COMPARATIVE EFFECTS OF MINDFULNESS AND SKILLS-BASED PARENT TRAINING PROGRAMS: FEASIBILITY AND PRELIMINARY OUTCOME DATA

by

SUZANNAH J. IADAROLA

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ABSTRACT OF THE DISSERTATION

Comparative Effects of Mindfulness and Skills-Based Parent Training Programs for Parents of Children with Autism: Feasibility and Preliminary Outcome Data

By SUZANNAH J. IADAROLA

Dissertation Director:
Sandra L. Harris

Parents of children with autism are documented to report high levels of stress compared to parents of typically developing children, children with chronic illnesses, and children with other developmental disorders. Previous research has indicated both parent-focused and child-focused parent training programs as effective in alleviating parental stress and enhancing meaningful parent-child interactions. Programs that include behavioral skills training are especially represented in the current literature. However, excluding general psychoeducation there is no consistent model for parent-focused groups. In the present study, a behavioral skills approach was compared to one parent-oriented model, a mindfulness group. Mindfulness encompasses several strategies that encourage staying physically, emotionally, and thoughtfully present in the moment, and discourages avoiding distressing thoughts, feelings, and situations. This approach has been beneficial to individuals with a variety of physical and psychological ailments, and has been suggested preliminarily to be appropriate for parents of children on the autism spectrum. Ten parents of children with autism were matched on a measure of parental stress and
were randomized to one of the two treatment groups. Each parent group included an 8-week program that incorporated didactics, discussion, role plays, and homework. Outcomes were assessed in terms of parental stress, global health, and parent-child interactions. Feasibility data were also collected. Results indicated that parent training in general was beneficial to the participants, with parents in the mindfulness group reporting significantly lower parental and higher global health scores following treatment. Both groups were effective in increasing parent-child interaction time and decreasing parental ignoring during a play sample; however participants in the skills group demonstrated more directive and intrusive behavior following treatment. Good attendance and adequate response and retention rates were observed. The implications and future directions of this line of research are discussed.
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Introduction

Although it can be a source of great joy, raising a child is often accompanied by a variety of stressors, which are only enhanced by the presence of a child’s illness. Most of the literature on parent stress under these conditions suggests a strong link among child chronic illness, increased stress, and increased family dysfunction (Sheeran, Marvin, & Pianta, 1997). Similar trends have been documented in populations with less severe, chronic conditions, such as obesity (Ohleyer et al., 2008).

Parent Stress and Autism

Marvin and Pianta (1996) posit that a significant portion of parent stress relates to the grief of a “lost perfect child.” With this in mind, it is not surprising that parents of children with developmental disabilities also report high levels of stress; these parents must watch their physically healthy children grow without ever achieving the typically-developing status of the “perfect child.” Autism is one such lifelong developmental disability that is characterized by three core deficits in the areas of communication, socialization, and the presence of repetitive or restricted (stereotyped) behavior. In general, parents of children with autism report higher levels of stress and affective symptoms compared to both typically developing children and parents of children with other disabilities, such as Down syndrome and intellectual disabilities, and children with chronic illness (Bristol & Schopler, 1984; Dumas, Wolf, Fisman, & Culligan, 1991). These differences emerge around the time of diagnosis and persist throughout raising the child with a disability.

There is some evidence that child characteristics may be an important predictor of stress among parents of children with a variety of disabilities. In autism, social deficits
are widely cited as the area of most concern to parents, especially among parents of children who have reached school age (Bebko, Konstantareas, & Springer, 1987), and the social domain is certainly the most well researched core symptom of autism. However, recent research has focused more on the relationship between a child’s behavior and parent outcomes. For example, Hastings and Johnson (2001) found an association between higher severity ratings of all autism characteristics and parent stress; their later research suggests that maternal stress is also highly correlated with child problem behavior (Hastings et al., 2005b). Interestingly, the 2005 study found the presence of behavior problems to be more highly correlated with maternal stress than autism severity or adaptive behavior. These findings suggest that the behavior of children with autism may be an important and somewhat overlooked factor in parent stress.

Davis and Carter parsed out the differential effects of externalizing behavior and social deficits on parent stress in their 2008 study. Their results suggested that socialization was most highly correlated with maternal and paternal stress, but that externalizing behavior was also associated with parent stress. Children with autism may display a variety of externalizing behavior, including self-injury, aggression, tantrums, and stereotypy. In light of the universality of social, communication, and behavioral deficits in children with autism, many parent training models have taken a skills training-based approach to alleviating parent stress in this population.

*Parent Training*

The majority of parent training approaches focus on two main goals, and any individual program may target one or both of these. The first goal is changing child behavior to either increase functional and adaptive skills (e.g., language, social skills) or
to decrease challenging behavior (e.g., stereotypy, aggression, self-injury). In these types of programs, parents are trained as interventionists and are provided with education in behavioral techniques to evoke targeted increases or decreases in their children’s behavior. Using parents as co-therapists has received an increasing amount of attention in the past two decades, although the advantages of parental involvement were initially described in Lovaas’ 1973 account of the long-term benefits of early intervention (Kozloff, 1974; Lovaas, Koegel, Simmons, & Long, 1973).

Parents can be trained to implement various treatment approaches, including discrete trial training (Crockett, Fleming, Doepke, & Stevens, 2005; Harris, Wolchik, & Milch, 1983; Smith, Buch, & Gamby, 2000), a developmental, individualized and relationship-oriented (DIR) model (Solomon, Necheles, Ferch, & Bruckman, 2007), and behavioral, naturalistic strategies (Gillet & LeBlanc, 2007; Rocha, Schreibman, & Stahmer, 2007) to teach their children a variety of functional behaviors. In an early study, Harris, Wolchik, and Milch (1983) educated parents of preschoolers with autism on using behavioral techniques such as applying contingencies, shaping, and chaining to increase their children’s speech. Following a 13-week program, parents of both verbal and nonverbal children demonstrated increases in their use of speech-oriented language; these increases were associated with speech gains in the verbal, but not the nonverbal children. Another study focusing on language by Gillett and LeBlanc (2007) taught parents of children with autism to implement a naturalistic, behavioral intervention to increase speech; collateral effects on play were also evaluated. Increases in speech were observed for all three children in response to the parent training program, and two of the three
demonstrated improvements in their play. The parents also indicated high levels of satisfaction with the program and intent to continue using the procedures at home.

Socialization can also be successfully targeted through parent training. For example, parents implementing a behavioral joint attention intervention exacted gains in their children’s coordinated gaze shifting, social bids, and responses to parent bids (Rocha, Schreibman, & Stahmer, 2007). These skills were also demonstrated during an unstructured joint attention assessment and endured at follow-up sessions, suggesting that parent training has direct generalization and maintenance benefits. Parents have also been successful in improving their children’s play with their siblings through in-home training (Celiberti, 1994). In this investigation, parents were provided with a manual that included step-by-step instruction for applying contingencies, shaping behavior, prompting, and delivering reinforcement for their children’s play. The use of the manual alone was compared with its combination with in-vivo discussion, practice and feedback for the parent trainer. Similar improvements in the children’s play with their siblings were observed for both groups, and parents reported satisfaction with the procedures.

