The Clinical Utility of a Mindfulness-Based Intervention Program in Reducing Problematic Behaviors and the Manifestation of Psychological Symptoms in Adolescents

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Thirteen adolescent residents participated in an eight-week mindfulness-based group intervention program. Participants were divided into two groups based upon pre-treatment scores on measures of anxiety and anger. The group intervention sessions included discussion and practice of the concepts and teachings of mindfulness.

An analysis of post-treatment data showed a decrease in anxiety for more symptomatic participants and an increase in anxiety for less symptomatic participants. Changes regarding anger and a program compliance were not significant and inconclusive respectively. Generally, the more symptomatic participants received the greatest benefit from the group. However, large individual variations in the data suggest the need for future research in this area.

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THE CLINICAL UTILITY OF A MINDFULNESS-BASED INTERVENTION PROGRAM IN REDUCING PROBLEMATIC BEHAVIORS AND THE MANIFESTATION OF PSYCHOLOGICAL SYMPTOMS IN ADOLESCENTS

A DISSERTATION
SUBMITTED TO THE FACULTY
OF
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DOCTOR OF PSYCHOLOGY

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Abstract

This study examined whether the implementation of a mindfulness-based group intervention program would lead to a reduction in self-reported psychological symptoms and problematic behaviors for adolescents in a residential treatment facility.

Thirteen adolescent residents participated in an eight-week mindfulness-based group intervention program. Participants were divided into two groups based upon pre-treatment scores on measures of anxiety and anger. The group intervention sessions included discussion and practice of the concepts and teachings of mindfulness.

An analysis of post-treatment data showed a decrease in anxiety for more symptomatic participants and an increase in anxiety for less symptomatic participants. Changes regarding anger and a program compliance were not significant and inconclusive respectively. Generally, the more symptomatic participants received the greatest benefit from the group. However, large individual variations in the data suggest the need for future research in this area.

Keywords: mindfulness, adolescents, residential treatment
Acknowledgements

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Again, I would like to thank the staff and administration at the residential treatment facility for their continued support, dedication, and hard work that helped to bring this project to its successful completion.
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Review of the Literature on Mindfulness

Mindfulness is defined in several ways; however, for purposes of this current work mindfulness is defined as “paying attention in a particular way: on purpose, in the present moment, and non-judgmentally” (Kabat-Zinn, 1994, p. 4 as cited in Baer, 2003). Mindfulness techniques are a way to intentionally focus the attention to an experience occurring in the present moment without making a judgment regarding the experience (Baer, 2003). Mindfulness-based interventions are used currently in the treatment of several medical and psychological disorders including major depressive disorder (Segal et al., 2002), anxiety disorders (Kabat-Zinn, et al., 1992), borderline personality disorder (Linehan, 1993), substance abuse (Bowen et al., 2006), chronic pain (Segal et al., 2002), psoriasis (Kabat-Zinn et al., 1998), and eating disorders (Baer, Fischer, & Huss, 2006).

Additionally, researchers developed independent intervention programs that incorporate mindfulness techniques. Kabat-Zinn’s Stress Reduction Clinic incorporated alternative treatments like Mindfulness Based Stress Reduction (MBSR) to help those for whom traditional treatments are not successful (Kabat-Zinn, 2006). The MBSR program showed efficacy in reducing participant’s subjective experience of stress (Shapiro, Astin, Bishop, & Cordova, 2005). MBSR, developed by Kabat-Zinn, is an intensive eight to ten week course most frequently delivered in a group format. Exercises included the body scan, sitting meditation, and yoga exercises. Such practices are taught in the group and exercises then assigned for homework in between sessions. In these exercises, participants are taught to focus their attention to a neutral target such as breathing. When
thoughts, emotions, or physical sensations arise, participants are encouraged to acknowledge their presence but then return their attention to a target in the present moment (Kabat-Zinn, 1994, p. 4 as cited in Baer, 2003).

Also, mindfulness techniques are the core of the Mindfulness-Based Cognitive Therapy (MBCT) which shares both theories and techniques with MBSR. However, this intervention is utilized most often with patients who suffer from recurrent depressive episodes. Along with meditation techniques, components of cognitive therapy are incorporated into this treatment in an effort to help persons suffering from depression be able to experience thoughts without distress as they learn to form a different non-judgmental relationship with the once problematic thoughts (Segal et al., 2002; Teasdale, Segal, & Williams, 1995).

Dialectical Behavioral Therapy, Linehan’s (1993) widely used and well-researched treatment for borderline personality disorder incorporates mindfulness techniques into this skill-based treatment program. Although mindfulness techniques are not the core of DBT, there is an attempt to incorporate these skills into a portion of the treatment protocol (Baer, 2003; Linehan, 1993). Additionally, mindfulness techniques are incorporated into Acceptance and Commitment Therapy (ACT) (Greco, Blackledge, Coyne, & Ehrenreich, 2005). Mindfulness techniques are also incorporated in relapse prevention techniques for individuals struggling with substance-related issues (Bowen et al., 2006). Lastly, Follette, Palm, and Pearson (2006) reviewed the current literature concerning the treatment of trauma-related sequelae and proposed a rationale for incorporating mindfulness-based interventions in trauma treatment protocols.
Overall, mindfulness-based interventions, along with the utility and effectiveness of such interventions are areas where there is a steady increase in the amount of research being conducted. There are challenges that face researchers in the field of mindfulness-based interventions. Such challenges include the ways in which mindfulness is defined and the interventions implemented, especially in terms of the seemingly subjective experience of these interventions. Also, the majority of the work that has been done is using only adult participants. There is often a lack of adequate controls in the studies conducted to date (Baer, 2003). There is the confounding variable of the concurrent use of other interventions by participants (i.e., medications, psychotherapy, peer support, psychoeducation, etc.), small sample sizes (Baer, 2003), and extra-therapeutic factors. Although these challenges exist in other areas of psychological research, these pose formidable challenges in research addressing mindfulness-based interventions. The paucity of research that utilizes mindfulness-based interventions with populations other than adults, such as children and adolescents, is one challenge that this work aims to address.

**Meditative and Mindfulness Research with Children and Adolescents**

Over the course of the last several decades, researchers used meditation and mindfulness interventions with children and adolescents. However, working with children and adolescents required that additional consideration be given to the techniques implemented taking into account the developmental stage of the participants (Goodman, 2005). Research in the field to modify the more common mindfulness practices to be applicable to children and adolescents is underway with suggestions provided regarding how to modify the practices and to monitor the development of this skill set for a younger
and less developed population (Thompson & Gauntlett-Gilbert, 2008). This is an important area of research as practitioners are seeing more and more children with behavioral and emotional problems. Therefore, there is a need to continue to develop clinically effective and cost effective ways to manage problematic behaviors and psychological symptoms. In children and adolescents, these clinical issues may be addressed through the use of mindfulness-based interventions as will be highlighted below in the research.

Linden (1973) conducted a study with school-aged children that utilized meditative interventions to observe the proposed effects on participant’s perceived levels of independence, test anxiety, and reading achievement. His initial hypotheses proposed that meditation as a way for participants to train and to focus their attention thus reducing the tendency towards distraction by environmental stimuli. He further hypothesized that anxiety and relaxation were incompatible states; therefore by teaching participants to relax, there would be an inevitable concurrent decrease in anxiety and an increase in performance on standardized measures.

In the Linden (1973) study, participants were third grade students from an inner-city school. In total there were 90 participants, divided among three groups, a meditation group, a guidance group, and a group that remained in the classroom with other students and received no special attention outside of the classroom. Each group consisted of 15 girls and 15 boys. He divided students in the meditation group into two groups of 15. They met with the group leader for 20-25 minutes twice weekly for 18 weeks and participated in two meditation exercises, a breathing exercise and a visual fixation
exercise. The students in the guidance group met with the guidance counselor in groups of 10 for the 18-week period. The counselor instructed participants on study skills.

He administered three separate measures pre- and post-intervention, the Children’s Embedded Figure Test (CEFT), Test Anxiety Scale for Children (TASC), and Metropolitan Achievement Test (reading achievement test). The data showed statistical differences between the meditative group and the two control groups on two of the three measures (CEFT and TASC). Data for participants in the control groups (the guidance group and the group that received no special attention outside of the classroom), did not indicate significant differences (Linden, 1973). These results indicated that children can learn to focus their attention in a manner that frees them from distraction. Children also learned to relax and to mediate their responses to anxiety-provoking situations (i.e., test taking) (Linden, 1973).

Murdock (1978) also used meditative techniques with elementary-aged children after noticing the personal benefits of such practice. He started by using shorter meditations of between three to five minutes with a classroom of children with intellectual abilities estimated to be average to above average. His initial hypotheses stated that such techniques would help children to become more aware of their inner emotional states and also help him to become more aware of how the children were feeling.

As previously mentioned, Murdock (1978) initially used shorter meditations but then progressed to longer and more detailed meditations such as the wave meditation, the white light meditation, and the energy meditation. Such meditative techniques included a
more formal and structured breathing component and also a less formalized guided visualization.

Overall, Murdock (1978) noted through observations that children were able to participate in meditative exercises. He also observed an increase in children’s concentration, a decrease in their distractibility, and an increase in their artistic efforts. Murdock (1978) further hypothesized that helping children to meditate may promote their learning more effective ways to solve problems and also to help them to gain a better understanding of the feelings of others.

Redfering and Bowman (1981) used Benson’s (Benson, 1975 as cited in Redfering & Bowman, 1981) meditative-relaxation exercise with a group of children to determine if children who utilized such strategies would engage in less non-attending or distracting behaviors. He hypothesized that utilizing this intervention would offer children an internally controlled method (i.e., meditative-relaxation exercise) of modulating their emotions and reduce their tendency to act out in response to emotionally laden stimuli. This study involved 18 children between the ages of eight to eleven half of the children to the experimental group and the other half to the control group.

This 5-day study consisted of a 30 minute intervention and a 30-minute period of observation. The subjects in the experimental group listened to 30 minutes of Benson’s “Relaxation Response” (Benson, 1975 as cited in Redfering & Bowman, 1981) while the control participants listened to a tape with instructions on how to rest. Researchers recorded the number of off-task and on-task behaviors of the children at three-minute intervals for a 30-minute period of time both pre-and post-intervention. The children in the meditative-relaxation group showed an overall decrease in non-attending behaviors.
when compared to the children in the rest group. Additionally, children in the meditative-relaxation group reported that they enjoyed the calming effects and the new activity (Redfering & Bowman, 1981).

The more recent studies, as described below, reflect the practices currently known as mindfulness. For example, Semple et al., (2005) designed a pilot study the utilized mindfulness-based interventions with anxious children. The hypothesis that guided this research stated that impaired attention was a symptom of anxiety and learning to modulate attention would lead to a decrease in anxiety. This study consisted of a small sample size of only 5 children (three boys and two girls), referred by their teachers.

The program consisted of a six-week program with weekly 45-minute sessions with encouragement to practice the techniques at home; however, researchers did not require formal practice-based homework. Mindfulness techniques in this study included breathing, walking, gustatory, visual, auditory, olfactory, and tactile exercises. Researchers structured sessions which followed a similar protocol with exception of the specific exercise taught in each session. Researchers collected pre-test and post-test data for the following measures, the Child Behavior Checklist, Teacher Report Form (CBCL-TRF, Achenbach, 1991 as cited in Semple et al., 2005), the Multidimensional Anxiety Scale for Children (MASC, March 1997 as cited in Semple et al., 2005), and the State-Trait Anxiety Inventory for Children (STAIC, Spielberger, Edwards, Lushene, Monuori, & Platzek, 1973 as cited in Semple et al., 2005). Additionally, children completed the Feely Faces Scale to describe their feelings (Semple et al., 2005).

