your life. Think for a moment about the following life areas.* **(distribute list of life areas).** *The relationships life area refers to the part of your life that involves family, friends, and/or significant others such as a spouse, boyfriend, or girlfriend. The education/career life area refers to time spent developing your education and your career. This can include formal education such as college but could also be informal such as reading books on a particular topic. It also includes working at your current job or finding a new job. The recreation/interests life area refers to leisure time, when you can have fun and/or relax. It may also include doing things for others such as volunteering. The mind/body/spirituality life area refers to both physical and mental health as well as religion and/or spirituality. Lastly, the daily responsibilities life area refers to your obligations and responsibilities to others and your belongings.*
- *Once you have considered these life areas, you are able to move to identifying your values in each of these areas. A value is an ideal, quality or strong belief in a certain way of living. In other words, what is important to you about each of these life areas? What are you striving to be in each life area? What are the qualities of that life area that are important to you? Values that you identify should be very personal to you, and not necessarily the values of other people in your life or society in general.*
- *The primary goal of today's session is to identify key values from each life area and translate them into activities. Life areas again are the important areas of your life, values are how you want to live your life in each of those areas, and activities are things you can do to actually live according to the values. Becoming more aware of your values and using them as a guide to selecting your activities is a key to behavioral activation. Without the activities that help you live according to your values, the values are just words and ideas, not a reality.* **(distribute Life Areas, Values and Activities Inventory)**

3. In-Session Activity:

- *Now that you have learned the differences between life areas, values, and activities, let's start identifying your values in each life area and what particular activities might be useful for you to incorporate. The Life Areas, Values and Activities Inventory allows you to turn your values across key areas of your life into reality. For each life area, you have space for both values and activities. Each activity should be something that you might do to live consistently with the value that you identified. For example, if "being a good boyfriend or girlfriend" is something that you value, list some activities that you think are consistent with being a good significant other. Possible activities might include planning a date once a week or helping them with a household chore that they dislike.*

When selecting activities it is important to remember that the activity must have three specific characteristics. The first two are that the activity should be both observable by others and measurable. Therefore, "feeling better" is not what we mean by activity, but "eating dinner with my mother twice a week" would be appropriate. This latter activity could be observable and measurable in the sense that you could meet with her twice per week. The activity should also be broken into its smallest piece. For example, if an activity is going for a bike ride, consider that a number of intermediate steps are required before one can do this. Such steps might include bringing the bike out of storage, checking the air in the tires, finding a tire pump, pumping them up, etc. So the first step in the activity of going for a bike ride might just include checking that the bike is in good shape and then another activity could be going for the ride. Activities are easier to accomplish if they are broken into the smallest pieces possible. Thus, if these three conditions (observable, measurable, smallest piece possible) are met, you have identified an acceptable activity.

- *Sometimes it is tempting to select very difficult activities for which the benefits are in the future and not a guarantee. For example, getting a college degree is a long-term goal that may take some time to achieve. It's important to have these types of goals, but it's even more important to be clear about the rewarding activities that are part of achieving that long-term goal. This might include activities that get you to the goal but are important and/or enjoyable on a daily basis such as studying a topic you enjoy, or having a discussion about something you learned in class. Therefore, you should select activities across a range of difficulty, with only a few smaller steps toward more difficult long-term projects. To improve the likelihood of initial success, some of the activities you choose should be activities you already do regularly but would like to increase in frequency or duration. Let's get to work completing this form and determining what activities you would like to begin incorporating. Please do not worry about completing the entire inventory today. This is something you can continue to work on throughout the week.* **(walk around and answer questions; invite people to share examples)**

4. Cover and Distribute HW2:

- **(distribute Daily Monitoring Forms once everyone seems to be wrapping up on their inventories)** *This week's activity involves you going back to your daily life and again recording your activities and mood for the week on daily monitoring forms. While doing so, continue working on your inventory and consider the activities that may be the easiest to start with and what ones you may want to save for later.*

5. Summary and Reminders:

- Summary: *Today we learned about life areas, values, and activities. The goal for this week is to again track your daily activities so we can continue to observe your patterns*

AND think about what activities you identified today that might be the best to start incorporating. Any questions?