As discussed above, challenging behavior can be a source of stress for families. Research shows that parents can be trained to effectively assess and decrease disruptive, aggressive, and stereotypic behavior. Frea and Hepburn (1999) successfully taught parents to conduct functional assessments to determine the maintaining variables for their children’s disruptive behavior and to subsequently create and implement a behavioral intervention. Automatically reinforcing behavior is notoriously difficult to intervene upon; however, parents can effectively administer appropriate interventions such as
response blocking for object mouthing (Tarbox, Wallance, & Tarbox, 2002) and decreasing rigid and ritualistic behavior (Malmberg, 2008).

In supplement to the efficacy of parent training procedures, involving parents in their children’s programming has been documented to facilitate generalization and maintenance of acquired skills (Kaiser, Hancock, & Nietfeld, 2000; Miller & Sloane, 1976) by providing children with support and additional practice outside of instructional settings. Generalization benefits have also been documented for parent teachers (Crockett et al., 2005; Kaiser et al., 2000; Koegel, Glahn, & Nieminen, 1978; Miller & Sloane, 1976); for example, parents who learned to teach one academic skill (e.g., attending) in a discrete trial format extended this knowledge to teaching other skills (e.g., labeling, verbal imitation). These findings have implications for providing cost-effective training; by generalizing techniques across skills, parents reduce their amount of necessary training time. However, planning for generalization is critical to successful, continued implementation of acquired skills (Koegel et al., 1978). Generalization of parent skills has been shown to occur without direct training, but at lower levels than observed during the intervention stage (Miller & Sloane, 1976). Additionally, despite the long-term benefits of continued parent-mediated techniques, parents may not consistently follow through in the absence of specific programming. For example, in a 4-7 year follow-up study, Harris (1987) reported that more than half of parents who had previously completed a program in behavioral management and skill development of preschoolers with autism had discontinued using these skills at home. It is noteworthy that parents rated the training programs in these studies highly in terms of acceptability, yet they did not continue to implement the skills consistently. While treatment acceptability is an
important measure from a social validation standpoint, it cannot be assumed to correlate
with program maintenance. Effective training programs should aim to target
generalization effects while sustaining parent satisfaction.

Recent research has also suggested that behavioral parent training can enhance the
effects of other common interventions. A randomized clinical trial of pharmacotherapy
alone and its combination with parent training revealed differential benefits between
treatment groups (Aman et al., 2009). Although risperdone alone was associated with
significant decreases in challenging behavior and autism severity, the addition of parent
training in the combination group resulted in detectable additional decreases in outcome.
These results indicate the inclusion of parent training as part of a treatment package, even
when other interventions are currently successful.

The process of implementing behavioral procedures in itself can be perceived as a
challenge for parents, but preliminary research suggests that minimal parent training may
be sufficient to exact change. Recent findings by Vismara, Colombi, and Rogers (2009)
support the efficacy of one hour per week of individualized parent-child education in
increasing engagement and social communication behaviors in young children with
autism. Gains were observed by the fifth and sixth hour, and most parents were also able
to achieve acceptable levels of fidelity over the course of the 12-week program. Because
programs that require a small time commitment may prove to be preferable to parents,
positive outcomes of this are encouraging in terms of evidence base and social validity.

The second goal of parent training programs is to alleviate parent stress and
improve family functioning, outcomes associated with the parent rather than the child.
These data are sparser than child-oriented measures, but there is some evidence to
suggest that parent training can affect mental health. For example, Bristol, Gallagher, and Holt (1993) found a positive effect on maternal symptoms of depression from a psychoeducational intervention to train parents as co-therapists. Compared to a control group, mothers who learned how to carry out and evaluate behavioral analytic techniques for their children reported lower scores on a measure of maternal depression. However, these results were subject to a “sleeper effect,” in that differences trended at 6 months, and statistically significant differences (i.e., approximately 17% of parents “at risk” for depression in the treatment group versus over 40% in the non-treatment group) were not observed until an 18-month follow up. Participants in this study were not randomly assigned to treatment groups, so the results should be interpreted with caution.

In a more systematic analysis, a recent randomized, controlled study examined the effects of a parent education and behavior management intervention on the mental health of parents of children with autism (Tonge et al., 2006). Parents were educated in the core features of autism, basic behavioral strategies to change child behavior, and provided with community resources to manage stress and grief. A placebo comparison treatment involved exposure to therapist attention and support through group discussion. Educational materials were provided in this condition, but without skills training and homework tasks. A control group was also included; participants received treatment-as-usual early intervention services and no parental treatment. Participants in both intervention groups showed a non-differential, positive response to treatment, reporting less stress, depression, somatization, and anxiety than those in the control group. The comparable benefits of the placebo treatment suggest that skills training may not be a necessary component of programs targeting improvements in parental mental health,
although training in behavioral techniques may still be beneficial to their children with autism relative to no training. A small sleeper effect was also documented in this sample (i.e., 2-4 point decreases on a stress measure for the treatment groups versus no improvement in the control group). This pattern of cumulative, long-term benefits mirrors treatment response to cognitive-behavioral therapy (CBT) for depression, and indicates that parent training interventions may operate through similar mechanisms. Overall, these findings show that there is still a need to identify parent interventions with specific effects on stress.

Mindfulness

Mindfulness encompasses a body of techniques that emphasize awareness of thoughts, beliefs, and feelings, the objective of which is to change an individual’s relationship to distressing sensations. The most salient features of mindfulness can be conceptualized in many ways, a phenomenon that is illustrated by myriad definitions in the literature. However, the idea of nonjudgmental acceptance of negative sensations is a universal characteristic. It has been described as “bringing one’s attention to the present experience on a moment-to-moment basis” (Marlatt & Kristeller, 1999, p. 68) and also “paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally” (Kabat-Zinn, 1994, p. 4).

Many mindfulness-based approaches to treating physiological and psychological disorders have been described and experimentally examined over the years. Individuals with chronic pain, stress, and cancer have responded to mindfulness-based stress reduction (MBSR), a self-regulation approach aimed at decreasing stress and improving emotion management (Astin, 1997; Randolph, Caldera, Tacone, & Greak, 1999; Speca,
Carlson, Goodey, & Angen, 2000). Later, mindfulness techniques were blended with
cognitive-behavioral treatments to effectively reduce symptoms of binge eating disorder
(BED; Baer, Fischer, & Huss, 2006; Telch, Agran, & Linehan, 2001) and psychosis
(Chadwick, Taylor, & Abba, 2005). It has also been helpful in the preventing relapse of
manic-depressive episodes in bipolar disorder (Williams et al., 2008), relapse in
substance abuse disorders (Witkiewitz, Marlatt, & Walker, 2005), and with treatment
resistant clients (Kingston, 2008).