Data analysis in this study took an ideographic approach which differed from the previous studies conducted. It included teacher’s reports, school psychologists’
observations, and group leaders’ observations. Researchers did not report data from the MASC (March 1997 as cited in Semple et al., 2005) and STAIC (Spielberger et al., 1973 as cited in Semple et al., 2005) due to the children potentially not understanding the questions and subsequent underreporting. Subjective reports of children indicated that four of the five children reported that they enjoyed the program. The teachers reported an improvement in academic functioning and reductions in clinical symptom scales of the CBCL-TRF (Achenbach, 1991 as cited in Semple et al., 2005) for four of the five children. This study showed at least some improvement for all of the children thus lending support that children can be taught mindfulness skills and further offered support for the proposed connection between attention and anxiety (Semple et al., 2005).

A recent study by Singh et al., (2007) implemented mindfulness-based interventions with a group of conduct-disordered adolescents in an effort to improve both the short term and long term gains from treatment not always obtained using more traditional treatment strategies. Participants in this study included three seventh-grade adolescents (two males and one female) who faced school expulsion unless school personnel observed a reduction in their in-school behavior problems. Behavioral problems included aggression, bullying, fire setting, cruelty to animals, and noncompliance with rules and expectations; however, not every participant evidenced all of these problematic behaviors.

Researchers taught participants the mindfulness technique, “Meditation on the Soles of the Feet,” which instructed one to change the focus of their attention from an emotionally arousing event, stimuli, or thought to a neutral part of the body in this case the feet (Singh et al., 2007; Singh, Wahler, Adkins, & Myers, 2003). Singh et al., (2003)
successfully used this meditative technique with a treatment resistant man with developmental disabilities for whom other behavioral and psychopharmacological techniques were not effective.

Singh et al., (2007) encouraged participants to use this intervention over the course of 25 weeks. They gathered data on behaviors in which the adolescent engaged along with their practice of the techniques over the course of treatment. Also a review of records persisted for one year post-intervention according to those behavioral problems specific to the adolescent at the outset of intervention.

Overall, the mindfulness intervention did not eliminate the problematic behaviors completely, but decreased the behaviors for each adolescent participant to a level tolerated by the educational facility. Data showed that participants maintained treatment gains one year after treatment. Also, adolescents reported that they used mindfulness skills in the absence of continued training or instruction by the therapist and noticed the benefits of the techniques (Singh et al., 2007). In summary, this study showed that adolescents can learn to self-regulate their behavior which further supported that mindfulness-based interventions used with adolescents involved a component of assumed control over their behaviors (Singh et al., 2007).

A study by Zylowska et al., 2008 utilized an eight-week mindfulness intervention program with a group of adults and adolescents diagnosed with Attention-Deficit/Hyperactivity Disorder (ADHD). Results of this study indicated that participants reported an improvement in ADHD symptoms. Specifically, researchers observed an increase in attentional processes and cognitive inhibition for participants.
Previous research highlighted the effectiveness of meditative and mindfulness-based interventions for children and adolescents. In summary, some of the proposed mechanisms of effectiveness and treatment outcomes for these interventions included teaching ways to focus attention (Linden, 1973; Zylowska et al., 2008) and increase concentration (Murdock, 1978) thus being less distracted. Research showed mindfulness-based interventions effective to reduce anxiety (Linden, 1973) and Semple et al., (2005) and further highlighted the connection between attention and anxiety. Additionally, by teaching self-regulation skills, mindfulness-based interventions decreased problematic behaviors (Redfering & Bowman, 1981; Singh et al., 2007).
Purpose of the Study

This study investigated whether a brief time-limited mindfulness-based intervention program delivered in a group format would lead to beneficial behavioral and emotional changes for two groups of adolescents in a residential treatment facility with differing pre-treatment characteristics. More specifically, I looked for a reduction in negative behaviors (i.e., anger), a reduction in psychological symptoms (i.e., anxiety), and an increase in overall program compliance with the demands of the treatment program to which group participants are held to standard.
Method

Participant Selection

Participants were a group of thirteen adolescent males from a local residential treatment facility. I chose the adolescents based on clinical need, established by examining scores on self-report measures administered upon admission to the residential treatment program.

The data that formed the basis for selection came from self-report measures that evaluated anxiety and problematic acting out behaviors: the Multidimensional Anxiety Scale for Children (MASC) and the Trauma Symptom Checklist (TSCC). Refer to the Materials and Measures section for a description of each of these measures.

I selected two groups for the purpose of comparison for this study, one was the more symptomatic group (Group 1) and the other was the less symptomatic group (Group 2). I reviewed the MASC and TSCC scores of the residents obtained upon admission to determine assignment to one or the other group. Group 1 consisted of those adolescents with a score equal to or greater than the median of 52 on the Tense/Restlessness scale of the MASC (MASC-TR) and a score equal to or greater than the median of 50 on the Anger scale of the TSCC (TSCC-ANG). Group 2 consisted of those adolescents with a score less than the median of 52 on the MASC-TR and a score less than the median of 50 on the TSCC-ANG.
Materials and Measures

All participants attended a one hour mindfulness-based group intervention program weekly for eight weeks. The groups introduced and practiced the concepts and teachings of mindfulness. I adapted specific exercises from previous works in the field (Kabat, 1990; Segal at al., 2002; Semple et al., 2005) and included a taste exercise, breathing exercises, and walking, sight, smell, and sitting meditations. The group protocol included brief homework exercises with the group facilitators reviewed at the start of each session in addition to a journal that participants completed in each session. Please see Appendix A for a copy of the treatment manual used in the groups.

The MASC (March, 1997) is a widely used and well-researched self-report instrument that indicates the presence of clinically significant anxiety, possibly indicative of an anxiety disorder diagnosis. Scores on the test are reported as T scores with a mean of 50 and a standard deviation of 10. A T score of 65 or higher is considered clinically significant. The MASC consists of several subscales indicating the various ways that anxiety may manifest. One of these is the Physical Tension scale that consists of two subscales. One of these subscales is the Tense/Restless scale, which reflects feelings of being unable to sit still and feelings of discontent. Such a state of tension may be incompatible with learning including the flexible transfer of skills, the development of a deep understanding of subject matter, motivation and self-direction in learning, and the ability to think critically and creatively (Ritchhart & Perkins, 2000). For this study, I chose the Tense/Restlessness subscale as an inclusion measure, in part, because mindfulness-based interventions have shown efficacy in addressing symptoms of anxiety (Linden, 1973; Semple et al., 2005).
The Trauma Symptom Checklist for Children (TSCC) (Briere, 1996) is a self-report measure that indicates clinically significant levels of trauma-related sequelae. Scores on the TSCC are reported as T scores with a mean of 50 and a standard deviation of 10. T-scores of 65 or greater are considered to be clinically significant. The TSCC consists of several scales. The Anger scale is a measure of angry affect and impulsive behaviors. Elevated scores on this scale suggest an inability to self-reflect upon emotional states and modulate behavior accordingly. These are skills often taught in mindfulness-based interventions (Redfering & Bowman, 1981; Singh et al., 2007), thus forming the basis for also using scores on this measure as an inclusion criterion.

In addition to their use to select participants into Groups 1 and 2, group facilitators administered the MASC and the TSCC to participants at the end of each of the eight week groups. I then scored these measures. In addition, I used a measure of overall program compliance (PCI) from the token economy system at the residential treatment facility as an outcome measure. The PCI is a comparison of the frequencies of on and off task behaviors. PCI scores are rated as outstanding, successful, marginal, troubled, or critical. Scores range from 0 to 1000 and represent a positively skewed distribution where successful ratings start at 30. A higher PCI score reflects greater treatment compliance. I used participant identifies to code the above-mentioned self-report assessment measures and the PCI data used for analysis to maintain confidentiality.

**Design and Procedure**

Before the adolescents participated in the groups, I provided the caseworker assigned as guardian, the parent, or other guardian of each resident the consent forms for participation in this project. The resident’s case manager at the residential treatment
facility provided the appropriate responsible adult with the attached consent form (See Appendix B). A consent to treat addendum complied by the Clinical Director of the residential treatment facility was also provided to accompany the original consent to treat provided upon admission (See Appendix C). Each participant was asked to participate in the mindfulness-based group intervention program and needed to verbally assent in order to participate and could withdraw from the study at any time without consequence.

Participants in both Group 1 and Group 2 completed the same eight week mindfulness-based group intervention program. Group 1 received the mindfulness-based intervention initially and participants in Group 2 received the intervention approximately two months later.

The primary investigator instructed the group leaders in all methodology prior to the beginning of the groups and provided a detailed manual was provided to the group leaders to guide each session. The primary investigator was not a part of the group but instead served as a research consultant to avoid any biases in instruction and to protect the confidentiality of group members.

The main research question was whether a mindfulness-based group intervention program is effective in reducing self-reported psychological symptoms and problematic behaviors for adolescents in a residential treatment facility. Specific hypotheses are described below to further guide this purpose and derived from the previous research that demonstrated the effectiveness of mindfulness-based interventions for children and adolescents (Linden, 1973; Murdock, 1978, Redfering & Bowman, 1981; Semple et al., 2005; Singh et al., 2007; Zylowska et al., 2008).
Hypothesis 1: Participation in the mindfulness-based group intervention program will be associated with pre- to post-treatment reductions in MASC-TR and TSCC-ANG scores and an increase in PCI for both groups.

Hypothesis 2: Group 1 and Group 2, will differ in the degree of change observed pre- to post-treatment, with Group 1 showing greater reductions in MASC-TR and TSCC-ANG and a greater increase in PCI than in Group 2. The justification for this hypothesis comes from previous literature regarding the effectiveness of mindfulness-based interventions for more symptomatic populations (Kabat-Zinn, 2006; Segal et al., 2002).

I conducted further Post Hoc analyses beyond the significance testing to account for individual differences observed in the data. This continued analysis was necessary to gain a better understanding of the results and to offer additional support or to refute the hypotheses.
Results

This study examined whether the implementation of a mindfulness-based group intervention program would lead to a reduction in self-reported problematic behaviors and psychological symptoms for adolescents.

Descriptive Statistics

Group 1 consisted of seven participants and Group 2 consisted of six participants.

Table 1.1 below presents the pre- and post-treatment scores on the three measures selected for the basis of comparison.

Table 1.1, Group Means and Standard Deviations Both Pre- and Post-Treatment for the Three Measured Variables.

<table>
<thead>
<tr>
<th>Group</th>
<th>Measurement Time</th>
<th>MASC Tense/Restlessness</th>
<th>TSCC Anger</th>
<th>PCI</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Pre-treatment</td>
<td>64.00 (11.00)</td>
<td>58.00 (4.86)</td>
<td>62.20 (33.04)</td>
</tr>
<tr>
<td></td>
<td>Post-treatment</td>
<td>55.85 (16.25)</td>
<td>51.00 (11.09)</td>
<td>48.54 (32.39)</td>
</tr>
<tr>
<td>2</td>
<td>Pre-treatment</td>
<td>41.83 (3.60)</td>
<td>40.83 (5.26)</td>
<td>78.18 (34.97)</td>
</tr>
<tr>
<td></td>
<td>Post-treatment</td>
<td>50.33 (8.75)</td>
<td>42.50 (5.54)</td>
<td>78.20 (23.04)</td>
</tr>
</tbody>
</table>

1 MASC-TR and TSCC-ANG, Group 1 Pre-treatment > Group 2 Pre-treatment, p < .01
2 MASC-TR, Group 1 Pre-treatment > Post-treatment, p < .06
3 MASC-TR, Group 2 Pre-treatment < Post-treatment, p < .05

Pre-treatment scores on the MASC-TR for Group 1 and for Group 2 were significantly different from one another, t(11) = -4.69, p = .001. However, following group participation, there were no significant differences on MASC-TR scores between
Group 1 and Group 2, t(11) = -0.74, p = .473. This may reflect a change in anxiety as measured by the MASC-TR following group participation.

Scores on TSCC-ANG showed a similar result. Pre-treatment scores for Group 1 and Group 2 were significantly different, t(11) = -6.10, p = 0.00. Again, at the conclusion of the group there was not a significant difference on TSCC-ANG scores between Group 1 and Group 2, t (11) = -1.69, p = .11. Similarly, this difference may indicate a change in anger as measured by the TSCC following participation in the mindfulness-based group intervention program.