- Reminders: *Again, please remember to bring your activity forms back with you next week.*

Behavioral Activation Workshop - WEEK 3:

Session Outline:

12. Homework Review
13. Session Rationale
14. In-session Activity
15. Cover and distribute HW assignment 3
16. Summary and Reminders

***Materials needed**: Sign-In Sheet, Activities and Ranking Form, HW3 (daily monitoring)

1. Homework Review:

- (have participants sign in as they arrive) *Thanks everyone for coming again! Today we are going to start by reviewing the monitoring logs you completed this week so if everyone could take those out. Notice the type of activities you are doing and if they are enjoyable, important, both or neither. How would you describe your activities? How often are you doing enjoyable and important activities? Do you notice any difference in activities on days with a higher vs lower mood rating?* **(ask for volunteers to discuss any patterns they notice; have them speculate why those patterns might emerge)**

2. Session Rationale:

- *Last week you all learned about and completed the Life Areas, Values, and Activities Inventory. Hopefully you were able to identify activities in all of the life areas. Some of you may have felt it was easier to do this for one life area vs another. Although completing activities aimed at one specific life area and value can be satisfying, it is important to select activities across a wide range of life areas because our mood rarely impacts only one area of our life. By narrowing your focus on one aspect of your life, you limit your opportunity to have positive experiences and feel fulfilled in other areas. Today we are going to start a plan to incorporate more enjoyable and important activities into your daily life with an emphasis on the type of activity that is less frequent in your Daily Monitoring Forms.*

3. In-Session Activity:

- *By now, you will have identified many activities for each of the values in your life areas. Today we will pick 15 activities to get you started.* (**distribute Activity Selection and**

Ranking forms) *Remember that the activities should be observable, measurable, in their smallest pieces and directly relevant to the values you listed in the Life Areas, Values and Activities Inventory. The more your daily activities are linked to your values, the more likely you will experience the activities as both pleasurable and meaningful and the more you will feel that you are living the life you want to live. This is extremely important to pay attention to because there is no reason to busy yourself with activities that do not make you feel that you are living a richer, more meaningful life. Once you have your 15 activities listed on your ranking form, rank them from 1 (easiest to accomplish) to 15 (hardest to accomplish) in the right-hand column. In activity, you will start with the easiest activities and gradually work towards the more difficult ones. Once you have identified the 15 target activities, you will need a plan for how you will include these activities in your daily schedule and how you will monitor your progress. We will use your Daily Monitoring Forms to help you plan your new activities. Your opinion will be critical in deciding how many activities to select and it is important that you challenge yourself without becoming overwhelmed. The simplest approach is usually to start with 1-3 of the easiest activities.*

- **(distribute Daily Monitoring Forms)** *We will now identify activities for the coming week and what I would like you to do is enter those activities into the blank Daily Monitoring Forms for each day at the time that you plan to do them. For example, if your activity is "play with your dog" you might enter that activity at 4pm on Monday, 3pm on Wednesday, and 10am on Saturday. Be sure to consider whether you are ready for a particular activity and consider barriers you might encounter. If there are barriers to doing the activity, we should discuss steps you might take to first overcome the barriers. If anyone encounters this problem, please let me know and I can help you walk through that. Remember in the previous sessions when we discussed breaking activities down into the smallest pieces possible? When you run into difficulty with an activity, it can be useful to consider if you really have broken down the activity far enough. For example, if your activity is going to the gym twice a week, you might first have to get gym clothes, research gyms, find a partner to go with, or arrange for transportation. In this case, going to the gym may not be the smallest piece of this activity. A key aspect of Behavioral Activation is to plan the specific day and time that you will do each activity. This will require you to really think through where you can realistically fit the activity into your schedule. But by doing this, you will find that you are more likely to accomplish this activity. Please take a few minutes to finish ranking and planning your activities for this week.* **(Walk around to see that everyone is getting it and answer questions)**

4. Cover and Distribute HW3:

- *During the upcoming week, you will complete the Daily Monitoring Forms just as you have been doing each day. However, circle each planned activity in your form if you completed it. Be sure to give it an enjoyment and importance rating at this time too. This*

is important because it will allow us to see if you experienced the activity as more or less enjoyable or important than you originally thought. If you did not complete the activity at the scheduled time, you should put a line through it (but do not erase it) and write in the activity you did accomplish at that time. If possible, try to re-plan the missed activity for another time that week (or even that day) and be sure to circle it if you complete it. We will review your Daily Monitoring Forms next week as usual but at this time we will look for the circled activities you planned, how enjoyable and important they were, and if you encountered any problems while trying to accomplish them. We can work together to address whatever challenges arise.