Elements of mindfulness are also critical to third wave treatments, meaning those
that succeeded the behavior therapy and cognitive-behavior therapy movements. These
include acceptance and commitment therapy (ACT) and dialectical behavior therapy
(DBT). The ACT approach aims to foster acceptance of unwanted thoughts and feelings
and increase tolerance of negative feelings and thoughts, by decreasing experiential
avoidance. DBT was developed to treat individuals with borderline personality disorder
and incorporates mindfulness with skills training. Clients are taught distress tolerance and
emotion regulation through the core concept of non-judgmentally accepting the self and
the current situation (Linehan, 1993a, b). Another common approach is mindfulness-
based cognitive therapy (MBCT), which combines mindfulness training with elements of
CBT and targets detachment from thoughts, emotions, and bodily sensations.

Evidence Base of Mindfulness for Psychological Disorders

As previously mentioned, mindfulness-based approaches have been successful
with a variety of psychological disorders, including BED, substance abuse, borderline
personality disorder, and substance abuse disorders. However, the largest body of
empirical support is on mindfulness for mood and anxiety disorders.
Depression and Relapse Prevention.

The relationship between mindfulness and depressive symptoms has been well documented (Brown & Ryan, 2003; Chambers, Lo, & Allen, 2008; Hayes & Feldman, 2004). Despite some speculation that the unique characteristics of mindfulness are not directly responsible for improvements in depressed clients, there is a growing body of evidence to support its specificity. Zvolensky and colleagues (2006) measured mindfulness, depressive and anxious symptoms, affect and general mental health in 170 individuals from the community. They also measured affect and coping style as potential moderators. In this sample mindfulness predicted depressive symptoms, even when general affect and existing coping strategies were controlled. Although the effect size was small (-.27) it accounted for nearly 50% of the sample’s variance. This study is also noteworthy in that it found a greater predictive effect of mindfulness on depressive than on anxious symptoms. The relative effects of mindfulness on depression and anxiety represents a controversy in the field, and evidence contrary to Zvolensky et al. will be presented in the section on anxiety below.

In addition to its effect on depressive symptoms in clinical and non-clinical samples, mindfulness has been extremely effective in individuals with previous episodes of major depression. Teasdale and colleagues published a hallmark study in which they reported that MBCT was effective in preventing depressive relapse in a clinically severe sample (Teasdale et al., 2000). In this study 145 patients in remission or recovery from major depression were randomly assigned to a MBCT or a treatment as usual (TAU) condition. The mindfulness group received eight weeks of manualized treatment while
the TAU group was encouraged to seek help as they normally would; both groups were assessed on measures of depression and presence of depressive relapse or recurrence.

Intent-to-treat and completer analyses indicated that MBCT was effective in preventing relapse/recurrence in individuals with *three or more* previous major depressive episodes, but not those with two or fewer. The effect was clinically significant, such that relapse/recurrence in the mindfulness group was nearly half that in the TAU group. These results suggest that MBCT is efficacious in individuals with a history of severe psychopathology. Teasdale et al. hypothesize that mindfulness exerted its effects by interrupting the reactivation of depressogenic thinking patterns that would have led to relapse in these patients. In further support of this analysis, the rates of relapse obtained in patients with three or more episodes post mindfulness approximated the rates observed in patients with two episodes. Therefore the prophylactic effects of MBCT in the former group may be limited to a certain point (i.e., rates in the sample of two or more episodes).

Ma and Teasdale (2004) replicated these findings in a broader sample of recovered depressed patients. Patients in this study were stratified on the severity of the last major depressive episode, rather than the recency, and negative life events were added as a potential moderator of treatment. Again, MBCT was shown to be effective only for participants with three or more past major depressive episodes. Results from both the 2000 and 2004 studies also indicated differential negative response to MBCT in individuals with two or fewer past episodes (as compared to TAU). MBCT may therefore be contraindicated in this population, a finding that explicates further need for research on mechanisms of MBCT and depressive relapse. One limitation of these studies is that
neither included a measure of mindfulness, so it is possible that the relationship between mindfulness and positive outcomes was confounded by nonspecific factors (e.g., therapeutic alliance, increased group support). However, Teasdale and colleagues provide much needed empirical support for the use of mindfulness strategies in a severe clinical sample.

In addition to being effective in preventing depressive relapse, mindfulness has also been successful in reducing residual symptoms in patients with a history of major depression. A randomized comparison of MBCT and TAU was conducted in 19 patients with three or more past major depressive episodes (Kingston et al., 2007). Following eight weeks of treatment, the mindfulness group demonstrated significant decreases on the BDI and a non-significant decreasing trend for rumination, with no differences observed in the control group. The investigators then ran the TAU group through the mindfulness program and saw similar improvements in depressive symptoms and rumination; these gains were maintained at a 1-month follow up. Effect sizes were large (1.16 for rumination; 1.07 for depressive symptoms) despite the small samples. More recent research has suggested that mindfulness may help individuals with depression recall events surrounding previous suicidal crises (Hargus, Crane, Barnhofer, & Williams, 2010). Identification of such antecedents is critical to the functional analysis of suicidal behavior, and could help prevent future self-harm gestures.

*Generalized Anxiety Disorder (GAD).*

GAD is considered to be one of the more difficult anxiety disorders to treat. Traditional exposure and cognitive restructuring strategies are not effective due to the pervasiveness of this population’s anxiety across many situations (e.g., social, family,
health, financial, performance). Mindfulness may be an effective intervention for individuals with GAD because it teaches an adaptive response to negative sensations that can be used under any circumstances. Indeed, Kabat-Zinn and colleagues found that mindfulness-based treatment led to improvements in anxiety symptoms and functioning in a sample of patients with GAD as well as reductions in frequency and severity of panic attacks in patients with comorbid panic disorder (Kabat-Zinn et al., 1992). These improvements were maintained at a 3-month follow up.

In 1995 Miller, Fletcher, and Kabat-Zinn published an additional three years of data on those patients. Decreases in anxiety, depression, and panic attacks were still evident years after the completion of the mindfulness training, and the effects were independent of antidepressant medication. About one third of patients did not continue practicing mindfulness techniques after completing the study. It would be interesting to know if there were differences in long-term benefits between the group who continued using mindfulness and those who did not because the continued involvement of the active participants may have been partly responsible for the maintenance of results. Overall, maintenance in the absence of ongoing related treatment suggests that the mindfulness techniques tackle stress and coping skills in general, rather than symptoms that are specific to a certain diagnostic category.

Yook and colleagues further this point in their report of MBCT to treat insomnia in patients with GAD and panic disorder (Yook et al., 2008). The investigators in this study delivered MBCT to 22 patients who suffered from insomnia and tracked the intervention’s effects on sleep, anxiety and mood symptoms. Participants were excluded for the presence of major depression. Yook and colleagues reported significant decreases
in insomnia, anxiety and depressive symptoms, and worry. These results illustrate the general effect that mindfulness can exert on symptoms not specifically targeted by the intervention (i.e., depression) and that these benefits can extend to physiological symptoms (i.e., sleep).