The last measured variable, PCI, was not significantly different between Group 1 and Group 2, t(9) = .77, p = .460 prior to participation in the mindfulness-based group intervention program or at the conclusion of the group, t(9) = 1.77, p = .11. However, the inclusion criteria for the study did not include PCI scores.

**Hypothesis 1**

I tested Hypothesis 1 separately for Groups 1 and 2.

For Group 1, scores on the MASC-TR showed a decrease that closely approached significance following participation the mindfulness-based group intervention program, t(6) = 2.35, p = .056. However, reductions in scores on the TSCC-ANG did not reach statistical significance, t(6) = 1.74, p = .132 following group participation. Similarly, there was a non-significant decrease in PCI scores, t(4) = 1.92, p = 0.126.

Thus, the results for Group 1 supported Hypothesis 1 regarding the direction of the change in scores on MASC-TR and TSCC-ANG as scores on both of these measures decreased; however, only the decrease on scores of MASC-TR approached statistical significance. The change in scores pre- to post-treatment for PCI did not support the
hypothesis as there was a non-significant decrease in scores and I hypothesized that there
would be an increase in program compliance.

In Group 2, scores on the MASC-TR increased following participation in the
mindfulness-based group intervention program, reaching statistical significance, t(5) = -
2.50, p = .054. There was a non-significant increase between pre- and post-treatment
scores on the TSCC-ANG, t(5) = -1.05, p = .341. Similarly, the PCI scores increased non-
significantly following participation in the group, t(5) = -0.001, p = .99.

Thus, results for Group 2 did not support Hypothesis 1 for the MASC-TR or
TSCC-ANG as scores on both of these measures increased with the increase in MASC-
TR scores reaching statistical significance. The change in PCI scores did support the
hypothesis in terms of direction; however, this change was not statistically significant.

Hypothesis 2

As previously mentioned, Group 1 showed a decrease that approached statistical
significance on MASC-TR scores while Group 2 showed a significant increase in scores
post-treatment. The difference in MASC-TR mean scores pre- to post-treatment between
Group 1 and Group 2 was statistically significant, t(11) = -3.41, p = .006. The pre- to
post-treatment comparisons of TCCS-ANG mean scores between Group 1 and Group 2
was not statistically significant, t(11) = 1.88, p = .086. PCI scores pre- to post-treatment
for Groups 1 and 2, t(9) = .88, p = .40 was also not statistically significant.

The data supported Hypothesis 2 regarding the change in MASC-TR mean scores
pre- to post-treatment between the groups as the change in scores for Group 1 was
statistically greater than the change in Group 2. A pre- and post-treatment comparison of
mean scores between Groups 1 and 2 for TSCC-ANG and PCI did not support Hypothesis 2.

Post Hoc Analyses

There was considerable individual variability within each group on all three measures which likely accounted for the failure of some tests to reach significance even when mean differences were present. As a result, I conducted the following post hoc analyses of individual scores for the two groups. The following tables provide each participant’s pre- and post-treatment scores on the three measured variables.

Table 1.2, MASC Pre- and Post-Treatment Means for Group 1

<table>
<thead>
<tr>
<th>Participant</th>
<th>Pretreatment</th>
<th>Post treatment</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>57</td>
<td>51</td>
<td>-6</td>
</tr>
<tr>
<td>2</td>
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<tr>
<td>7</td>
<td>61</td>
<td>54</td>
<td>-7</td>
</tr>
</tbody>
</table>

Note. Pre- and Post-treatment mean scores for Group 1 and the change following group intervention.

Table 1.3, MASC Pre- and Post-Treatment Means for Group 2

<table>
<thead>
<tr>
<th>Participant</th>
<th>Pretreatment</th>
<th>Post treatment</th>
<th>Change</th>
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<td>10</td>
<td>42</td>
<td>43</td>
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<td>11</td>
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<td>57</td>
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<td>+20</td>
</tr>
<tr>
<td>13</td>
<td>48</td>
<td>51</td>
<td>+3</td>
</tr>
</tbody>
</table>

Note. Pre- and Post-treatment mean scores for Group 2 and the change following group intervention.

In Group 1, there were substantial individual differences regarding the degree of change in MASC-TR scores pre- to post-treatment; however, the direction of the change in scores showed an overall decrease. Only one participant’s score increased post-
treatment. Also, the scores for four participants no longer met the selection criteria post-treatment further highlighting their decrease in scores. Additionally, at the start of the group, three participants’ scores on MASC-TR were clinically elevated and at the conclusion only one participant had a clinically elevated score.

In Group 2, there was a large variation regarding the degree of change noted in scores following participation in the group; however, the direction of the change was a consistent increase in MASC-TR scores. In this group, none of the participants had a decrease in MASC-TR scores post-treatment. At the conclusion of the group, the scores for three participants were above the selection criteria and three remained within the parameters of the selection criteria. However, it remained that there were no clinically elevated scores at the conclusion of the group.

Table 1.4, TSCC Pre- and Post-Treatment Means for Group 1

<table>
<thead>
<tr>
<th>Participant</th>
<th>Pretreatment</th>
<th>Post treatment</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
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<tr>
<td>7</td>
<td>52</td>
<td>43</td>
<td>-9</td>
</tr>
</tbody>
</table>

*Note.* Pre- and Post-treatment mean scores for Group 1 and the change following group intervention.

Table 1.5, TSCC Pre- and Post-Treatment Means for Group 2

<table>
<thead>
<tr>
<th>Participant</th>
<th>Pretreatment</th>
<th>Post treatment</th>
<th>Change</th>
</tr>
</thead>
<tbody>
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</tr>
<tr>
<td>9</td>
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</tr>
<tr>
<td>13</td>
<td>48</td>
<td>45</td>
<td>-3</td>
</tr>
</tbody>
</table>

*Note.* Pre- and Post-treatment mean scores for Group 2 and the change following group intervention.
In Group 1, the overall direction of the change in participants’ TSCC-ANG scores was a decrease following participation in the group with large variations in the degree of changes in scores; however, two participants did show small increases in scores on TSCC-ANG post-treatment. Four participants in Group 1 had scores that placed them below the median score used as the basis for selection post-treatment. Additionally, at the start of the group there were no participants with clinically elevated scores while at the conclusion of the group, one participant had a score on TSCC-ANG that was clinically elevated.

In Group 2, the direction of the change in TSCC-ANG scores was an increase following participation in the group and there was less variability in individual scores of this group. At the conclusion of the group, one participant had a score on the Anger scale that was above the selection criteria while the other five participants had scores that remained below the selection criteria. Additionally, none of the participants had scores that were clinically elevated either at the start or at the conclusion of the group.

Table 1.6. PCI Pre- and Post-Treatment Scores for Group 1

<table>
<thead>
<tr>
<th>Participant</th>
<th>Pretreatment</th>
<th>Post treatment</th>
<th>Change</th>
</tr>
</thead>
<tbody>
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<tr>
<td>2</td>
<td>65</td>
<td>31</td>
<td>-34</td>
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<tr>
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<td>84</td>
<td>-14</td>
</tr>
<tr>
<td>4</td>
<td>91</td>
<td>83</td>
<td>-8</td>
</tr>
<tr>
<td>5</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>6</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>7</td>
<td>35</td>
<td>14</td>
<td>-21</td>
</tr>
</tbody>
</table>

*Note.* Pre- and Post-treatment mean scores for Group 1 and the change following group intervention.
Table 1.7, PCI Pre- and Post-Treatment Scores for Group 2

<table>
<thead>
<tr>
<th>Participant</th>
<th>Pretreatment</th>
<th>Post treatment</th>
<th>Change</th>
</tr>
</thead>
<tbody>
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</tr>
<tr>
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</tr>
<tr>
<td>13</td>
<td>99</td>
<td>98</td>
<td>-1</td>
</tr>
</tbody>
</table>

Note. Pre- and Post-treatment mean scores for Group 2 and the change following group intervention.

In Group 1, the overall direction of the change in PCI scores pre- to post-treatment was a decrease; however, there were large individual differences regarding the degree of change in individual scores. Four out of the five participants showed a decrease on this measure while only one participant showed an increase following participation in the group.

In Group 2, the variability in scores made it difficult to observe a specific direction of change such that it appeared as though there was no change following participation in the group. For example, three participants showed increases of varying degrees, two participants showed decreases of varying degrees, and one participant did not show a change in either direction following participation in the group.
Discussion

Summary of Principal Results

In this study, I investigated whether an eight-week mindfulness-based group intervention program would lead to a reduction in self-reported problematic behaviors and psychological symptoms for adolescents.

Consistent with the hypothesis, Group 1, the more symptomatic group, showed a reduction in MASC-TR and TSCC-ANG scores following participation in the mindfulness-based group intervention program. However, only the change pre- to post-treatment in MASC-TR scores approached clinical significance. Regarding PCI, the direction of the change was opposite of the hypothesis, as scores on this measure showed a non-significant decrease pre- to post-treatment.

Contrary to the hypothesis, Group 2, the less symptomatic group, showed an increase in MASC-TR and TSCC-ANG scores following participation in the mindfulness-based group intervention program. The increase in MASC-TR scores was statistically significant while the increase in TSCC-ANG was not significant. The pre- to post-treatment PCI scores were essentially unchanged following participation in the mindfulness-based group intervention program.

Interpretation of Principal Results

Prior researchers highlighted the clinical utility of mindfulness-based interventions with anxious children and adolescents (Linden, 1973; Semple et al., 2005) and the results for Group 1 offered continued support for the use of such interventions.
with an adolescent population reporting symptoms of anxiety. More specifically, these results suggest that the implementation of a mindfulness-based group intervention program with anxious adolescents leads to beneficial changes in self-regulatory behaviors such as sitting still, paying attention, concentrating, and completing tasks.

Adolescents in Group 1 who reported higher levels of angry affect and impulsive behaviors pre-treatment showed a tendency in the direction of decreased scores following participation in the mindfulness-based group intervention program such that these participants may have started to develop an ability to identify emotional states and started to modulate their behavior accordingly. However, given the lack of a significant result, the support in this study for the use of a mindfulness-based approach to anger management is at best equivocal.

PCI is a variable used in this residential treatment program for evaluating progress in treatment. PCI is in part a reflection of the immediate behaviors of residents in their environment. Scores reflect factors such as peer and staff interactions, relationships with family members or caretakers, school issues, and similar issues. A resident with limited coping skills who encounters difficulties may act out in the milieu demonstrating a reduced compliance with the demands of the program. Given the direction of the changes observed in MASC-TR and TSCC-ANG scores for participants in Group 1, it appeared reasonable to expect increased compliance with the demands of the program for these adolescents; however, the direction of the change in scores was contrary to this prediction. That is, as a participant’s subjective experience of anxiety and anger as measured by the MASC-TR and TSCC-ANG decreased so did his compliance within the demands of the treatment program possibly. One possible explanation for this unexpected
finding is that participants’ decrease in compliance was directly related to their decrease in anxiety. That is, as participants became less anxious generally, they may also have become less anxious about the consequences of non-compliance. Additional possible reasons for these results will be discussed later in this paper.

Participants in Group 2 had lower levels of anxiety pre-treatment; however, these participants showed an unexpected increase in their scores following participation in the mindfulness-based group intervention program. A plausible explanation for this increase in anxiety scores may be that participants in this group lacked an awareness of their anxiety symptoms or were denying their symptoms of anxiety pre-treatment. The increase in awareness promoted by the mindfulness-based group intervention program may have lead to participants acknowledging rather than denying their symptoms of anxiety, thus leading to increased scores post-treatment. This result may be useful in treatment planning. For example, clinicians working with these adolescents may explore in individual treatment possible causal factors for the anxiety to better understand the issues of concern to the adolescent and subsequently plan future interventions.