5. Summary and Reminders:

- Summary: *Today we began planning activities that align with the values you identified for each life area. When you begin to complete your activities, you will begin to move toward the values you have set out and you will be living a fuller life and hopefully see an increase in mood. The key is not to focus too much on whether you have succeeded at accomplishing the values but instead it is to focus entirely on completing the daily activities that come directly from your values. Many values require a lifelong effort where you constantly try to live in a way that is consistent with your values. For this reason, values are not considered an endpoint of a process, but instead they are a guide throughout the process, providing information about how we want to live our lives and helping us to choose the activities that are the vehicles to help us move in the direction of our values.*
- Reminders: *Please take your Daily Monitoring Forms and your Ranking Form with you. Again, please remember to bring your forms back with you next week.*

Behavioral Activation Workshop - WEEK 4:

Session Outline:

17. Homework Review (review of activity logs)
18. Session Rationale/Review HW3 (planned activities)
19. Cover Skill Continuation (Daily Monitoring)
20. Summary and Reminders
21. Complete Questionnaire Packets

***Materials needed**: Sign-In Sheet, Daily Monitoring Forms, Questionnaire Packets

1. Homework Review (review of activity logs):

- (have participants sign in as they arrive) *Thanks everyone for coming again! The first half of our time today is going to be spent going over workshop material and the second half will be spent completing questionnaire packets. We are going to start by reviewing the*

monitoring logs you completed this week where you were planning some of the activities, so if everyone could take those out. How did activity planning go for everyone? Were you able to get the activities done that were planned ahead of time? If you didn't, was it difficult to find another time to complete them? If you completed the planned activities, how did that feel? Did you find that they were as important and enjoyable as you had imagined them to be? Do you think it will be easy to continue planning activities to help boost your mood? **(ask for volunteers to discuss any of the discussion questions)**

2. Session Rationale/Review HW3 (planned activities):

- *Last week we decided to select just a few of the easiest activities on your ranking form to include as planned activities for the week. What I want you to do today is think about whether you felt successful in completing the activities you planned over the past week. If so, I want you to think about what might be the logical next step. What activities might you try to incorporate next? Another thing I want you to do, is think about whether the activities you chose to complete over the past week were important to you and enjoyable. If they were not, you may want to replace them with something else. Please take a few minutes to think about how you might plan your activities for the next week and make any necessary revisions to your Life Areas, Values and Activities Inventory as well as your ranking sheet. Something I want to note is that just because you felt successful in completing your planned activities for the past week does not mean you should stop doing those and move to the next one. We want this to be something that you add on to over time. So if you found a couple of the activities you completed for the week to be important and/or enjoyable for you and maybe they helped you to feel better, those should become a more frequent activity in your life while incorporating others that you find to have the same effect.* **(walk around and see if anyone has any questions)**

3. Cover Skill Continuation (daily monitoring):

- *As you know, today is the last day we will meet as a group for the workshop. However, even though we will no longer be meeting, we hope that you have found this brief training in behavioral activation to be useful and we hope that it is a skill you will continue to use in your life. When first trying to make this more of a habit in our lives, it is helpful to track our activities like you have been doing the last several weeks. So I have a packet of Daily Monitoring Forms for each of you to take with you at the completion of today's session.* **(distribute Daily Monitoring Forms)**

4. Summary & Reminders

- Summary: *Over the last several weeks, you have learned that the things we do each day have an impact on our mood. You have learned that you can improve your mood by*

incorporating activities in your life each day that are enjoyable and important and that are in line with the values of your life. I hope that you are able to continue using the skills learned in this brief workshop.

- Reminders: *Everyone will receive an online survey in a few weeks via e-mail. I would greatly appreciate it if you take the time to complete the survey. Those of you who are participating for Sona, please see the e-mail with instructions for signing up if you have not done so already. You will receive your credits this week, but I ask that you still complete the survey when you receive it. Please know that you can always contact us if you have any questions about the workshop, mental health concerns, or any general questions. We are very thankful for your participation in the study and hope you have found it to be worth your time!*

5. Complete Questionnaires:

- *We will finish today by having you each complete a packet of questionnaires. Please include your name and date on each one. You can leave p# blank. Please read the instructions for each one and try to answer all questions as truthfully as possible. Disregard any instructions telling you NOT to write your name on it. When you are finished, please put the paperclip back on your packet and leave them at your chair. After that, if you have no questions for me, you are free to go!*

APPENDIX P. MATERIALS FOR BEHAVIORAL ACTIVATION WORKSHOP

DAILY MONITORING FORM

Name: ________________________________ Date: _______________ P#: _______________

Time	**Activity**	**Enjoyment (0-10)**	**Importance (0-10)**
5-6 am			
6-7 am			
7-8 am			
8-9 am			
9-10 am			
10-11 am			
11am-12 pm			
12-1 pm			
1-2 pm			
2-3 pm			
3-4 pm			
4-5 pm			
5-6 pm			
6-7 pm			
7-8 pm			
8-9 pm			
9-10 pm			
10-11 pm			
11pm-12 am			
12-1 am			
1-2 am			
2 → 5 am			

Daily Mood Rating: _____/10

LIFE AREAS

1. **Relationships:** This life area refers to the part of your life that involves family, friends, and/or significant others such as a spouse, boyfriend or girlfriend.

2. **Education/Career:** This life area refers to time spent developing your education and your career. This can include formal education such as college, but could also be informal such as reading books on a particular topic. It also includes working at your current job or finding a new job.