Two open trials of mindfulness in GAD patients have been described in the literature. Roemer and Orsillo (2007) described intolerance of uncertainty and interoceptive avoidance as critical characteristics of GAD, also citing evidence that sufferers of GAD are often intolerant of emotion and bodily sensations. They recruited 16 patients with either a primary diagnosis of GAD or of comorbid GAD and major depressive disorder, with the GAD symptoms being the most interfering. Participants received a blended treatment package incorporating strategies from mindfulness (e.g., awareness, detachment of self and thoughts/feeling) and behavior therapy (e.g., self monitoring; linking behavior, thoughts, and feelings). Post-treatment improvements were observed on measures of GAD severity, worry, anxious symptoms, depressive symptoms, and quality of life; these results were maintained at 3-months, except a worsening of depressive symptoms occurred. A more in-depth analysis of scores on the Anxiety Disorders Interview Schedule revealed significant decreases in interoceptive fear and avoidance, which the authors highlight as probable mechanisms of change. These results provide good emerging evidence supporting the use of mindfulness techniques with GAD patients. The inclusion of individuals with major depression is somewhat problematic in that reductions of depressive symptoms could be partially responsible for decreases in anxiety. However, this is unlikely considering the maintained benefits for anxiety but not depression at the 3-month follow up.
A second open trial addresses this issue of comorbidity (Evans et al., 2008), in which subjects were excluded for the presence of major depression. Twelve participants completed an 8-week MBCT program and were assessed on measures of anxiety, depression, worry and mindfulness. Significant decreases in anxiety, tension, worry, and depressive symptoms suggest a clinically relevant benefit of the treatment. Mindfulness scores increased post-treatment but did not achieve significance. The authors attribute this finding to the small sample size, and acknowledge the consequent limitations to treatment specificity and external validity. Effect sizes were not included in the results, most likely due to the limited sample.

Social Anxiety Disorder (Social Phobia).

Research describing the efficacy of mindfulness for social anxiety is much sparser than in the GAD literature. Distress in social anxiety disorder (SAD) is often maintained by three abnormal attentional processes: hypervigilance (overestimation of environmental threats), attentional avoidance, and self-focused attention. Bogels, Sijbers, and Voncken (2006) conducted a pilot study of a modified MBCT that was individualized for SAD. In place of targeting depressive thoughts and feelings, the treatment focused on social sensations and included task concentration training to redirect dysfunctional attention away from the self. Nine patients with generalized social phobia participated in the 9-week program, and participants acted as their own wait-list control group. Assessments of social phobia severity, negative cognitions, attention, and general psychopathology were conducted at enrollment, prior to starting MBCT, and after treatment.

No significant changes were observed during the wait-list period. Reductions were observed in social phobia, negative self-evaluation, social phobic beliefs, and the
self-ideal discrepancy. These benefits persisted at a 2-month follow up; interestingly, social phobia actually improved following the end of treatment, suggesting that mindfulness may continue to have beneficial effects over time. Changes were also reported reflecting less engagement in social phobic cognitions and in dysfunctional attention processes. Without a pure mindfulness comparison group it is unclear whether traditional mindfulness techniques or the task-concentration training was responsible for post-treatment outcomes. It may be that task-concentration alone is sufficient to exact similar gains and that the mindfulness component is unnecessary. The absence of a mindfulness measure adds to the confusion because the data do not tell us if the participants even learned the mindfulness techniques.

Despite these limitations, the study has some strong points. First, the authors assessed for treatment acceptability and found MBCT to be well liked by the sample. This is a particularly impressive finding considering that patients with SAD are one of the most highly treatment-resistant populations. Second, a post hoc analysis of depression was conducted to rule out the confounding effects of change in depressive symptoms on anxiety symptoms. A non-significant result led Bogels and colleagues to conclude that their version of MBCT was highly specific to SAD. Third, the authors obtained effect sizes of their treatment, which ranged from moderate to high.

Only one investigation has compared mindfulness for SAD with an empirically established treatment (Koszycki, Benger, Shlik, & Bradwejn, 2007). Koszycki and company conducted a randomized controlled trial of MBSR and cognitive-behavioral group therapy (CBGT), the treatment of choice for SAD. Their sample was small (58 participants with generalized SAD), but they excluded individuals with comorbid
depression. Patients completed either an 8-week course in mindfulness or a 12-week CBGT package. Post-treatment intent-to-treat and completer analysis were conducted on primary, clinician rated variables (fear, avoidance, clinical severity) and secondary, patient rated variables (symptoms of social phobia).

Both mindfulness and CBGT were effective and equivalent in reducing secondary outcomes, with moderate effect sizes. Patients in both groups significantly improved following treatment, but scores on the primary anxiety variables were lower for CBGT than mindfulness for both the intent-to-treat and completer analysis (large effect sizes). Follow-up analyses also revealed a lower remission rate for the CBGT group. MBSR was as effective as CBGT in improving mood symptoms, although the study did not include a clinician-rated mood measure.

This study represents a rare comparison of mindfulness for anxiety with a gold-standard treatment, and the results suggest that CBGT is the superior approach. However, the author’s use of MBSR and not a modified MBCT may partially explain this discrepancy, considering that the efficacy of MBCT has been preliminarily established in samples of depressed and anxious patients. Additionally, the efficacy of MBSR in reducing patient-reported symptoms may suggest that mindfulness is a more acceptable model for individuals with anxiety disorders. Future research should directly weigh the effects or more comparable approaches (i.e., MBCT and CBGT) to better evaluate the use of mindfulness techniques in SAD.

In summary, mindfulness is growing significantly in popularity. Although the mechanisms by which mindfulness exerts its effects are still under debate, some emerging research suggests that reductions in rumination and the ability to
nonjudgmentally accept negative sensations may play an important role. There is
evidence to suggest that it is effective for individuals with depression, GAD, and SAD
and that it is well accepted by these populations.

*Mindfulness and Parent Training*

Although empirical validation of mindfulness mechanisms is still in progress, the
goals of mindfulness have clear relevance for parents of children with autism. Research
on predictors and moderators of stress and negative outcomes in this population points to
significant parental avoidance and distancing, as well as a lack of perceived control over
situations. For example, one analysis found that for parents of children with autism,
social support, locus of control, and avoidance moderated the effects of stress on
depression, social isolation, and family functioning (Dunn, Burbine, Bowers, & Tantleff-
Dunn, 2001). Avoidant coping styles were especially predictive of depression, isolation,
and problems with spousal relationships; distancing correlated strongly with depression,
and strengthened the relationship between stress and isolation. Failure to use either
emotion-focused or problem-focused coping styles also corresponded to negative
outcomes, suggesting that training in problem-solving strategies and in “being present”
may be critical to alleviating parent stress.

Hastings and colleagues reported similar findings in a sample 135 biological
parents of children with autism (Hastings et al., 2005a). Factor analyses revealed
associations between avoidance and lower well-being scores on measures of depression,
anxiety, and parental stress. Although positive coping strategies (e.g., seeking social
support, looking for the positive in the situation, practicing acceptance) were related to
higher well-being scores, problem solving did not directly relate to well-being. These
results suggest that a mindfulness-based parent training program may better support parental well being than a skills-based approach, as mindfulness may simultaneously teach adaptive coping mechanisms while decreasing avoidance.