Similarly, pre-treatment anger scores in Group 2 were lower; however, post-treatment scores showed a non-predicted increase. In an attempt to explain this result, it is again possible that participants may have lacked awareness or were denying their angry feelings pre-treatment. The increase in awareness promoted by a mindfulness-based group intervention program may have lead to an acknowledgement of angry affect and impulsive behaviors and thus participant’s scores were higher. This explanation may be supported in prior research as Murdock (1978) hypothesized that mindfulness techniques may help children in become more aware of their inner emotional states.
Program compliance scores in Group 2 were essentially unchanged following participation in the mindfulness-based group intervention program. Again the complexities of this variable may again be a plausible explanation for the lack of results observed.

In conclusion, the pattern of results support the effectiveness of a mindfulness-based group intervention program in reducing anxiety that manifests in the form of a difficulty sitting still or feelings of discontent for adolescents reporting such symptoms. However, adolescents initially reporting low levels of anxiety symptoms reported higher levels of anxiety symptoms after the program. The increase in reporting may be due to increased awareness of anxiety.

These results do not strongly support the use of a mindfulness-based group intervention program to reduce symptoms of an angry affect or impulsive behaviors in adolescents. Lastly, the influence of a mindfulness-based group intervention on measures of treatment compliance appeared to be paradoxical.

**Complicating factors.** It is important to consider several factors that may have impacted both the significance and the direction of the results. These include group assignment, methods of measurement, features of the intervention, and within group differences.

**Group assignment.** The first issue refers to how members were assigned to the groups recalling that those with higher MASC-TR and TSCC-ANG scores were assigned to Group 1 and those with lower MASC-TR and TSCC-ANG scores were assigned to Group 2. Given group assignment, there is a potential vulnerability to regression to the mean. The pre-treatment values for MASC-TR and TSCC-ANG were greater than the
population mean for Group 1 and below the population mean for Group 2 and thus may have initially represented extremes in measurement. The mean scores for both groups were closer to the population mean following participation in the mindfulness-based group intervention program. However, there was substantial variation in the direction and magnitude of changes within each group on an individual level that argues against the influence of regression as the sole influence on the changes in group means. For example, considering the most extreme scores, the highest MASC-TR score in Group 1 increased and the lowest MASC-TR score in Group 2 stayed the same, an observation inconsistent with regression to the mean. Similarly, one extreme TSCC-ANG score in Group 1 increased as the other extreme score decreased to the point that made both scores further from the center of the distribution but in opposite directions. Lastly, the most extreme TSCC-ANG score in Group 2 only increased by one point post-treatment. While these observations do not rule out regression as a possible mechanism in the results, they do suggest that the results reflect influences other than regression as well.

One way to help to reduce the impact of regression to the mean is to use a matched sample design or matched groups, in which participants are assigned to groups in such a way that groups have similar distributions of characteristics on pre-test measures. For example, if there are two participants with high scores on a measure, then one participant would be assigned to one group and the other participant to the second group. In theory, there would be two relatively similar groups which would help to reduce attributing the results to extremes in measurement. Also, using multiple baseline measurements and taking an average these scores may reduce the results being attributed to an extreme in measurement. Lastly, re-administering measurements to participants
after a given period of time post-intervention would allow for the observation of the maintenance of change over time rather than attributing the original changes to regression.

**Methods of measurement.** A second issue to consider is in regards to PCI. As previously stated, PCI is a complex variable used in the residential treatment program to evaluate treatment compliance. In an effort to explain the unexpected results it is useful to consider the development and characteristics of this variable. First, this variable is influenced by confounding variables that could not be controlled in this study such as peer and staff interactions, relationships with family members or caretakers, school issues, and similar issues. These confounding variables may have contributed to compliance ratings more than did the mindfulness-based intervention. For example, a participant who was having a particularly difficult time in school and engaging in off task behaviors would have a lower compliance score than a participant who was not having a these same difficulties. Therefore, reduced compliance scores would have more to do with the how PCI is determined rather than the impact of a mindfulness-based group intervention program. Additionally, this variable is subjective on the part of staff members who assign certain numerical values based on the behavioral presentation of the resident in the moment. This reduces the reliability of this variable. As different staff members may assign different numerical values to the same behavior, PCI scores may vary among participants which is a reflection of how PCI is measured rather than the influence of a mindfulness-based group intervention program. Given what is known about the PCI variable, rather than to say that a mindfulness-based group intervention
program did not have a positive effect on treatment compliance, the result may be a reflection of how the variable is measured.

Also, the MASC and TSCC which were used to measure anxiety and anger but may have not adequately measured the symptoms of participants. For example in Group 1, only three of the participants had MASC-TR scores that fell into the clinical range pre-treatment and none of the pre-treatment TSCC-ANG scores fell into the clinical range. This may be due in part to the measures not adequately assessing the symptoms or participants not being symptomatic enough to be adequately captured by these measures. In the Semple et al. (2005) study, the MASC was used but not included in the final analysis due to a possible lack of understanding of the questions and underreporting by participants.

**Characteristics of the intervention.** The treatment methods utilized in this study were largely based upon work by Segal et al., (2002) and also included work by Kabat-Zinn (1990) and Semple et al., (2002). The work by Segal et al., (2002) was aimed at adults who suffered from recurrent depressive episodes. This work utilized mindfulness interventions geared towards helping clients learn to observe their problematic thoughts and feelings that contribute to depressive symptoms in a neutral way such that they were not internalized or attributed to the self (Segal et al., 2002).

The interventions utilized in this study, derived from previous works in field, with the main focus to teach adolescents with self-reported symptoms of anxiety and anger how to become more aware of their internal and external environments. The rationale was that, as adolescents become more aware of the things happening both within and around
them, they have an opportunity to make a choice as to how to respond without acting impulsively based on old teachings or a lack of skills that compound the problem.

Consistent with this rationale, the study by Singh et al., (2007) showed a positive result when utilizing a mindfulness-based intervention with adolescents with conduct disorder. This utilized a mindfulness technique called “Meditation on the Soles of the Feet” (Singh et al., 2003) in which participants were taught to change their focus from that which is emotionally arousing to a neutral part of the body such as the feet.

However, there is a difference between the mindfulness techniques used in this study and those used by Singh et al., (2007). These interventions are geared more towards an increased awareness of participant’s experiences that allows for a choice to be made as to how a participant will deal with an internal or external state or event without an effort to change or distract the self from the experiences where as “Meditation of the Soles of the Feet” appears to be more of a distraction technique (Singh et al., 2007). This difference is important when considering how the mindfulness-based group intervention program utilized in this study impacted participants. I compared the outcomes on TSCC-ANG scores to those of Singh et al., (2007); however, an important distinction may be in the intervention utilized with participants.

Additionally regarding interventions, this study asked participants to practice the mindfulness-based interventions within the context of the group setting. I suggested that participants utilize these techniques in the milieu but time was not set aside for participants to practice the mindfulness-based interventions outside of the groups nor was the practice of these skills tracked. Prior research by Semple et al., (2002) suggested that participants practice the mindfulness techniques for homework and Singh et al., (2007)
encouraged and tracked participant’s practice of the techniques outside of sessions. Although I did not specifically compare outcomes based upon whether or not participants practiced mindfulness-based interventions outside of the groups, this may be considered when looking at generalizability, as the practice of these skills may aid in their being incorporated into participant’s repertoire of coping skills.

**Individual differences.** Lastly, a post hoc analysis showed variation in how individual participants within each group responded to the mindfulness-based group intervention program which affected both the direction and significance of the results. For example, in Group 1, all participants but one showed a decrease on the MASC-TR score pre- to post-treatment; the one single participant who showed an increased score may have been enough to reduce the significance of the results. Similarly, in Group 1, continued analysis showed a wide range of change in TSCC-ANG scores from a large decrease in scores to a moderate increase in scores pre- to post-treatment. This result may have reduced the capacity for a significant result in either direction.

Given the variation in individual scores, I cannot rule out the effect that individual differences of the participants may have had on the effectiveness of the mindfulness-based group intervention program. More specifically, possible influences include factors that were not assessed in this study which may be considered in understanding these results but also important for future treatment recommendations.

For example, these results may not offer support for the use of this treatment with adolescents with severe levels of anxiety since the one participant in Group 1 who had the highest pre-treatment level of anxiety showed an increase in anxiety post-treatment. However, it may also be that individual difference such as a more severe pathology, a
lack of learning and generalization of the skills, learning style, treatment history, or other confounding variables can explain why a participant with a more severe level of anxiety did not respond to a mindfulness-based group intervention program.

The results regarding the effectiveness of a mindfulness-based group intervention program with anger is inconclusive given the lack of a significant result. However, when looking more closely at the variation in individual scores, there were two adolescents with the highest levels of anger pre-treatment who responded differently to the intervention as one participant’s level of anger increased slightly where as the other decreased to a large degree. However, this again may be a reflection of individual differences similar to those mentioned above and thus offering support to the role that individual differences may have played in terms of both the direction and significance of the results.

**Limitations of this Study**

In addition to the issues discussed above, there are specific limitations to this study that should be taken into consideration when interpreting the results.

First, there is the threat of maturation effects concerning the participants. Given the length of time participants were in the group there is a chance that some of the observed changes regarding behavioral and psychological symptoms may have occurred regardless as a function of age and maturity. Similarly, participants continued to take part in the treatment protocol of the agency during the time they concurrently participated in the group. Therefore, there are the confounding variables associated with the treatment already being provided and its potential effects on the variables being measured.
Similarly, there are the individual differences among participants that may have contributed to how participants responded or did not respond to the treatment.

Second, generalizability reflects a limitation of this study in terms of populations for which this intervention may be useful and concerning how participants will use the skills taught in the interventions as part of their repertoire of skills in daily life. Regarding the first concern, participants were adolescent males in a residential treatment facility. Therefore, the results obtained may not translate effectively to other populations that are more representative of gender, treatment milieu, culture, and other demographic variables. Also, regarding generalizability, it was suggested that participants practice the skills learned in the mindfulness-based groups; however, it was not a requirement nor was time set aside as part of the participant’s treatment plan or included in the treatment milieu to afford participants a formal opportunity to practice theses skills. Formal and tracked practice may have facilitated participants being able to implement these skills in their daily lives as coping strategies for anxiety-provoking situations.

In addition, this study does have a relatively small sample size. Group 1 had seven participants after one participant’s data was eliminated from the final analysis as he was mistakenly assigned to this group while not meeting the selection criteria. Group 2 had six participants in the group after one participant’s data was excluded from final analysis due to his mistakenly being assigned to this group and two participants dropping out of the group before the end of the eight weeks. By increasing sample size, there is a lesser chance of sampling error and more support for the sample being more representative of the population.
Lastly, the groups were not led by the primary investigator but rather by trained mental health therapists at the residential treatment. The group leaders were trained in the mindfulness-based intervention group protocol by the primary investigator; however, this design may lend itself to issues of fidelity.

**Future Directions**

This study highlighted the potential benefit of implementing a mindfulness-based group intervention program for adolescents who struggle with symptoms of anxiety that presents as tension and/or restlessness. Given the paucity of research in this area, continued efforts to conduct studies with similar interventions can offer continued support for these results in addition to identifying additional benefits of a mindfulness-based group intervention program.

For example, utilizing different methods of group assignment may help to reduce the impact of alternatives explanations of the results such as regression. Also, it is suggested that an effort be made to choose assessment measures that most adequately assess the symptoms and variables being measured to strengthen the validity of the results. Additionally, expanding the use of a mindfulness-based group intervention program to treat other behavioral and/or psychological symptoms such as depression may continue to promote the use of this intervention with a more diverse clinical adolescent population. Similarly, expanding the use of this intervention with a large sample size more representative of gender, living environment, culture, and other demographic variables will promote the generalizability of this intervention outside of the residential treatment setting. Lastly, a comparison between participants who improve, do
not improve, or get worse may assess the potential impact that additional factors such as learning style, treatment history, and concurring symptoms has on the results.