3. **Recreation/Interests:** This life area refers to leisure time, when you can have fun and/or relax. It may also include doing things for others such as volunteering.

4. **Mind/Body/Spirituality:** This life area refers to both physical and mental health as well as religion and/or spirituality.

5. **Daily Responsibilities:** This life area refers to your obligations and responsibilities to others and your belongings.

LIFE AREAS, VALUES, AND ACTIVITIES INVENTORY
Life Area (1/5): Relationships

Value:	**Enjoyment (0-10)**	**Importance (0-10)**
-Activity 1:		
-Activity 2:		
-Activity 3:		
-Activity 4:		
-Activity 5:		

Value:	**Enjoyment (0-10)**	**Importance (0-10)**
-Activity 1:		
-Activity 2:		
-Activity 3:		
-Activity 4:		
-Activity 5:		

Value:	**Enjoyment (0-10)**	**Importance (0-10)**
-Activity 1:		
-Activity 2:		
-Activity 3:		
-Activity 4:		
-Activity 5:		

Life Area (2/5): Education/Career

Value:	**Enjoyment (0-10)**	**Importance (0-10)**
-Activity 1:		
-Activity 2:		
-Activity 3:		
-Activity 4:		
-Activity 5:		

Value:	**Enjoyment (0-10)**	**Importance (0-10)**
-Activity 1:		
-Activity 2:		
-Activity 3:		
-Activity 4:		
-Activity 5:		

Value:	**Enjoyment (0-10)**	**Importance (0-10)**
-Activity 1:		
-Activity 2:		
-Activity 3:		
-Activity 4:		
-Activity 5:		

Life Area (3/5): Recreation/Interests

Value:	**Enjoyment (0-10)**	**Importance (0-10)**
-Activity 1:		
-Activity 2:		
-Activity 3:		
-Activity 4:		
-Activity 5:		

Value:	**Enjoyment (0-10)**	**Importance (0-10)**
-Activity 1:		
-Activity 2:		
-Activity 3:		
-Activity 4:		
-Activity 5:		

Value:	**Enjoyment (0-10)**	**Importance (0-10)**
-Activity 1:		
-Activity 2:		
-Activity 3:		
-Activity 4:		
-Activity 5:		

Life Area (4/5): Mind, Body, & Spirituality

Value:	**Enjoyment (0-10)**	**Importance (0-10)**
-Activity 1:		
-Activity 2:		
-Activity 3:		
-Activity 4:		
-Activity 5:		

Value:	**Enjoyment (0-10)**	**Importance (0-10)**
-Activity 1:		
-Activity 2:		
-Activity 3:		
-Activity 4:		
-Activity 5:		

Value:	**Enjoyment (0-10)**	**Importance (0-10)**
-Activity 1:		
-Activity 2:		
-Activity 3:		
-Activity 4:		
-Activity 5:		

Life Area (5/5): Daily Responsibilities

Value:	**Enjoyment (0-10)**	**Importance (0-10)**
-Activity 1:		
-Activity 2:		
-Activity 3:		
-Activity 4:		
-Activity 5:		

Value:	**Enjoyment (0-10)**	**Importance (0-10)**
-Activity 1:		
-Activity 2:		
-Activity 3:		
-Activity 4:		
-Activity 5:		

Value:	**Enjoyment (0-10)**	**Importance (0-10)**
-Activity 1:		
-Activity 2:		
-Activity 3:		
-Activity 4:		
-Activity 5:		

Activity Selection and Ranking

Instructions: ***List your desired 15 activities and rate the difficulty of each from 1 (least difficult) to 15 (most difficult)***

ACTIVITY	RANK

APPENDIX Q. REATTRIBUTION TRAINING WORKSHOP SESSION OUTLINES

Reattribution Training Workshop - WEEK 1:

Session Outline:

22. Informed consent
23. Introduction and guidelines
24. Completion of forms
25. Workshop rationale
26. Cover and distribute HW assignment 1
27. Summary, reminders, CE questionnaire and sign-in sheet

***Materials needed**: Informed Consent, Workshop Guidelines, Pre-Workshop Questionnaire Packet, HW1 packet, CE Questionnaire, Sign-In Sheet

1. Informed Consent

- *Hello, my name is _______ and I will be your workshop leader for the next 4 weeks. You have all been invited to participate in a study titled The Effects of Reattribution Training and Behavioral Activation on Cognitive Vulnerabilities to Depression among College Students. Before we can start, we must inform every one of the nature of the study. I am going to pass out an informed consent form. Everyone will get two copies, but you only need to read one as they are identical.* **(distribute informed consent)** *Please read through the informed consent. Once you have finished reading, please sign and date both copies.*