Currently, two studies have been published on using mindfulness strategies with the parents of children with autism. Singh and colleagues used a multiple baseline design to evaluate the effects of a 12-week mindfulness parent training program on parenting satisfaction, interaction satisfaction, and child behavior (Singh et al., 2006). Following treatment, mothers reported more satisfaction with child interactions and with their parenting; these scores continued to increase in a maintenance phase. Decreases in child problem behavior (noncompliance, aggression, and self injury) were also observed following the implementation of mindfulness training. These findings provide some preliminary evidence supporting the positive effects of mindfulness on parents and their children. No measures specifically targeting maternal stress or well being were utilized; in addition, mothers were responsible for collecting data on their children’s problem behavior. The lack of direct measures of parent and child behavior limits the interpretation of these results.

In a more systematic analysis, a repeated measures design was used to examine the effects of 2-day ACT workshop on 20 parents of children with autism (Blackledge & Hayes, 2006). Parents were assessed pre- and post-treatment on the Beck Depression Inventory-II, the General Health Questionnaire (GHQ), and a measure of psychological distress (Global Severity Index, GSI). Significant post-treatment improvements on the BDI-II and the GSI were reported; a reduction in GHQ scores was observed but did not achieve significance. Experiential avoidance decreased significantly following treatment,
and an examination of avoidance was also conducted as part of a larger analysis of process variables. Although a traditional meditational analysis was not applicable to this study’s design, estimation suggested that decreased avoidance did not mediate change on the dependent variables. Consistent with previous literature on ACT, intervention effects on parental well being were maintained at a 3-month follow up.

Training in mindfulness may also be indicated to counter the stress of implementing behavioral strategies. A recent study on the impact of receiving early intensive behavioral intervention (EIBI) services in the home suggested that parents recognize both the positive and negative aspects of these programs, including the contribution to parent stress (Grindle, Kovshoff, Hastings, & Remington, 2009). The authors suggest that using preventative parent training packages that are aligned with behavioral principles, such as ACT, may be particularly important for parents who are well-versed in ABA.

The evidence from these studies validates further investigations of interventions for parents of children with autism that incorporate mindfulness and comparisons of mindfulness-based programs with traditional skills-based interventions. In light of data evidencing the negative influence of avoidance on parental mental health, a present-focused approach is theoretically aligned with parent training goals. However, research is needed to replicate previous findings and further explicate the relative benefits of mindfulness for this population.

The present study comprised two aims, the primary of which was to assess the feasibility of two 8-week parent training programs, one encompassing a mindfulness-based approach, and the second a skills-based approach. Considering the preliminary
nature of this research approach, high feasibility was conceptualized to comprise adequate recruitment and retention, high adherence, high treatment acceptability, and social validity. Qualitative information on participant reactions to treatment was also collected. The secondary aim was to evaluate the relative benefits of a new parent training approach (i.e., mindfulness) through comparison with an established intervention (i.e., skills). Participants completed pre-treatment and post-treatment measures of parental stress, knowledge about behavioral techniques for children with autism, and an observational measure of parental interaction style. Based on the existing parent training and mindfulness literature, two main hypotheses were created. First, it was expected that both the mindfulness-based and skills-based parent training groups would be effective in reducing parental stress compared to baseline. This theory is driven by the established efficacy of past parent training interventions (e.g., Bristol et al., 1993) and by evidence suggesting the benefits of mindfulness in clinical and non-clinical samples (e.g., Blackledge & Hayes, 2006). Because the current literature does not suggest whether a mindfulness or skills-based approach would be more effective with the target population, exploratory analyses were performed to assess for potential differences between the groups. Second, because mindfulness emphasizes non-judgmental awareness, participants in the mindfulness group were expected to demonstrate less intrusive and directive behavior and more willingness to follow the child’s lead during post-treatment interactive play samples; parents in the skills-based group were not predicted to show any post-treatment differences.
Method

Participants

Recruitment

To qualify for entry into the study, parents were required to be the primary caretaker of at least one child who had been diagnosed with an ASD by an outside professional, according to DSM-IV-TR criteria and who had received less than 100 hours of direct service. This latter criterion was included to minimize potential exposure to previous parent training programs. Interested parents were asked about past contact with parent-focused services, and only two indicated that they had ever received this type of assistance.

Participants were recruited through three sources. Parents of children on a wait-list to receive center-based services were contacted through the Outreach Division of the Douglass Developmental Disabilities Center (DDDC), a program based out of Rutgers, The State University of New Jersey for the treatment of individuals with ASD aged 3 years into adulthood. Sixty-seven parents received a letter asking for participation in a study on parent training and stress. Of the eleven parents who responded to the recruitment notice, two were ineligible due to receiving over 100 hours of direct service, and nine were considered eligible for the study. Out of these nine, one parent declined participation due to the time commitment; eight were enrolled.

Potential participants were also notified about the study through the newsletter of Autism New Jersey, a state-wide, nonprofit agency for families of individuals with autism that provides information and advocacy, services, family and professional education, and consultation. It is estimated that the newsletter is distributed to
approximately 800 families in New Jersey. Six parents indicated interest in participation through this source; two families contacted study personnel after recruitment was closed, two refused because they lived over 60 miles from the study site, and two were enrolled.

Finally, a recruitment notice was also distributed by a local agency serving Central New Jersey through a newsletter estimated to reach 300 members. One potential participant was recruited through this source; however, she failed to return phone calls prior to enrollment. This study and its procedures were approved by the Rutgers Institutional Review Board prior to advertising and direct recruitment.

*Attendance and Attrition*

In total, ten parents completed consent forms and the pre-treatment assessments and were randomized into treatment groups. One father dropped out of the study after group assignment but before the first treatment session of the skills program, due to the lengthy time commitment. Another mother attended one hour of the second mindfulness treatment session and did not return, citing difficulties coordinating child care. A second mother also withdrew participation before the first mindfulness treatment session because she contracted the swine flu, but indicated her interest in future parent training groups. See Figure 1 for a pictorial representation of participant flow.
Participant Characteristics

Five mothers and two fathers comprised the completer group. A wide range of ethnic backgrounds was represented in the current study sample; one participant was Latina (14%), three were white (43%), two were Asian (29%), and one was Indian (14%).
This sample represents greater ethnic diversity than is indicated by the overall population of New Jersey (Hispanic = 16.3%, white = 76%, Asian = 7.7%). This is likely due to the small sample size and the unique demographic variation in Central New Jersey. All parents were married and their household ranged from including one to two children, including the child on the spectrum. Again, the education level of the sample deviated from state norms (i.e., college degree = 18%, post-graduate degree = 11%). One parent had her associate’s degree (11%), one graduated college (11%), four held master’s-level degrees (57%), and one had a Ph.D. (11%). Socioeconomic background was primarily upper-middle-class (total family annual income ranged from $60,000 to over $100,000).

The participants’ children represented various points on the autism spectrum. Two had a diagnosis of Autistic Disorder, three were diagnosed with Asperger’s Syndrome, and two were diagnosed with Pervasive Developmental Disorder, Not Otherwise Specified (PDD-NOS). More information on participant characteristics can be found in Table 1.
Table 1. Participant Demographic Data.