**Conclusion**

In conclusion, the results of this study indicate that a mindfulness-based group intervention program may be best clinically suited for adolescents struggling with elevated levels of anxiety that presents as tension and/or restlessness. Caution may be necessary when this intervention is used with those who do not report a subjective experience of anxiety as there may be an increase in anxiety promoted by an increase in awareness; however, this may be clinically useful in guiding treatment planning.
References


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Zylowska, L., Ackerman, D., Yang, M. H., Futrell, J. L., Horton, N. L., Hale, T. S.,…
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Appendix A

Mindfulness Group Manual

Session One: Introduction to the Group

Materials:
- File folders
- Paper
- Pencils/pens
- Raisins
- Time piece

Objectives:
- Orient members to the group with introductions and behavioral expectations
- Instruct in the theory of mindfulness and possible benefits
- Introduce the concept of awareness
- Introduce the concept of autopilot
- Introduce mindfulness practice with a brief eating exercise

Procedure:
1. Introductions of the group facilitator and of the group members
   a. Name
   b. Age
   c. One interesting fact about yourself
2. Ask members to reflect and discuss in the group what mindfulness means to them?
3. A review of the schedule for group meetings and behavioral expectations for the group
   a. The group will meet one time per week for approximately one hour
   b. There will be a total of eight groups
   c. We hope to teach you at least one brief exercise per group
   d. We will talk in the group about your experience with each exercise
   e. We will ask for you to write about your experience during the group
   f. We will ask that you practice some of these things for homework
   g. At the end of all of the groups you will be asked to complete some brief questionnaires similar to those you did when you arrived here
   h. All the rules of group meetings and the program apply (feel free to elaborate as you deem appropriate)
4. Description of mindfulness practices and a review of the utility of a mindfulness practice
a. Mindfulness techniques are a way to focus your attention to what is happening for you right now—awareness of the present (Baer, 2003).
b. We hope to teach you how to put aside some of your past worries or even current problems and focus on what is happening in the here and now.
c. We hope that by learning a few of these skills you may become better at learning to manage your anger, concentrating in school, and thinking before you act.
d. Questions?

5. Discussion of the importance of daily practice and homework
   a. We will be asking you to practice some of the things that you learn and will provide you with more specific instructions at the end of each one of our meetings.
   b. Please do try to follow these instructions.
   c. We will talk in the group about your experience with homework.

6. Distribution of materials
   a. File folder (with numerical code, not name)
   b. Paper
   c. Pencils/pens

7. Mindfulness exercise: Eating a raisin mindfully with attention paid to tactile, olfactory, and gustatory sensations
   a. Read: One theory emphasized with this exercise is that of autopilot. So much of what we do everyday is involves “just doing” with little attention given to the experience of what we are doing. For instance, when we get out of bed in the morning we tend to jump right into our routine that may include making our bed, brushing our teeth, taking a shower, getting dressed, packing up our backpacks with little mind paid to what is actually happening (Segal et al., 2002).
   b. For the instructor: Further the idea is to begin to recognize the tendency to be in autopilot mode that may include not only ways of acting but also ways of thinking. We want to encourage one to identify this tendency and begin to step out of autopilot mode and shift the awareness to the present moment. By doing so, we can begin to appreciate the options available to us—beginning to respond by choice rather than automatically (Segal et al., 2002).
   c. We will be teaching you a brief eating exercise (Instructors will read the exercise as it is depicted below):

   **The Raisin Exercise**
   (Adapted from Kabat-Zinn, 1990 as cited in Segal et al., 2002)

For your first mindfulness exercise we will be doing an eating meditation. We will be passing each of you a raisin for this exercise followed by a set of instructions. Please do nothing with the raisin until instructed.

Hold the raisin in your hand between one finger and your thumb, roll the raisin between your fingers to have the best look at it. (Pause)
I would like for you to focus on (look at) this raisin as though you have never seen this before. For example, think of yourself as being from a strange land, a land without raisins. (Pause)

Look at the raisin closely paying attention to the grooves and ridges, the colors, the darker spots, the lighter spots. (Pause)

Be patient with yourself as you may begin thinking “What is the point of this” or “Why are we doing this.” If this happens to you, remind yourself that this thinking is okay and return to looking closely at your raisin. (Pause)

Now put the raisin to your nose, smell the raisin by breathing in and breathing out, paying attention to how this smells or even if it does not smell to you. (Pause)

Now raise the raisin to your mouth, notice whether or not your mouth is watering as the raisin comes closer. Notice any anticipation. (Pause)

Place the raisin into your mouth but do not bite into this rather pay attention to the feeling that the raisin has when it is in your mouth. (Pause)

Then, when you are ready, bite into the raisin paying attention to the taste and any other sensations that you notice. (Pause)

Begin chewing the raisin and notice the taste and texture. (Pause)

Swallow the raisin when you are ready and imagine the raisin, if you can, moving from your mouth into your stomach. (Pause)

Notice now that your body is exactly one raisin heavier.

8. Group discussion of this exercise
   a. Ask about a member’s experience in the group (participation is encouraged in the discussion but not required)
   b. Offer your own experience if you deem necessary especially if no one is volunteering
   c. Suggestions for conversation may include:
      i. Does anyone have something that he would like to say about this exercise?
      ii. How was this different from eating “normally?”
      iii. Was this difficult for you to stick with the exercise?
      iv. What may you have been thinking as you were doing this?

9. Take a few minutes to write about the experience in your file folder
   a. Ask members to write about his experience
b. Remind members that there is no right or wrong answer to how he may feel

c. Also, remind members that his responses may be read but will not be linked to him by name (numerical codes being used)

10. Homework

a. Do one routine activity mindfully each day in such a way that is similar to eating the raisin

b. Examples may include eating, doing homework, brushing teeth, cleaning room
Session Two: Learning How to Breathe

Materials:
- File folders
- Paper
- Pencils/pens
- Time piece

Objectives:
- Continue to instruct in the theory of mindfulness and possible benefits
- Discuss barriers to using these techniques
- Introduce a mindfulness breathing practice

Procedure:
1. Review of homework from the previous session with the group
   a. Were you able to practice since the last meeting?
   b. How was your experience of practicing?
   c. Did anything unexpected occur while practicing?
2. Discussion of barriers to practicing mindfulness skills (Segal et al., 2002)
   a. Too tired
   b. Not enough time
   c. I forgot
   d. My friends will laugh at me
3. Introduce diaphragmatic breathing using visual cues (i.e., air entering nose, traveling through the body, out through the nose)
   a. Begin by explaining the importance of breathing-this is most likely common knowledge but worth a review such that breathing is essential to life. It is also the core of many of the exercises that will be taught (Segal et al., 2002).
   b. Encourage members to consider how the breath can be linked to feelings. For example, when you are angry, do you notice that your breathing is more rapid? When you are relaxed, have you noticed that your breathing is slower? (Karen Ryder as cited in Segal et al., 2002)
   c. Instruct in diaphragmatic breathing as depicted below:

   **Diaphragmatic Breathing**
   (Adapted from Segal et al., 2002)
   (This is simply meant to instruct members in how to breathe rather than it being a formal exercise which will come later)

   Sit upright in your chair such that your back/spine is straight and self supporting. Or, sit in a position on the floor that supports a straight spine. This is called a dignified position.

   Close your eyes and settle into a comfortable position.
Bring the awareness to the physical changes of the body that come with breathing. For instance, place your hand on your stomach and feel the movement associated with breathing. More specifically, how the stomach appears to rise with each in breath and deflate with each out breath. Or, you may want to use a counting technique such as 1-2-3 with each in breath and 3-2-1 with each out breath. (Allow for members to do this for two minutes)

Are there any questions about the practice as this is an important concept to learn?

Review technique as necessary.

4. Mindfulness exercise: Mindfulness of the breath
   a. This exercise is aimed to help members better focus their attention and awareness to the present thus further severing the connection to being on autopilot
   b. Instruct in mindfulness of the breath as depicted below:

   **Mindfulness of the Breath**
   (Adapted from Segal et al., 2002)

   Sit upright in your chair such that your back/spine is straight and self supporting. Or, sit in a position on the floor that supports a straight spine.

   Close your eyes and settle into a comfortable position. (Pause for 30 seconds)

   Focus your awareness on the sensations of contact in your body. For example, the pressure of the legs on the chair or the floor. (Pause for 30 seconds)

   Bring your awareness to the physical changes of the body that come with breathing. For instance, place your hand on the stomach and feel the movement associated with breathing. More specifically notice how the stomach appears to rise with each in breath and deflate with each out breath. When you feel comfortable with this kind of breathing, remove your hand and continue to focus on your breathing. (Pause for 30 seconds)

   There is no need to try to control your breathing but rather just let the body breathe. There is no right or wrong way to do this and no correct or incorrect experience to have. (Pause for 30 seconds)

   There will be times when your mind begins to wander, this is okay. You may be thinking about what you are doing later in the day, what you did early, or simply daydreaming. When this happens simply acknowledge that “Yes, I’m thinking.” Then return your attention to your breath. Perhaps consider the sensation of your stomach rising and then falling. (Pause 30 seconds)

   Continue allowing members to breathe mindfully for 5 minutes.
Gently end the exercise.

5. Group discussion of this exercise
   a. Ask about a member’s experience in the group (participation is encouraged in the discussion but not required)
   b. Offer your own experience if you deem necessary especially if no one is volunteering
   c. Suggestions for conversation may include:
      i. Does anyone have something that he would like to say about this exercise?
      ii. How was this different from breathing “normally?”
      iii. Was this difficult for you to stick with the exercise?
      iv. What may you have been thinking as you were doing this?

6. Take a few minutes to write about the experience in your file folder
   a. Ask members to write about his experience
   b. Remind members that there is no right or wrong answer to how he may feel
   c. Also, remind members that his responses may be read but will not be linked to him by name (numerical codes being used)

7. Homework: Daily practice of a mindfulness of the breath exercise. Suggest that this may be practiced during time in the room alone when preparing for bed.
Session Three: More on Breathing

Materials:
• File folders
• Paper
• Pencils/pens
• Time piece

Objectives:
• Continue to instruct in the theory of mindfulness and possible benefits
• Introduce the concepts of thinking, feeling, and sensation
• Continue to emphasize the importance of breathing with the introduction of the 3-minute breathing space exercise
• Continue to emphasize the shift out of autopilot

Procedure:
1. Review of homework from the previous session with the group
   a. Were you able to practice since the last meeting?
   b. How was your experience of practicing?
   c. Did anything unexpected occur while practicing?
2. Discussion to help members to differentiate between thoughts, feelings, and bodily sensations
   a. This exercise if offered as an effort to help one begin to notice how moods or how we feel are influenced by the way an event is interpreted
   b. Ask group members to sit in a comfortable position and close their eyes, then read the following passage to the group:

   “You are walking down the street, and on the other side of the street you see someone you know. You smile and wave. The person just doesn’t seem to notice and walks by.”
   (Segal et al., 2002)

3. Group discussion of the exercise
   a. Ask group members to become aware of what was going through their minds. Ask about any thoughts, feelings, bodily sensations.
      i. Describe what is a thought (i.e., “I think”)
      ii. Describe what is a feeling (i.e., “I feel”)
      iii. Describe what is a bodily sensation (i.e., heart rate, blushing)
      iv. Some more common examples from group members are feeling angry, feeling hurt, thinking that the person is rude, thinking no one likes me, face feeling hot (i.e., blushing) (Segal et al., 2002)
   b. Educate members further about how their interpretation of this event may lead to how they feel. For instance, if you thinks that the person did not wave or say hello because they are rude or snobby, you may become angry with this person or you may feel as though you need to “one up him/her.” Conversely, if you think that they did not wave because they did not see

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you, you may become embarrassed feeling as though you were waving to no one (Segal et al., 2002)
c. Taking time to stop and consider the interpretation may lead to you responding differently to situations—thus being more successful

4. Teach the 3-minute breathing space meditation which is a short breathing exercise
a. This exercise is a “minimeditation” designed to bring more of a formal meditation to everyday life (Segal et al., 2002)
b. Explain that this shorter meditation may be a way to deal directly with problems but it may also be helpful to schedule this into your day as a way to slow down as we tend to become caught in the rush of our everyday worlds (i.e., school, work, chores, etc.) (Segal et al., 2002)
c. In short, this is a way to step out of autopilot mode that we discussed in the first session
d. There are three short parts to this (Segal et al., 2002)
   i. Orienting the self to where you are
   ii. Paying attention to your breathing
   iii. Expand your attention to your entire being
e. Read the follow:

   3-Minute Breathing Space
   (Adapted from Segal et al., 2002)

   The first thing that I would like for you to do, is to take a moment to find a comfortable position, one that is relaxed but sitting straight, with a straight back.