2. Introduction and Guidelines:

- *Let's start by getting to know each other a little bit. I am a doctoral student in Psychological Clinical Science here at NDSU in my _____ year of training. Why don't we go around the room and introduce ourselves. Please state your first name, what you are studying and where you are in school.* **(Thank them for doing so)**
- *We want to ensure that everyone's privacy and confidentiality is respected to our best ability, so we have created some guidelines for these workshops. Please take time to read through the guidelines when you leave here today. A main point I would like to stress is that information discussed in this workshop should remain private. The data you provide will be seen by myself, other workshop leaders, research assistants, and our advisor, all whom are trained in research ethics, however, we will not include your names in any reporting of data.* **(distribute guidelines)**

3. Completion of Forms:

- *Before we get started and I let you all know why you are here and what this will look like, we have some forms for you to complete. There are several here so I just ask that you carefully read and answer each question on each form. Please let me know if you have any questions. When you are finished with your forms, please wait quietly for others to finish.* **(Distribute one packet to each participant)**

4. Workshop Rationale:

- *Some of you may be wondering why you were invited to participate in this study. Three of the questionnaires we had you complete in the survey were measuring how you think about and respond to stressful situations. Here are some of the typical items you may remember seeing* **(read list of sample items).** *There is research to suggest that people who endorse these items are more likely to be upset or distressed more often than others. It has been suggested that these can be vulnerability factors for depression. However, I want to be clear that these scores are simply scores. This does not mean that any of you will become depressed. Some people with these scores do become depressed but that does not mean everyone does. At any given point in time 5% of the adult population experiences depression and 15-20% will experience an episode of depression at some point in their life. Those with higher scores on these measures are more likely to experience depression than those who have lower scores and may not possess the skills to overcome these difficulties. The reason for doing these workshops is to provide an opportunity to learn about how you may be thinking about yourself and your circumstances that make it more likely for you to be upset sometimes as well as provide you with some different, more helpful ways to think about or respond to life circumstances.*
- *Before we start, let's look at a couple of examples of a negative event that might occur in our lives.*
    - *1. I want you to imagine yourself in this situation. Let's say that you are walking down the hall to class, and you pass by a friend and they ignore you. Think about what a natural response might be for you in that situation. What might you think the reason is for your friend ignoring you? Try not to inhibit any typical reactions you may have. We want this to be as real of an example as possible.*
    - *2. I again want you to imagine yourself in another situation. Let's say that you applied for a new job, felt like your interview went really well, and a few days ago you learned that they offered the job to someone else. Think about what a natural response might be for you in that situation. What might you think the reason is for you not getting the job? Again, try to think about how you would actually respond in a situation like this.*

- *The workshop you are in will focus on a skill that is often helpful for people who are dealing with emotional problems like depression. The skill you will learn is called reattribution. Attributions are the things we consider to be causes for events that happen in our lives. We will use the words attribution and cause interchangeably. We can have functional attributions and dysfunctional attributions. People who experience depression or may be vulnerable to depression tend to have more of a dysfunctional attribution style.*
- *Functional attributions are typically unstable and specific. An unstable cause would mean that you view the event as isolated, rare, or likely to change in the future. A specific cause would mean that you view the event as being specific to the context it happened in. For example, if I get a failing grade on an exam, I might attribute that to me having not been as prepared for this exam as I have been for others and will be in the future. This is unstable in the sense that I am understanding this event as an isolated incident and specific in the sense that I am considering it only in the context of this course and not generalizing my failing the exam to other courses or my success overall as a student. Does everyone see how viewing a negative event this way may lead to a more adaptive outcome?*
- *Dysfunctional attributions are typically stable and global. A stable cause would mean that the problem is going to be constant over time. A global cause would mean that the negative event is going to happen across a variety of contexts and influence many aspects of a person's life. Let's go back to the example of failing an exam. If I am a person who has a dysfunctional attribution style, I might attribute the failing of the exam to me never going to get this material down and that I won't ever be able to succeed in my courses. This is stable in the sense that I assume this is always going to happen and global in the sense that I feel I will fail all of my courses. Individuals who are vulnerable to and suffer from depression sometimes engage in dysfunctional attributions. Does everyone see how viewing a negative event this way may lead to a more negative mood? This idea stems from the hopelessness theory of depression. Within this theory, there is the idea that when someone engages in a dysfunctional attribution style, they tend to develop a belief that more negative events will happen or that the future holds no promise (i.e. they become hopeless). Does everyone see how that belief may develop if one engages in the use of dysfunctional attributions?*
- *Let's go back to the examples we talked about earlier. Let's start with the situation of being ignored by your friend in the hallway. Is anyone willing to share what they wrote down as a cause they may infer about that event?* **(go through examples that participants share and have them determine what category they fall under).** *Now let's go to the second example of you not getting the job. Is anyone willing to share what they wrote down as a cause they may infer about that event?* **(go through examples that participants share and have them determine what category they fall under).**