<table>
<thead>
<tr>
<th>Participant</th>
<th>Gender</th>
<th>Marital status</th>
<th>Ethnicity</th>
<th>Number of children</th>
<th>Highest education completed</th>
<th>Income (in thousands)</th>
<th>Child diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>F</td>
<td>Married</td>
<td>Latina</td>
<td>1</td>
<td>B.A.</td>
<td>$60-80</td>
<td>PDD-NOS</td>
</tr>
<tr>
<td>2</td>
<td>F</td>
<td>Married</td>
<td>White</td>
<td>2</td>
<td>Associate’s</td>
<td>$60-80</td>
<td>Asperger’s</td>
</tr>
<tr>
<td>3</td>
<td>M</td>
<td>Married</td>
<td>Asian</td>
<td>1</td>
<td>M.B.A.</td>
<td>$100+</td>
<td>Autism</td>
</tr>
<tr>
<td>4</td>
<td>F</td>
<td>Married</td>
<td>White</td>
<td>2</td>
<td>M.A.</td>
<td>$100+</td>
<td>Asperger’s</td>
</tr>
<tr>
<td>5</td>
<td>M</td>
<td>Married</td>
<td>Indian</td>
<td>2</td>
<td>Ph.D.</td>
<td>$100+</td>
<td>Autism</td>
</tr>
<tr>
<td>6</td>
<td>F</td>
<td>Married</td>
<td>Asian</td>
<td>1</td>
<td>M.B.A.</td>
<td>$100+</td>
<td>PDD-NOS</td>
</tr>
<tr>
<td>7</td>
<td>F</td>
<td>Married</td>
<td>White</td>
<td>2</td>
<td>M.A.</td>
<td>$80-100</td>
<td>Asperger’s</td>
</tr>
<tr>
<td>8*</td>
<td>F</td>
<td>Married</td>
<td>Other</td>
<td>1</td>
<td>M.A.</td>
<td>$80-100</td>
<td>PDD-NOS</td>
</tr>
<tr>
<td>9*</td>
<td>F</td>
<td>Married</td>
<td>Other</td>
<td>1</td>
<td>M.A.</td>
<td>$80-100</td>
<td>PDD-NOS</td>
</tr>
</tbody>
</table>

* Non-completers. Data not available for third non-completer participant.

**Dependent Variables**

A set of self-report and observational measures were completed in one pre-treatment and one post-treatment session to assess changes in stress, overall mental and physical health, parent-child interaction style, and general knowledge base. Descriptive information on participant characteristics (i.e., age, family composition, current services, demographics) was also collected.

**Parenting Stress Index – Short Form (PSI-SF).** The PSI-SF (Abidin, 1995) is a self-report measure assessing parenting stress in parents of children 3 months to 10 years and was the main outcome variable in this study. It includes 36 items relating to parental feelings and experiences, comprising constructs of Parental Distress, Parent-Child
Dysfunctional Interaction, and Difficult Child Characteristics. Items are rated on a 5 point Likert scale and include statements such as, “Since having a child I feel that I am almost never able to do things I like to do,” (distress), “Most times I feel that my child does not like me and does not want to be close to me,” (dysfunctional interaction), and “My child seems to cry or fuss more often than most children,” (child characteristics).

*Parent Stress Questions.* Two additional questions related to parent stress were included to address differences between global parenting stress and stress related to parenting a child with autism. Participants were asked to rate the stress level they currently experience on a scale of 0 (no stress) to 8 (extreme stress) for the following two prompts: “If I consider the stress in all areas of my life, including family matters, finances, employment, and personal events” and “If I consider only the stress in raising my child with autism.” These questions were taken from a study on parent stress conducted by Fiske (2009).

*General Health Questionnaire (GHQ).* The GHQ (Goldberg, 1978) is a 28-item self-administered measure of global health, comprising four subscales (somatic symptoms, social dysfunction, anxiety/insomnia, and depression). Participants use a 4 point Likert scale to rate feelings over the past few weeks, including questions such as, “Have you felt that you are ill?” (somatic) and “Have you been able to enjoy your normal day-to-day activities?” (social dysfunction).

*Parent-Child Interaction Scale.* Each parent and child dyad participated in two 5-minute videotaped interaction tasks. Participants were asked to choose a few toys and games that the parent thought the child would enjoy (see Appendix A). Parent-child dyads were asked to “play together for a few minutes” while being videotaped for 5
minutes, during which no additional directions were provided. The experimenter then asked the parent to choose a novel game to teach to the child; this “teaching” interaction was also videotaped for 5 minutes. Interactive play samples were coded for six parental behaviors, including prompting, providing consequences, use of direction (frequency measures), directivity, ignoring, and interaction (10-second partial interval measures; see Appendix B). These items are intended to capture parent intrusiveness, helpfulness, and directivity.

**Social Validity of the Parent-Child Interaction Task**

To assess the overall social validity of the parent-child interaction task (i.e., how “typical” the interactions appeared) as well as potential changes in this construct following treatment, undergraduate raters coded the same 10-minute video used in the parent-child interaction task. Raters were blind to the purpose of the study and the assessment time. Ratings were assigned on a 5-point Likert scale (1 = “strongly disagree” to 5 = “strongly agree”), with higher ratings indicating more favorable perceptions (see Appendix C). Samples were coded for parent variables, including the presence of empathy, responsiveness, support, directivity, enthusiasm, intrusiveness, frustration, enjoyment, and child variables, including responsiveness, enthusiasm, frustration, enjoyment, withdrawal. Items were averaged to create a Parent Mean and Child Mean Score. An overall rating was also obtained to determine the quality of the interaction as a whole.

**Treatment Acceptability**

Finally, parents were asked to complete a treatment acceptability questionnaire (see Appendix D). This survey asked participants to rate various dimensions of treatment,
such as structure, content, and supports on a 5-point Likert Scale (1 = strongly disagree; 5 = strongly agree). Several open-ended questions were also included regarding which topics were preferred and non-preferred as well as suggestions to make the group more accessible and relevant.

Procedure

Participants were required to complete one pre-treatment assessment (Time 1), eight weekly treatment sessions, and one post-treatment assessment (Time 2), for a total of 10 meetings. Pre- and post-treatment assessments lasted about 30 minutes each. Parents were given the option to do the assessment at the DDDC or to have the examiner conduct it in their homes. During these sessions, parents completed the PSI-SF, GHQ, stress questions, and the parent-child observation. After completion of the groups and all questionnaires at T2, each participant was paid $50. Three months after the completion of treatment (Time 3), participants were asked to complete the PSI-SF, GHQ, and stress questions one final time to assess for generalization and potential sleeper effects. The forms were distributed and returned via mail.

Group Assignment

Parents were divided into matched pairs based on their PSI-SF scores at T1; each member of the pair was then randomly assigned to one of two parent training interventions: mindfulness or skills-based. Matched pairs were used due to the small sample size to minimize potential pre-treatment differences in the primary outcome measure. Five participants were assigned to each treatment group for a total of ten enrolled group members. Three participants completed the T2 and T3 assessments in the
mindfulness group; four participants completed the assessments at T2 and T3 in the skills group.

*Parent Training Interventions*

Each program consisted of eight weekly meetings for two hours each and was led by two advanced doctoral student facilitators at the DDDC. Both groups were led by the first author, a fourth-year doctoral student in clinical psychology with extensive experience working with children with autism and their families. In addition to direct teaching and assessment with children, she had conducted center-based parent training, sibling training, and led sibling support groups. She also had experience treating anxiety and depression in adults and children.