   Close your eyes, if you feel that this is comfortable for you. First, I would like for you to become aware, really aware of what is happening for you right now? Becoming aware of what is going through your mind, what are your thoughts? Just note your thoughts as mental events. Then, note the feelings that are around your thoughts, pay attention to any sense of discomfort that you may have. Rather than try to push away the discomfort or unpleasant feeling, simply acknowledge this then, maybe say, “Ah, there you are again.” Pay attention to any physical sensations or feelings that you may have, any sense of tension perhaps. Again, simply note these sensations saying, “That is just how it is right now.”

   Now that we have an idea of what is going on, we have started moving out of autopilot mode. The second step is to shift the focus to a single object, such as our breathing, by focusing our attention to the movements of our stomachs as we breathe, the rise and fall of the breath, spend a moment focusing on this movement, breath by breath. By doing this, you know when the air is moving in and when it is moving out. Use you breath as the way to focus yourself in this moment.

   The third step, now that we have gathered ourselves in this moment, allow your awareness of expand. We want to continue our focus on the breathing but also focus on our body as whole being. Pay mind to any physical sensations such as tightness in the neck or back. Feelings of circling in your stomach. Imagine your breathing as not just
your stomach breathing, but rather your entire body breathing together and work on this for a few moments.

When you feel ready, open your eyes.

5. Group discussion of this exercise
   a. Ask about a member’s experience in the group (participation is encouraged in the discussion but not required)
   b. Offer your own experience if you deem necessary especially if no one is volunteering
   c. Suggestions for conversation may include:
      i. Does anyone have something that he would like to say about this exercise?
      ii. How was this different from breathing “normally?”
      iii. Was this difficult for you to stick with the exercise?
      iv. What may you have been thinking as you were doing this?

6. Take a few minutes to write about the experience in your file folder
   a. Ask members to write about his experience
   b. Remind members that there is no right or wrong answer to how he may feel
   c. Also, remind members that his responses may be read but will not be linked to him by name (numerical codes being used)

7. Homework: Members are encouraged to practice the 3-minute breathing space one time each day
Session Four: Mindfulness in Activity

Materials:
- File folders
- Paper
- Pencils/pens
- Time piece

Objectives:
- Instruct in the theory of mindfulness and possible benefits
- Introduce mindfulness practice with a brief walking exercise

Procedure:
1. Begin the group with a 3-minute breathing space meditation
   a. Read the follow:

   **3-Minute Breathing Space**  
   (Adapted from Segal et al., 2002)

   The first thing that I would like for you to do, is to take a moment to find a comfortable position, one that is relaxed but sitting straight, with a straight back.

   Close your eyes, if you feel that this is comfortable for you. First, I would like for you to become aware, really aware of what is happening for you right now? Becoming aware of what is going through your mind, what are your thoughts? Just note your thoughts as mental events. Then, note the feelings that are around your thoughts, pay attention to any sense of discomfort that you may have. Rather than try to push away the discomfort or unpleasant feeling, simply acknowledge this then, maybe say, “Ah, there are you are again.” Pay attention to any physical sensations or feelings that you may have, any sense of tension perhaps. Again, simply note these sensations saying, “That is just how it is right now.”

   Now that we have an idea of what is going on, we have started moving out of autopilot mode. The second step is to shift the focus to a single object, such as our breathing, by focusing our attention to the movements of our stomachs as we breathe, the rise and fall of the breath, spend a moment focusing on this movement, breath by breath. By doing this, you know when the air is moving in and when it is moving out. Use you breath as the way to focus yourself in this moment.

   The third step, now that we have gathered ourselves in this moment, allow your awareness of expand. We want to continue our focus on the breathing but also focus on our body as whole being. Pay mind to any physical sensations such as tightness in the neck or back. Feelings of circling in your stomach. Imagine your breathing as not just your stomach breathing, but rather your entire body breathing together and work on this for a few moments.
When you feel ready, open your eyes.

2. Review of homework from the previous session with the group
   a. Were you able to practice since the last meeting?
   b. How was your experience of practicing?
   c. Did anything unexpected occur while practicing?

3. Mindfulness exercise: Mindful walking
   a. Introduce this next practice as a way to become more aware while doing things such as walking. Just another way to generalize this practice into your everyday life (Segal et al., 2002)
   b. We will use physical activity to help keep us in the present moment
   c. This can be helpful for those who feel agitated or irritated as a way to help bring them “out-of-their-mind” and into the present moment (Segal et al., 2002)
   d. It may be that this activity is easier for you, wait and see!
   e. Instructor note: This exercise will require that each member have enough space to move about freely
   f. Read the following:

   Mindful Walking
   (Adapted from Segal et al., 2002)

Find a place where you can walk freely without feeling as though you will bump into another (often it is best to have members stand shoulder to shoulder with adequate space in between one another).

Stand with your feet parallel to each other, about 4 to 6 inches apart, and your knees “unlocked,” so that you can move freely. Allow for your arms to hang loosely by your sides or try holding your hands loosely together in front of your body. Look straight ahead perhaps focusing on some point in the distance.

Bring your awareness to the bottoms of your feet, getting a sense of the physical sensations of the contact of your feet with the ground and the weight of your body pushing through your legs into your feet that are on the ground. You may want to flex your knees slightly to better feel the weight of your feet on the floor.

When you are ready, transfer the weight of your body into your right leg, notice the physical sensation in your right leg as you left legs feels “empty” while the right leg is supporting the weight of the rest of the body.

With the “emptier” left leg, allow the heel to rise slowly from the floor, noticing the sensations in the calf muscles as you do this, and continue, allowing the left foot to lift gently until only the toes have contact with the floor. Being aware of the physical sensations in the feet and legs, slowly lift the left foot and move it forward, feel the foot and the leg and they move through the air, and place the heel on the floor. Allow the rest
of the left foot to touch the floor as you transfer the weight of your body into the left leg and foot, and the “emptying” of the right leg and the right heel leaving the floor.

With the weight fully transferred to the left leg, allow the rest of the right foot to lift, and move it forward, aware of the changing patterns of physical sensations in the foot and leg. Focusing your attention to the right heel as it makes contact with the ground, transfer the weight of the body into the right foot as it is placed on the ground, aware of the shifting pattern of physical sensations in the two legs and feet.

In this same way, slowly move from one end of the walk (one side of the room) to the other, being aware of sensations in the bottoms of the feet and the heels as they make contact with the floor, and the sensations in the muscles of the legs as they swing forward.

At the end of your walk, turn around slowly, being aware of the pattern of movement. Then change direction and continue walking.

Walk up and down in this way, being aware of the physical sensations in the feet and legs, and of the contact of the feet with the floor. Continue to direct your stare forward.

When you notice your mind drifting away from the sensations of walking, return your attention to the sensations in the feet and legs, use the sensation of your feet contacting the floor as way to help you reconnect similar to how you used the breath earlier.

As you are walking, do so at a pace that is slower than usual to give yourself a better chance to be fully aware of the sensations of walking. Once you feel comfortable walking slowly with this awareness, you can experiment with walking at a slightly faster speed.

Continue walking (do this for about 5 minutes).

It is now time to stop.

4. Group discussion of this exercise
   a. Ask about a member’s experience in the group (participation is encouraged in the discussion but not required)
   b. Offer your own experience if you deem necessary especially if no one is volunteering
   c. Suggestions for conversation may include:
      i. Does anyone have something that he would like to say about this exercise?
      ii. How was this different from walking “normally?”
      iii. Was this difficult for you to stick with the exercise?
      iv. What may you have been thinking as you were doing this?

5. Take a few minutes to write about the experience in your file folder
   a. Ask members to write about his experience
b. Remind members that there is no right or wrong answer to how he may feel

c. Also, remind members that his responses may be read but will not be linked to him by name (numerical codes being used)

6. Homework: Practice doing one thing mindfully each day, try walking!
Session Five: Mindfulness in Sight.

Materials:
- File folders
- Paper
- Pencils/pens
- Time piece
- Erasers
- Pencils
- Rocks

Objectives:
- Instruct in the theory of mindfulness and possible benefits
- Introduce mindfulness practice with an exercise that involves sight
- Introduce the concept of what is a judgment and what is an observation

Procedure:
1. Begin the group with a 3-minute breathing space meditation
   a. Read the follow:

   **3-Minute Breathing Space**
   (Adapted from Segal et al., 2002)

   The first thing that I would like for you to do, is to take a moment to find a comfortable position, one that is relaxed but sitting straight, with a straight back.

   Close your eyes, if you feel that this is comfortable for you. First, I would like for you to become aware, really aware of what is happening for you right now? Becoming aware of what is going through your mind, what are your thoughts? Just note your thoughts as mental events. Then, note the feelings that are around your thoughts, pay attention to any sense of discomfort that you may have. Rather than try to push away the discomfort or unpleasant feeling, simply acknowledge this then, maybe say, “Ah, there are you are again.” Pay attention to any physical sensations or feelings that you may have, any sense of tension perhaps. Again, simply note these sensations saying, “That is just how it is right now.”

   Now that we have an idea of what is going on, we have started moving out of autopilot mode. The second step is to shift the focus to a single object, such as our breathing, by focusing our attention to the movements of our stomachs as we breathe, the rise and fall of the breath, spend a moment focusing on this movement, breath by breath. By doing this, you know when the air is moving in and when it is moving out. Use you breath as the way to focus yourself in this moment.

   The third step, now that we have gathered ourselves in this moment, allow your awareness of expand. We want to continue our focus on the breathing but also focus on our body as whole being. Pay mind to any physical sensations such as tightness in the
neck or back. Feelings of circling in your stomach. Imagine your breathing as not just your stomach breathing, but rather your entire body breathing together and work on this for a few moments.

When you feel ready, open your eyes.

2. Review of homework from the previous session with the group
   a. Were you able to practice since the last meeting?
   b. How was your experience of practicing?
   c. Did anything unexpected occur while practicing?

3. Introduce the concept of mindful seeing by asking members to look at certain objects and describe what they see without judging it. Hold up an apple and ask members to describe this (may want to track responses that are an observation and those that are a judgment)

4. Discussion of what is an observation and what is a judgment
   a. An observation, what is-It is red, It is round
   b. A judgment, what you think-It tastes good

5. Mindfulness exercise: Mindfulness and sight

   **Mindfulness and Sight**
   (Breathing portion adapted from Segal et al., 2002; Sight portion reported in research by Semple et al., 2005)

   Sit upright in your chair such that your back/spine is straight and self supporting. Or, sit in a position on the floor that supports a straight spine.

   Close your eyes and settle into a comfortable position. (Pause for 30 seconds)

   Focus your awareness on the sensations of contact in your body. For example, the pressure of the legs on the chair or the floor. (Pause for 30 seconds)

   Bring your awareness to the physical changes of the body that come with breathing. For instance, place your hand on the stomach and feel the movement associated with breathing. More specifically notice how the stomach appears to rise with each in breath and deflate with each out breath. When you feel comfortable with this kind of breathing, remove your hand and continue to focus on your breathing. (Pause for 30 seconds)

   There is no need to try to control your breathing but rather just let the body breathe. There is no right or wrong way to do this and no correct or incorrect experience to have. (Pause for 30 seconds)

   There will be times when your mind begins to wander, this is okay. You may be thinking about what you are doing later in the day, what you did early, or simply daydreaming. When this happens simply acknowledge that “Yes, I’m thinking.” Then return your attention to your breath. Perhaps consider the sensation of your stomach rising and then falling. (Pause 30 seconds)
Continue allowing members to breathe mindfully for 2 minutes. Now, open your eyes.