5. Cover and Distribute HW1:

- *Today we are covering a lot of information. How is everyone doing so far? The next few sessions will be less information-heavy and focused more on exercises related to helping you develop the skills of reattribution training. Along with that, each week we will have an assignment for you to complete outside of session. The reason for doing this is to ensure that you are able to practice the skills you learn here in your daily life and hopefully incorporate them in your routine.*
- *This week we want to get a baseline of your typical responses to negative events. Of course we cannot control the negative events that occur in our lives nor do we want to create them. What you will do this week is keep track of negative events that occur in your daily life. It does not have to be a big event. This can be something very small even. It will be important that you do not try to change the way you typically would respond to the events that occur. Please record the exact thoughts you had about the situation and what the cause of the situation was (even if it is a dysfunctional attribution). We want to get an accurate picture of the way you typically respond.*
- *On the HW1 sheet, please record any negative events that occur throughout the week for you. Ideally, it would be helpful if you could record at least one per day but we cannot control that that will be possible. As a rule of thumb, try to record as many as you can. Again these do not have to be huge events. They can be smaller negative events. Negative events of all sizes can impact our mood and the way we interpret our lives. For each event, record the date and time, describe the event including where you were, who was there and what happened, then describe the cause. When describing the cause, do not hinder what you record. Be as accurate as you can in describing the automatic response that you had to the event.*

7. Summary, Reminders, Credibility Questionnaire, Sign-In Sheet:

- Summary: *Alright, this was a LOT of information for the first day. The following weeks will be much more focused on skill development. Are there any questions right now as to why you are here or about the workshop?*
- Reminders: *A reminder that we will meet here each week at the same time unless we notify you otherwise. Also, please make sure that you bring your assignments back to the next workshop session. At that time we will make a copy for you to keep as well as make a copy for our records. Lastly, a reminder to please read through the guidelines and respect the privacy and confidentiality of your fellow workshop members.*
- Credibility Questionnaire: *Now that you have all learned what the workshop will be about, we have one more form for you to complete before you go.* **(distribute CQ)**
- Sign-In Sheet: *Lastly, before you leave, please sign in on this sheet and behind your name indicate if you are participating for Sona credits. We will have a sign-in sheet every week to keep record of who was in attendance.*

- *Thank you all very much for coming today. We greatly appreciate your participation in this study and we will see you next week! There is contact information on the workshop guidelines if you need anything in the meantime.*

Reattribution Training Workshop - WEEK 2:

Session Outline:

1. Homework review
2. Session rationale
3. In-session exercise
4. Cover and distribute HW assignment 2
5. Summary and reminders

***Materials needed**: Sign-In Sheet, blank pieces of paper, HW2

1. Homework Review:

- (have participants sign in as they arrive) *Thanks everyone for coming again! Today we are going to start by reviewing the events that you tracked for the week. What I want you to do first is take a look through your week and see if you notice any patterns in the events that occurred. Were most of them large or small, or was there a mix? Did any of them seem to influence the way you responded more than others?* **(ask for volunteers to discuss any patterns they notice; have them determine more functional responses to replace dysfunctional responses)**

2. Session Rationale:

- *As I mentioned last week, the main focus of reattribution training is to take a look at the way we are attributing causes to events and to try to develop more functional patterns of doing so. Last week we focused on the characteristics of functional vs dysfunctional attributions. If you remember, functional attributions are often unstable and specific meaning they are not something believed to reoccur and are specific to a certain context. Dysfunctional attributions are often stable and global, meaning that they are believed to be something that will continue to happen and will happen over a variety of contexts.*
- *Today we are going to dig a little deeper into that. I want to talk just briefly about how engaging in dysfunctional attributions can impact the way we feel and the things we do. This maps on to what is called the cognitive model.* **(draw cognitive model on the board).** *We kind of touched on this last week. Within the cognitive model, we have an event or situation that occurs which typically will lead to an automatic thought. In this case, the automatic thoughts we are referring to are attributions. Following the thought we often have a feeling which is in turn followed by a behavior. This model tends to turn in to a cycle. Let's go through an example. Can someone tell me an example of a negative*

situation or event that might lead to a negative automatic thought? What do you notice about this cycle? **(if no one gets it, say that someone pointed it out last week… a lot of this is internal)**

3. In-Session Exercise:

- *Let's look back to the events you encountered this week. Try to find one where you feel represents this cycle well. Write that event down on a piece of paper. Think about the thought, feeling and behavior that occurred and also write that down.* **(ask for volunteers to describe examples)**