The second leader for the mindfulness group was also a fourth-year doctoral student in clinical psychology. This student learned to implement mindfulness training with individuals with borderline personality disorder, as part of a randomized clinical trial under the direction of Marsha Linehan. She also had extensive experience treating adults with substance abuse, eating disorders, and depression in individual and group therapy. The second leader for the skills-based group was a second-year doctoral student in clinical psychology with several years experience assessing and working with individuals with autism. She had provided direct behavioral intervention services and at the time of the study, operated as a behavioral consultant to several classrooms at the DDDC.

Each group was supervised separately by a licensed clinical psychologist who specialized in the respective fields of autism and ABA and mindfulness. The Executive Director of the DDDC, with over 40 years of experience, supervised the behavioral skills
group; the supervisor for the mindfulness group was a faculty member who was trained in DBT at the University of Washington, under the supervision of Marsha Linehan. Supervision consisted of weekly 1-hour meetings with both group leaders, for each group.

*Mindfulness-Based Parent Training.* This training program was adapted from the mindfulness module of Linehan’s skills training manual (1993) and from the 8-week course outlined in Segal, Williams, and Teasdale’s book on MBCT for depression (2002; see Appendix E). Five core mindfulness skills (observing, describing events and personal responses; nonjudgmental acceptance; distancing from thoughts; staying present; and being effective) were addressed throughout the program. Sessions 1 and 2 introduced the basic skills of observing, describing, and participating without judgment. Sessions 3 and 4 focused on noticing, accepting, and embracing negative thoughts as well as recognizing common thought patterns. Weeks 5 and 6 targeted staying present in the moment while decreasing experiential avoidance. Session 7 focused on planning individualized pleasant events. The final session included a discussion of effectiveness skills, a review of the program, and participant feedback to group leaders. Each session included orientation to the current skill, practice exercises, group discussion, and homework to be reviewed in the following week. Participants were also encouraged to share their experiences using the prescribed techniques at home and how they related to their children with autism.

*Skills-Based Parent Training.* The skills training program was adapted from curriculum-based and parent training manuals (Koegel et al., 1989; Leaf & McEachin, 1999) for working with children with autism. During the first session participants were provided with basic psychoeducation on parental stress and were oriented to evidence-
based treatment for children with autism (see Appendix F). Sessions 2-5 focused on increasing appropriate behavior through reinforcement, direct instruction, naturalistic strategies, and social skills interventions. Sessions 6-8 targeted decreasing challenging behavior using functional assessment, behavior programs, and provided general education on punishment procedures. These techniques were presented as lecture points by the facilitators, who then encouraged participant role-plays, group activities, and discussion. In addition to targeting skill acquisition, the group focused on ways for parents to implement these strategies in their homes and communities. Each week, participants were encouraged to share successes and failures from the past week and the group discussed trouble-shooting strategies for future situations. Group interaction and mutual support were heavily emphasized in both treatment approaches to control for potential non-specific therapeutic effects.

Treatment Fidelity

The first author coded the parent training tapes for therapist adherence to the intervention procedures. Each session was scored on whether or not the leaders included key components of the program (i.e., lecture points, mindfulness exercises, discussion points, role plays), as outlined by the treatment manuals. Correct treatment implementation 90% of the time was considered adequate fidelity, and was established both for the skills-based treatment ($M = 94\%$, range = 83-100%) and the mindfulness-based treatment ($M = 98\%$, range = 90-100%). These ratings are represented in Table 2.
Table 2. Treatment Fidelity Ratings for Mindfulness and Skills-Based Parent Training Programs.

<table>
<thead>
<tr>
<th>Week</th>
<th>Mindfulness (Weekly %)</th>
<th>Skills (Weekly %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>95</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>100</td>
<td>93</td>
</tr>
<tr>
<td>3</td>
<td>100</td>
<td>83</td>
</tr>
<tr>
<td>4</td>
<td>100</td>
<td>93</td>
</tr>
<tr>
<td>5</td>
<td>100</td>
<td>93</td>
</tr>
<tr>
<td>6</td>
<td>90</td>
<td>100</td>
</tr>
<tr>
<td>7</td>
<td>100</td>
<td>91</td>
</tr>
<tr>
<td>8</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

**Average TI**

|              | 98%     | 94%     |

**Data Analyses**

The original data analysis plan intended to use independent samples t-tests and within and between-subjects ANOVAs to test for pre-treatment group differences on the PSI-SF, GHQ, and stress questionnaires as well to compare group differences in treatment response on the outcome measures. However, the limited sample size prohibited the use of parametric statistics to evaluate these changes and inclusion of ITT scores would have led to misleading analyses. Instead, Fisher Exact Tests were used for completer analyses to evaluate treatment response and pre- and post-treatment group differences across outcomes. The Fisher test is calculated by ranking ordinal data, performing a median split, and categorizing the remaining scores into nominal data (i.e., high scores versus low scores; Siegel, 1956). These data are then analyzed to determine if
there is nonrandom variation among the categories (alternative hypothesis) or whether any variability is likely due to chance (null hypothesis). The Fisher test was used to compare pre-treatment group scores and treatment response within and between groups on the PSI-SF and the GHQ.

Binomial analyses (Siegel, 1956) were also run to compare treatment response between groups for the PSI-SF, GHQ, and the stress questions. Again, ordinal data are transformed into categorical data; in this case the direction of change (i.e., increase in score, decrease in score, no change in score) was compared across groups. Only binomial analyses were run for the stress questions because the limited scoring range (0-8) prevented any differences from being detected by the Fisher Exact Test. Parent-child interaction, social validity, and outcome data are also presented graphically, to highlight patterns of treatment response between and within groups.

Results

Feasibility

Sixty-seven potential participants were contacted directly (i.e., through recruitment mailings), and an estimated 1100 potential participants were contacted indirectly (i.e., through online newsletters). The 18 individuals who were assessed for eligibility represented a 26.9% response rate of those who were directly recruited for participation (Figure 1). Forty-four percent of those parents were excluded based on refusal (22%), failure to meet inclusion criteria (11%), and other reasons (11%). The ten participants who were randomized to treatment represented 56% of the potential participant pool. With seven treatment completers, the final attrition rate was 30%.
These remaining seven parents attended sufficient sessions to receive an adequate dose (i.e., two complete sessions) of treatment, and were considered completers. Session turnout varied among participants, with most parents demonstrating perfect or near-perfect attendance. Mindfulness group members attended a mean of 6 meetings (range = 3-6); skills group members attended a mean of 7.25 meetings (range = 6-8). The most commonly cited reason for missing a session was a child care issue (e.g., difficulty coordinating a sitter, sick child). Other reasons included school-related conflicts (e.g., parent-teacher night) and the illness of family members. Individual group member participation is represented in Table 3.

Table 3. Total Participant Attendance and Average Sessions Attended by Group.