Move about the room from member to members until each has an eraser in hand. Now, mindfully observe this object (eraser) expanding the awareness from breathing to the eraser.

When you notice the awareness shifting from the eraser, simply refocus to the eraser in hand. Allow each member to hold the eraser for one minute. Please place the eraser behind you.

Refocus the awareness to breathing. Hand out the second object (pencil) allowing for members for expand the awareness to include the object in hand. Allow each member to hold the pencil for one minute. Please place the pencil behind you.

Refocus the awareness to breathing. Hand out the third object (i.e., rock) allowing for members for expand the awareness to include the object in hand. Allow each member to hold the piece of rock for one minute. Please place the piece of rock behind you.

Refocus the awareness to breathing, remember the idea of the air expanding and contacting your stomach.

Gently end the exercise.

6. Group discussion of this exercise
   a. Ask about a member’s experience in the group (participation is encouraged in the discussion but not required)
   b. Offer your own experience if you deem necessary especially if no one is volunteering
   c. Suggestions for conversation may include:
      i. Does anyone have something that he would like to say about this exercise?
      ii. How was this different from seeing “normally?”
      iii. Was this difficult for you to stick with the exercise?
      iv. What may you have been thinking as you were doing this?

7. Take a few minutes to write about the experience in your file folder
   a. Ask members to write about his experience
   b. Remind members that there is no right or wrong answer to how he may feel
   c. Also, remind members that his responses may be read but will not be linked to him by name (numerical codes being used)

8. Homework: Engage in a mindfulness sight exercise one time per day
Session Six: Mindfulness in Smell.

Materials:
- File folders
- Paper
- Pencils/pens
- Time piece
- Soap
- Chocolate
- Piece of candy

Objectives:
- Instruct in the theory of mindfulness and possible benefits
- Introduce mindfulness practice with an exercise that involves smell
- Emphasize detachment from autopilot

Procedure:
1. Begin the group with a 3-minute breathing space meditation
   a. Read the follow:

   **3-Minute Breathing Space**
   (Adapted from Segal et al., 2002)

   The first thing that I would like for you to do, is to take a moment to find a comfortable position, one that is relaxed but sitting straight, with a straight back.

   Close your eyes, if you feel that this is comfortable for you. First, I would like for you to become aware, really aware of what is happening for you right now? Becoming aware of what is going through your mind, what are your thoughts? Just note your thoughts as mental events. Then, note the feelings that are around your thoughts, pay attention to any sense of discomfort that you may have. Rather than try to push away the discomfort or unpleasant feeling, simply acknowledge this then, maybe say, “Ah, there are you are again.” Pay attention to any physical sensations or feelings that you may have, any sense of tension perhaps. Again, simply note these sensations saying, “That is just how it is right now.”

   Now that we have an idea of what is going on, we have started moving out of autopilot mode. The second step is to shift the focus to a single object, such as our breathing, by focusing our attention to the movements of our stomachs as we breathe, the rise and fall of the breath, spend a moment focusing on this movement, breath by breath. By doing this, you know when the air is moving in and when it is moving out. Use you breath as the way to focus yourself in this moment.

   The third step, now that we have gathered ourselves in this moment, allow your awareness of expand. We want to continue our focus on the breathing but also focus on our body as whole being. Pay mind to any physical sensations such as tightness in the
neck or back. Feelings of circling in your stomach. Imagine your breathing as not just your stomach breathing, but rather your entire body breathing together and work on this for a few moments.

When you feel ready, open your eyes.

2. Review of homework from the previous session with the group
   a. Were you able to practice since the last meeting?
   b. How was your experience of practicing?
   c. Did anything unexpected occur while practicing?

3. Introduce the concept of mindful smell
   a. Again we want to help you to let go of the notion of being on autopilot
   b. Begin to have an awareness of the world around you

   **Mindfulness and Smell**
   (Breathing portion adapted from Segal et al., 2002, Smell portion reported in research by Semple et al., 2005)

Sit upright in your chair such that your back/spine is straight and self supporting. Or, sit in a position on the floor that supports a straight spine.

Close your eyes and settle into a comfortable position. (Pause for 30 seconds)

Focus your awareness on the sensations of contact in your body. For example, the pressure of the legs on the chair or the floor. (Pause for 30 seconds)

Bring your awareness to the physical changes of the body that come with breathing. For instance, place your hand on the stomach and feel the movement associated with breathing. More specifically notice how the stomach appears to rise with each in breath and deflate with each out breath. When you feel comfortable with this kind of breathing, remove your hand and continue to focus on your breathing. (Pause for 30 seconds)

There is no need to try to control your breathing but rather just let the body breathe. There is no right or wrong way to do this and no correct or incorrect experience to have. (Pause for 30 seconds)

There will be times when your mind begins to wander, this is okay. You may be thinking about what you are doing later in the day, what you did early, or simply daydreaming. When this happens simply acknowledge that “Yes, I’m thinking.” Then return your attention to your breath. Perhaps consider the sensation of your stomach rising and then falling. (Pause 30 seconds)

Continue allowing members to breathe mindfully for 2 minutes.

Move about the room from member to members until each has the object in hand. Now, mindfully observe this object (soap) expanding the awareness from breathing to the soap.
When you notice the awareness shifting from the soap, simply refocus to the object in hand. Allow each member to smell the soap for one minute. Please place the soap behind you.

Refocus the awareness to breathing. Hand out the second object (chocolate) allowing for members to expand the awareness to include the object in hand. Allow each member to hold the chocolate for one minute. Please place the chocolate behind you or eat it.

Refocus the awareness to breathing. Hand out the third object (i.e., piece of candy) allowing for members to expand the awareness to include the candy in hand. Allow each member to hold the candy for one minute. Please place the piece of candy behind you or eat it.

Refocus the awareness to breathing, remember the idea of the air expanding and contacting your stomach.

Gently end the exercise.

4. Group discussion of this exercise
   a. Ask about a member’s experience in the group (participation is encouraged in the discussion but not required)
   b. Offer your own experience if you deem necessary especially if no one is volunteering
   c. Suggestions for conversation may include:
      i. Does anyone have something that he would like to say about this exercise?
      ii. How was this different from smelling “normally?”
      iii. Was this difficult for you to stick with the exercise?
      iv. What may you have been thinking as you were doing this?

5. Take a few minutes to write about the experience in your file folder
   a. Ask members to write about his experience
   b. Remind members that there is no right or wrong answer to how he may feel
   c. Also, remind members that his responses may be read but will not be linked to him by name (numerical codes being used)

6. Homework: Members are encouraged to mindfully smell one object per day
Session Seven: Mindfulness in Sound.

Materials:
• File folders
• Paper
• Pencils/pens
• Time piece

Objectives:
• Instruct in the theory of mindfulness and possible benefits
• Instruct in using mindfulness in everyday life
• Introduce mindfulness practice with an exercise that involves the sense of sound

Procedure:
1. Begin the group with a 3-minute breathing space meditation
   a. Read the follow:

      3-Minute Breathing Space
      (Adapted from Segal et al., 2002)

      The first thing that I would like for you to do, is to take a moment to find a comfortable position, one that is relaxed but sitting straight, with a straight back.

      Close your eyes, if you feel that this is comfortable for you. First, I would like for you to become aware, really aware of what is happening for you right now? Becoming aware of what is going through your mind, what are your thoughts? Just note your thoughts as mental events. Then, note the feelings that are around your thoughts, pay attention to any sense of discomfort that you may have. Rather than try to push away the discomfort or unpleasant feeling, simply acknowledge this then, maybe say, “Ah, there are you are again.” Pay attention to any physical sensations or feelings that you may have, any sense of tension perhaps. Again, simply note these sensations saying, “That is just how it is right now.”

      Now that we have an idea of what is going on, we have started moving out of autopilot mode. The second step is to shift the focus to a single object, such as our breathing, by focusing our attention to the movements of our stomachs as we breathe, the rise and fall of the breath, spend a moment focusing on this movement, breath by breath. By doing this, you know when the air is moving in and when it is moving out. Use you breath as the way to focus yourself in this moment.

      The third step, now that we have gathered ourselves in this moment, allow your awareness of expand. We want to continue our focus on the breathing but also focus on our body as whole being. Pay mind to any physical sensations such as tightness in the neck or back. Feelings of circling in your stomach. Imagine your breathing as not just your stomach breathing, but rather your entire body breathing together and work on this for a few moments.
When you feel ready, open your eyes.

2. Review of homework from the previous session with the group
   a. Were you able to practice since the last meeting?
   b. How was your experience of practicing?
   c. Did anything unexpected occur while practicing?

3. Discussion: Using mindfulness in everyday life
   a. Talk about ways that you can use this practice in everyday life, perhaps some ideas from your homework
   b. Discuss possible reasons why this might be useful or helpful to use regularly

4. Mindfulness exercise: Sitting meditation, members will be instructed to sit quietly for 10 minutes and be mindful of any noises that they hear during this time
   a. This activity begins with more a focus on breathing but then begins to help you to expand your awareness to the world around you

   **Sitting Meditation**
   (Adapted from Segal et al., 2002)

   Sit upright in your chair such that your back/spine is straight and self supporting. Or, sit in a position on the floor that supports a straight spine.

   Close your eyes and settle into a comfortable position. (Pause for 30 seconds)

   Focus your awareness on the sensations of contact in your body. For example, the pressure of the legs on the chair or the floor. (Pause for 30 seconds)

   Bring your awareness to the physical changes of the body that come with breathing. For instance, place your hand on the stomach and feel the movement associated with breathing. More specifically notice how the stomach appears to rise with each in breath and deflate with each out breath. When you feel comfortable with this kind of breathing, remove your hand and continue to focus on your breathing. (Pause for 30 seconds)

   There is no need to try to control your breathing but rather just let the body breathe. There is no right or wrong way to do this and no correct or incorrect experience to have. (Pause for 30 seconds)

   There will be times when your mind begins to wander, this is okay. You may be thinking about what you are doing later in the day, what you did early, or simply daydreaming. When this happens simply acknowledge that “Yes, I’m thinking.” Then return your attention to your breath. Perhaps consider the sensation of your stomach rising and then falling. (Pause 30 seconds)

   Continue allowing members to breathe mindfully for 2 minutes.
Allow the focus of your awareness to shift from the sensations in the body to hearing. Bring your attention to your ears so they are receptive to any sounds as they arise.

Do not worry about searching for sounds or listening for particular sounds as they will happen. Simply open your mind to all sounds, those close, those far away, sounds that are in front, behind, to the side, above or below. Be aware of more obvious sounds and even silence.

As best as you can, think of the sounds as sensations. If you find that you are thinking about the sounds, redirect your attention to the quality of the sound, loudness, length, intensity, rather than what they mean.

Whenever you notice that your awareness is no longer focused on sounds in the moment, acknowledge where the mind moved to, and then return the awareness back to the sounds.

Allow members to sit for about 5 minutes, reminding them to bring the awareness back to the sounds. Remind members that it is okay if their attention wanders, simply redirect this to the sounds.

Gently say stop at the conclusion of the exercise.

5. Group discussion of this exercise
   a. Ask about a member’s experience in the group (participation is encouraged in the discussion but not required)
   b. Offer your own experience if you deem necessary especially if no one is volunteering
   c. Suggestions for conversation may include:
      i. Does anyone have something that he would like to say about this exercise?
      ii. How was this different from hearing “normally?”
      iii. Was this difficult for you to stick with the exercise?
      iv. What may you have been thinking as you were doing this?

6. Take a few minutes to write about the experience in your file folder
   a. Ask members to write about his experience
   b. Remind members that there is no right or wrong answer to how he may feel
   c. Also, remind members that his responses may be read but will not be linked to him by name (numerical codes being used)

7. Homework: Engage in one mindfulness activity taught in this group each day

8. Remind members that next week is the last group
Session Eight: A Review and Saying Goodbye.

Materials:
- File folders
- Paper
- Pencils/pens
- Time piece

Objectives:
- Instruct in the theory of mindfulness and possible benefits.
- Review what has been learned in the group and ways to carry on this practice
- Saying goodbye

Procedure:
1. Begin the group with a 3-minute breathing space meditation
   a. Read the follow:

   3-Minute Breathing Space
   (Adapted from Segal et al., 2002)

   The first thing that I would like for you to do, is to take a moment to find a comfortable position, one that is relaxed but sitting straight, with a straight back.