4. Cover and Distribute HW2:

- *This week we will do something a little different for your weekly activity. Last week we wanted to get a baseline. Instead of just recording your automatic attribution this week, I also want you to think of an alternative, more functional attribution. Once you do that, I want you to record the feeling and behavior that follow thinking about the more functional attribution. Again, we cannot control how many negative events you encounter throughout the week. Like last week, please consider any negative event that occurs no matter how big or small.*

5. Summary & Reminders:

- Summary: *Today we learned more about attributions and how they can create healthy or unhealthy patterns of thinking, feeling and acting. The goal for this week is to practice engaging in functional attributions to reinforce*
- Reminders: *Again, please remember to bring your activity forms back with you next week.*

Reattribution Training Workshop - WEEK 3:

Session Outline:

6. Homework review
7. Session rationale
8. In-session exercise
9. Cover and distribute HW assignment 3
10. Summary and reminders

***Materials needed**: Sign-In Sheet, blank pieces of paper, HW3

1. Homework Review:

- (have participants sign in as they arrive) *Thanks everyone for coming again! Today we are going to start by reviewing the activity you did for the week. Did anyone find it difficult to do the activity this week? What were the biggest challenges? Did you find that once you determined an alternate attribution your feeling and subsequent behavior were able to be changed?* **(ask for volunteers to provide examples)**

2. Session Rationale:

- *The last couple of weeks we have been focusing on how we respond to negative events. Today we are going to switch gears and consider how respond to positive events. Sometimes those of us who have a difficult time responding with functional attributions to negative events, also have a difficult time responding with functional attributions to positive events. Dysfunctional attributions to positive events tend to be the opposite of those for negative events. For positive events, a dysfunctional attribution would be one that is unstable and specific. So a functional attribution for a positive event would then be stable and global. Let's consider an example. Let's say you are walking to class, you pass a friend in the hallway, and they tell you how much they like your outfit. What are some possible functional attributions? Why are they functional? Are they stable and global? What might a dysfunctional attribution be? Why would it be considered dysfunctional?* **(have volunteers provide examples and go through each).** *Let's think of another example. Can someone give me another positive event that may occur that could lead to dysfunctional or functional attributions?* **(go through a second example)**

3. In-Session Exercise:

- *Let's go back to what we were discussing last week: the cognitive model. Let's go through the two examples we talked about and see how they map onto the cognitive model.* **(go through each on board)**

4. Cover and Distribute HW3:

- *This week we will take a step back again and do an activity like we did the first week. This week you will track positive events that occur and record your automatic attributions. Like the first week, let's just get a baseline of where you are in terms of responding to positive events. Like we did before, record the event and the details of it as well as the automatic attribution that followed.*

5. Summary & Reminders:

- Summary: *Today we switched gears to talking about positive events.*
- Reminders: *Again, please remember to bring your activity forms back with you next week.*

WEEK 4:

Session Outline:

11. Homework review
12. Session rationale
13. In-session exercise/HW4
14. Summary and reminders
15. Complete questionnaires

***Materials needed**: Sign-In Sheet, blank pieces of paper, HW4

1. Homework Review:

- (have people sign in as they come in) *Thanks everyone for coming again! The first half of our time today is going to be spent going over workshop material and the second half will be spent completing questionnaire packets. Today we are going to start by reviewing the positive events that you tracked for the week. What I want you to do first is take a look through your week and see if you notice any patterns in the positive events that occurred. Were most of them large or small, or was there a mix? More functional or dysfunctional? Did any of them seem to influence the way you responded more than others?* **(ask for volunteers to discuss any patterns)**

2. Session Rationale:

- *As I mentioned last week, the way we think about attributions of positive events is the opposite of the way we think about attributions of negative events. Functional attributions for positive events are stable and global. Dysfunctional attributions for positive events are unstable and specific.*
- *Today we are going to practice trying to turn our dysfunctional attributions into more functional ones.*

3. In-Session Exercise/HW4:

- *Recall the cognitive model that we have been covering the past few weeks. Let's look back to the events you encountered this week. Try to find one where you feel represents this cycle well. Write that event down on a piece of paper. Think about the thought, feeling and behavior that occurred and also write that down. Now let's practice finding*

more functional attribution and identify what feeling and behavior might follow. **(ask for volunteers to describe examples)**

- *Over the past week you recorded a baseline of the positive events in your life. Today we are going to go through your positive events from the past week and modify some of them just like we did a couple of weeks ago with negative events. I want you to think of an alternative, more functional attribution for any of the dysfunctional attributions you may have had. Of course, this is more beneficial when done in the moment, but it is good to get practice as to how this might look. Once you do that, I want you to record the feeling and behavior that may follow thinking about the more functional attribution.* **(ask for volunteers to describe examples)**