   Close your eyes, if you feel that this is comfortable for you. First, I would like for you to become aware, really aware of what is happening for you right now? Becoming aware of what is going through your mind, what are your thoughts? Just note your thoughts as mental events. Then, note the feelings that are around your thoughts, pay attention to any sense of discomfort that you may have. Rather than try to push away the discomfort or unpleasant feeling, simply acknowledge this then, maybe say, “Ah, there are you are again.” Pay attention to any physical sensations or feelings that you may have, any sense of tension perhaps. Again, simply note these sensations saying, “That is just how it is right now.”

   Now that we have an idea of what is going on, we have started moving out of autopilot mode. The second step is to shift the focus to a single object, such as our breathing, by focusing our attention to the movements of our stomachs as we breathe, the rise and fall of the breath, spend a moment focusing on this movement, breath by breath. By doing this, you know when the air is moving in and when it is moving out. Use you breath as the way to focus yourself in this moment.

   The third step, now that we have gathered ourselves in this moment, allow your awareness of expand. We want to continue our focus on the breathing but also focus on our body as whole being. Pay mind to any physical sensations such as tightness in the neck or back. Feelings of circling in your stomach. Imagine your breathing as not just your stomach breathing, but rather your entire body breathing together and work on this for a few moments.
When you feel ready, open your eyes.

2. Review of homework from the previous session with the group
   a. Were you able to practice since the last meeting?
   b. How was your experience of practicing?
   c. Did anything unexpected occur while practicing?
3. Group discussion: What have you learned from the groups
   a. Discuss with members what they have learned from these groups and exercises
   b. Discuss any reasons to use or to not use this practice regularly
4. Review the main concepts taught in the group:
   a. The benefits of a mindfulness practice
   b. Awareness
   c. Autopilot
   d. Barriers to practicing mindfulness
   e. Breathing practices
   f. How to differentiate between thoughts, feelings, and sensations
   g. A judgment versus an observation
   h. How to incorporate mindfulness practice into daily life
5. Write briefly in file folder what mindfulness means to them now after completing the group
   a. Ask members to write about his experience
   b. Remind him that there is no right or wrong answer to how he may feel
   c. Also, remind members that his responses may be read but will not be linked to him by name (numerical codes being used)
6. We say goodbye
7. Collect file folders
8. End the group with the 3-minute breathing space meditation
   a. Read the follow:

   **3-Minute Breathing Space**
   (Adapted from Segal et al., 2002)

   The first thing that I would like for you to do, is to take a moment to find a comfortable position, one that is relaxed but sitting straight, with a straight back.

   Close your eyes, if you feel that this is comfortable for you. First, I would like for you to become aware, really aware of what is happening for you right now? Becoming aware of what is going through your mind, what are your thoughts? Just note your thoughts as mental events. Then, note the feelings that are around your thoughts, pay attention to any sense of discomfort that you may have. Rather than try to push away the discomfort or unpleasant feeling, simply acknowledge this then, maybe say, “Ah, there are you are again.” Pay attention to any physical sensations or feelings that you may have, any sense of tension perhaps. Again, simply note these sensations saying, “That is just how it is right now.”
Now that we have an idea of what is going on, we have started moving out of autopilot mode. The second step is to shift the focus to a single object, such as our breathing, by focusing our attention to the movements of our stomachs as we breathe, the rise and fall of the breath, spend a moment focusing on this movement, breath by breath. By doing this, you know when the air is moving in and when it is moving out. Use you breath as the way to focus yourself in this moment.

The third step, now that we have gathered ourselves in this moment, allow your awareness of expand. We want to continue our focus on the breathing but also focus on our body as whole being. Pay mind to any physical sensations such as tightness in the neck or back. Feelings of circling in your stomach. Imagine your breathing as not just your stomach breathing, but rather your entire body breathing together and work on this for a few moments.

When you feel ready, open your eyes.
References


Appendix B: Informed Consent

PACIFIC UNIVERSITY
INFORMED CONSENT TO ACT AS A RESEARCH PARTICIPANT

The Clinical Utility of a Mindfulness-Based Intervention Program in Reducing Problematic Behaviors and the Manifestation of Psychological Symptoms in Adolescents

Investigator(s) Contact Information

Principal Investigator(s):

Principal Investigator:
Brie Petrie, M.S.
Doctoral Candidate, Pacific University
School of Professional Psychology
(503) 347 - 4544
petr8099@pacificu.edu

Faculty Advisor:
James B. Lane, Ph.D.
Professor, Pacific University
School of Professional Psychology
(503) 352 - 7323
lanejb@pacificu.edu

Facility Staff to be determined later.

1. Introduction and Background Information

The use of a mindfulness-based treatment protocol is being offered to the residents of a residential treatment facility. This treatment protocol will be implemented by two staff members of a residential treatment facility who will be instructed in implementation by Brie Petrie, M.S. Doctoral Candidate in Clinical Psychology at Pacific University.

Mindfulness techniques are a way to intentionally focus the attention to an experience occurring in the present moment without making a judgment regarding the experience (Baer, 2003). Such interventions are being used currently in the treatment of several medical and psychological disorders. Thus, research concerning mindfulness-based interventions is steadily increasing and such research appears to support the use of
mindfulness-based interventions as effective treatment for children and adolescents suffering from behavioral and emotional problems.

2. **Study Location and Dates**

The study is expected to begin in June of 2008 and be completed by January of 2009. The location of the study will be a residential treatment facility in Oregon.

3. **Procedures**

If you agree to have your child/adolescent participate in this program as an addition to the treatment program, he will attend a weekly one hour group that will last for a duration of eight weeks. Participants will be asked to complete self-report assessment measures at the beginning of the study and at the end of the eight weeks. All of the data from the study will be held in confidence in accordance to the legal and ethical guidelines.

4. **Participants and Exclusion**

This study is designed to be conducted with residents of a residential treatment facility. However, residents will be assigned to groups according to the data collected upon admission. Participants may be excluded from the study if they chose not to participate or if they withdraw from the study either voluntarily or by recommendation of the staff.

5. **Risks and Benefits**

Efforts will be made to reduce any risks to participants by having trained staff carrying out the group interventions. In the event that an activity were too physically challenging such that would lead to strain or discomfort or emotionally triggering such that would lead to an aversive emotional response as identified either by the participant or the group facilitator, the participant may withdraw from the study immediately without consequence. However, by having trained staff members conducting the groups and additional staff available outside of the group the effort is being made to manage these risks.

There are no direct benefits to participants.

6. **Alternatives Advantageous to Participants**

Not Applicable.

7. **Participant Payment**

You will not receive payment or compensation for your participation.
8. Promise of Privacy

The records of this study will be kept private and in confidence. Confidentiality of all participants will be maintained during the course of this study. The names and other identifying information of participants will not be known to any persons outside of the residential treatment program including the principal investigator. All identifying information from participant records will be removed thus using masked records. Administered assessment measures will include the Multidimensional Anxiety Scale for Children (MASC) (March, 1997), which is a well used and researched self-report instrument that indicates the presence of clinically significant anxiety. In addition, The Trauma Symptom Checklist for Children (TSCC) (Briere, 1996), which is a self report measure that indicates clinically significant levels of trauma-related symptoms will be used. Also, the compliance data obtained from Token Economy System will be used. The security of all administered assessment measures and compliance data as they may relate to this study as described above will be maintained by holding such items under a double lock (a locked file cabinet in a locked room). Access to the building where the double-locked records are held is limited to staff and approved visitors of the residential treatment facility. Data kept electronically will be in a password-locked database. The records and data will not leave the residential treatment facility.

This informed consent form will be kept separately from any data collected. If the results of this study are to be presented or published, identifying information that will not be made available.

9. Voluntary Nature of the Study

Your decision of whether or not to have your child/adolescent participate will not affect your current or future relations with Pacific University or the residential treatment facility. If your child/adolescent decides to participate, he is free to not answer any question(s) or withdraw at any time without prejudice or negative consequences.

10. Compensation and Medical Care

Not applicable.

11. Contacts and Questions

The primary investigator will be happy to answer any questions you may have at any time during the course of the study. The primary investigator can be reached at (503) 347 - 4544 and/or petr8099@pacificu.edu. If you are not satisfied with the answers you receive, please call Pacific University’s Institutional Review Board, at (503) 352 – 2112 to discuss your questions or concerns further. All concerns and questions will be kept in confidence.

12. Statement of Consent
I have read and understand the above. All my questions to date have been answered. I agree to implement this study as a part of an addition to the treatment program for my child/adolescent as covered in the consent form upon admission to a residential treatment facility and a consent to treat addendum to accompany this project. A copy of this form has been provided for my records.

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<th>Participant’s Signature</th>
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<tr>
<th>Parent / Guardian’s Signature</th>
<th>Date</th>
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**Participant contact information:**

- **Street address:**
  - ______________________
  - ______________________
  - ______________________

- **Telephone:** ______________________
- **Email:** ______________________

This contact information is required in case any issues arise with the study and participants need to be notified and/or to provide participants with the results of the study if they wish.

Would you like to have a summary of the results after the study is completed?  
- ___Yes  
- ____No

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Appendix C: Consent to Treatment Addendum

Dear Case Worker:

A frequent problem for our boys is self-control. They struggle with impulsiveness and/or directing attention. Self-control problems are often part of other problems like anxiety, depression and aggression.

There are some new treatments that help with self-control that are called “Mindfulness” methods. Mindfulness methods are things like meditation, focusing attention or visualization. They are often important parts of other programs such as the residential treatment facility Fire setting program and DBT.

We use Mindfulness treatments with individuals. We are developing our own group program. The residential treatment facility has asked for help from a student from Pacific University’s Psychology Doctoral program, Brie Petrie, M.S. As part of her training for her doctoral degree, she spent a year working with the boys as a therapist in our mental health program. She has reviewed the literature and developed a program, Mindfulness Group, which fits our clients. It is about an 8-week program with one hour per week. Mindfulness group teaches skills, like mediation, attention focus, and visualization and encourages home practice. She has agreed to teach it to our Mental Health staff to try out with their clients. As part of her training program, she will help us evaluate the results with all names removed. In return for her help she will use the project for her dissertation.

We want to measure effects of the program with some of the standardized tests we use for pre- and post-testing. They measure anger, physical tension and restlessness. The tests take about 15 minutes. They will be done at the start and end of the program. Another measure will be from the behavior card that measures success in the cottage.

Eventually, we expect that the program will be used with all boys. We want to get enough boys so that two groups can be compared.

As with all records, the test information will be treated confidentially. After placing the information in a boy’s file to be used for his treatment, individual identifying information will be removed so the program can be evaluated. No one outside of staff will see individually identified information.

The program will be explained to clients. They will be offered the opportunity say they want to participate. If they do not wish to, there will no effect on their treatment plan.

The risks are no more than standard treatment. The mindfulness activities and the tests are all things already done in routine individual treatment. The difference is the arrangement of particular mindfulness activities for a group, along with measures of effects.
The benefits can include increased self-control and behavioral success. There may be more focused treatment experience and positive reinforcement of participation.

If you have questions, you may discuss the plan with your client’s mental health therapist. You may also contact the Clinical Director, Dr. Steven Henry or Ms. Petrie, who is developing the program.

We ask that you permit your client’s participation by signing the accompanying form. Thank you for your support of our effort to improve the treatment program.

Sincerely,

Steven L. Henry, Psy.D.
Clinical Director
Brie Petrie, M.S.
Mindfulness Program Coordinator
Consent to Treat Addendum

I have read and understand the letter explaining the Mindfulness program for use with my client, ____________________. I give permission for him to participate in the pilot Mindfulness Group as part of Mental Health treatment.

Case Worker Name: ______________________

Signature: ________________________________

Date: _____________________