4. Summary & Reminders:

- Summary: *Over the last several weeks, you have learned how the way we think about attributions or causes of events in our life can impact our mood. You have also learned about ways to overcome dysfunctional thinking and in turn hopefully improve your mood. I hope that you are able to continue using the skills learned in this brief workshop.*
- Reminders: *Everyone will receive a survey in a few weeks. I would greatly appreciate if you take the time to complete the survey. Those of you who are participating for Sona, you will receive your credits next week, but I ask that you still complete the survey in a few weeks. Please know that you can always contact me if you have any questions about the workshop, mental health concerns, or any general questions. I am so thankful for your participation in the study and hope you have found it to be worth your time!*

5. Complete Questionnaires:

- *We will finish today by having you each complete a packet of questionnaires. Please include your name and date on each one. You can leave p# blank. Please read the instructions carefully for each one and try to answer all questions as truthfully as possible. When you are finished, please put the paperclip back on your packet and leave them at your chair.*

APPENDIX R. MATERIALS FOR REATTRIBUTION TRAINING WORKSHOP

HW 1 Name: ________________________________ Date: _________________ P#: _________

Date & Time	**Describe Event** (Where were you, what happened, who was there)	**Describe Cause** (Describe *exactly* what you thought when the event occurred)

HW 2 Name: ____ P#: _______					
Date	**Situation/Event**	**Automatic Attribution**	**Alternative Attribution**	**Feeling**	**Behavior**

HW 3 **Name:** ________________________________ **Date:** _________________ **P#:** _______

Date & Time	**Describe Event** (Where were you, what happened, who was there)	**Describe Cause** (Describe *exactly* what you thought when the event occurred)

HW 4 Name: ______________________________ P#: ________

Date	Situation/Event	Automatic Attribution	Alternative Attribution	Feeling	Behavior

APPENDIX S. SAMPLE ITEMS FOR SESSION ONE

Sample Items for Workshop Session 1

1. I cannot be happy unless most people I know admire me.

2. If you cannot do something well, there is little point in doing it at all.

3. When you are feeling down, sad or depressed do you think “Why can’t I handle things better?”?

4. When you are feeling down, sad or depression do you think about all your shortcomings, failings, faults, mistakes?

SIGN-IN SHEET

Date: ___________________________________ Session #:__________

1.
2.
3.
4.
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6.
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8.
9.
10.

APPENDIX U. WORKSHOP GUIDELINES

WORKSHOP GUIDELINES

Please read through the following workshop guidelines. If guidelines are not followed, you may be asked to leave the workshop for the remainder of the day or indefinitely. They are in place to ensure that all participants feel comfortable and safe.

1. Confidentiality
Anything said between any two or more group members at any time is part of the workshop and is confidential. We ask that you agree to keep secret the names of other members of the workshop and what is said in the workshop. We ask that you agree to keep secret anything which occurs between or among workshop members. We expect you to understand that there is an exception to this confidentiality which applies to the workshop leader. If the workshop leader believes that someone is in danger, the leader has a professional obligation to take direct action in order to keep everyone safe.

2. Privacy (The Stop Rule)
No group member is ever *required* to answer any question, to participate in any activity, or to tell anything. If you are asked questions or asked to participate in an activity which makes you feel uncomfortable, please understand that you have the right to pass, that is, the right to refuse. We ask that you agree that you will not pressure other workshop members to participate in any discussion or activity after the member has passed or refused. Please understand that the workshop leader is obliged to protect this right. We ask that you understand that you will likely benefit more from this workshop the more you are able to take risks in sharing and participating.

3. Dignity
We expect that no workshop member will be humiliated, hazed, or abused in any way and ask that you avoid destructive behavior.

4. Violence or intimidation
Violence or intimidation toward other workshop members is never tolerated. Please understand that you must never be violent or intimidating toward other workshop members and that if you threaten to harm persons or property you will be asked to leave the workshop.

5. Alcohol and Other Drugs
Workshop members cannot participate in the group under the influence of alcohol or other mind-altering drugs. When under the influence of chemicals, persons do not have access to their emotions and have less control over their behavior. Please understand that if the leader believes that you are under the influence of alcohol or other drugs, you will be asked to leave the workshop.

6. Exclusive relationships
Dating and other exclusive relationships between or among workshop members are typically not a good idea. The relationships can make other members feel uncomfortable.

7. Gossip
Gossip and secret grudges can be very destructive in a group. We ask that you agree that if you have something to say to another workshop member, you will try to say it to the member directly rather than talk about him/her behind his/her back.

8. Attendance
Attendance to this workshop is not mandatory as you have volunteered to participate in this study. If you are unable to attend due to an emergency or unavoidable circumstance, please let the leader know in advance.