<table>
<thead>
<tr>
<th>Treatment group</th>
<th>Participant</th>
<th>Number of sessions attended</th>
<th>Average number of sessions attended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mindfulness</td>
<td>1</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>$\mu=6$</td>
<td></td>
</tr>
<tr>
<td>Skills</td>
<td>2</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>$\mu=7.25$</td>
<td></td>
</tr>
</tbody>
</table>

Social Validity

Visual analysis revealed no differences between T1 and T2 for overall social validity score for any treatment, or for either of the treatment groups separately. The eight parent items were averaged to create a mean Parent Social Validity Score. For parent-
related items (i.e., empathy, responsiveness, support, directivity, enthusiasm, intrusiveness, frustration, enjoyment), there was a slight increase in mean score for treatment and for the skills group, but not the mindfulness group. Figure 2 reflects the average parent social validity score for each intervention group and for both combined into an “any treatment” group.

Figure 2. Average social validity ratings for parent-related questions at Time 1 and Time 2.

Note. Tx = any treatment; M = mindfulness group; S = skills group. Y-axis does not cross at zero.

The five child-related social validity items (i.e., enjoyment, responsiveness, frustration, enthusiasm, withdrawal) were averaged to create a mean Child Social Validity Score. A slight decrease in mean score was observed from T1 to T2 for the mindfulness group and a larger decrease for the skills group (see Figure 3).
Figure 3. Average social validity ratings for child-related questions at Time 1 and Time 2.

Note. Tx = any treatment; M = mindfulness group; S = skills group. Y-axis does not cross at zero.

Small increases were observed between T1 and T2 on item 14, on which the quality of the interaction as a whole was rated (see Figure 4).
Figure 4. Average social validity ratings for item 14 (overall quality of the interaction) at Time 1 and Time 2.

Note. Tx = any treatment; M = mindfulness group; S = skills group. Y-axis does not cross at zero.

In addition to mean parent and child scores, individual items were evaluated for potential changes following the intervention. Of these, only the parent intrusiveness item indicated a finding in that both treatment groups showed slight decreases in intrusiveness ratings following treatment (see Figure 5).
Figure 5. Average parent intrusiveness rating at Time 1 and Time 2.

Note. Tx = any treatment; M = mindfulness group; S = skills group. Y-axis does not cross at zero.

Acceptability

Overall, parents gave high scores on a measure of treatment acceptability (max = 65; $M = 52.9$; range = 45-63; see Table 4).
Table 4. Participant acceptability ratings and average acceptability ratings by group.

<table>
<thead>
<tr>
<th>Participant</th>
<th>Group Assignment</th>
<th>Acceptability Rating (Average)</th>
<th>Acceptability Rating (Total)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mindfulness</td>
<td>4.7</td>
<td>61</td>
</tr>
<tr>
<td>2</td>
<td>Skills</td>
<td>4.0</td>
<td>52</td>
</tr>
<tr>
<td>3</td>
<td>Skills</td>
<td>4.0</td>
<td>52</td>
</tr>
<tr>
<td>4</td>
<td>Mindfulness</td>
<td>3.8</td>
<td>50</td>
</tr>
<tr>
<td>5</td>
<td>Skills</td>
<td>3.5</td>
<td>45</td>
</tr>
<tr>
<td>6</td>
<td>Mindfulness</td>
<td>3.6</td>
<td>47</td>
</tr>
<tr>
<td>7</td>
<td>Skills</td>
<td>4.8</td>
<td>63</td>
</tr>
<tr>
<td>Mean Treatment</td>
<td></td>
<td>4.1</td>
<td>52.9</td>
</tr>
<tr>
<td>Mean Mindfulness</td>
<td></td>
<td>4.0</td>
<td>52.7</td>
</tr>
<tr>
<td>Mean Skills</td>
<td></td>
<td>4.1</td>
<td>53</td>
</tr>
</tbody>
</table>

The items on which participants were most likely to endorse a low score on included item 2 (the content was too basic), item 3 (the content was too advanced), and item 8 (I was happy with my group assignment at the start of the group). Most parents indicated that the skills they learned were relevant to their everyday lives (item 5) and that they intended to continue using the skills in the future (item 6). Five out of seven participants preferred the current group schedule (i.e., eight 2-hour sessions) over potential alternatives (e.g., twelve 1.5-hour sessions, four 4-hour weekend sessions). On a set of open-ended questions, the greatest challenges to participation indicated by group members were a) arranging child care, and b) distance from work/home. Common themes
regarding what parents liked best about the group included a sense of support from other parents and the individualization of the taught skills. When asked what they liked least about the meetings, many parents indicated that they would have liked larger groups.

**Outcome Data**

Table 5 indicates individual participant responses and group mean responses at T1, T2, and T3 on the primary outcome measures.

Table 5. Stress and Health Outcomes at Time 1, Time 2, and Time 3.

<table>
<thead>
<tr>
<th>Parent Grp Assn.</th>
<th>Pre-Treatment (T1)</th>
<th>Post-Treatment (T2)</th>
<th>Follow-Up (T3)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PSI-SF</td>
<td>GHQ</td>
<td>Stress “All”</td>
</tr>
<tr>
<td>1 Mind.</td>
<td>134</td>
<td>50</td>
<td>5</td>
</tr>
<tr>
<td>2 Skills</td>
<td>98</td>
<td>14</td>
<td>4</td>
</tr>
<tr>
<td>3 Skills</td>
<td>140</td>
<td>37</td>
<td>6</td>
</tr>
<tr>
<td>4 Mind.</td>
<td>125</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5 Skills</td>
<td>109</td>
<td>63</td>
<td>3</td>
</tr>
<tr>
<td>6 Mind.</td>
<td>120</td>
<td>34</td>
<td>8</td>
</tr>
<tr>
<td>7 Skills</td>
<td>126</td>
<td>29</td>
<td>6</td>
</tr>
</tbody>
</table>

| Mean (Tx)        | 121.7   | 34.5| 5.3         | 5.8          | 108.7  | 19.6| 4.3         | 5.3          | 95.7   | 16.0| 4.3         | 4.3          |
| Mean (M)         | 126.3   | 56.3| 6.5         | 7.0          | 95.0   | 16.7| 4.7         | 5.0          | 80.3   | 17.3| 4.3         | 3.7          |
| Mean (S)         | 118.3   | 23.5| 4.8         | 5.3          | 119    | 21.75| 4.0        | 5.5          | 107.3  | 15  | 4.25        | 4.8          |

**Note.** PSI-SF = Parenting Stress Index (Short Form); GHQ = General Health Questionnaire; Tx = any treatment; M = mindfulness group; S = skills group; Stress “All” = parent stress question; Stress “Child” = child-related parent stress question.

Visual analysis of individual participant response on the PSI-SF total score indicated overall decreases, but variable responding across both treatment groups. In Figure 6 each participant’s scores are represented by a separate data path.
Figure 6. Participant Scores on the Parenting Stress Index-Short Form at Time 1, 2, and 3.

*Note.* Closed data paths and dashed lines indicate the mindfulness group. Open data paths and solid lines indicate the skills group.

However, more consistent decreasing patterns were observed in the mindfulness members, with participant 1 (mindfulness group) demonstrating the most dramatic decrease of the sample. Visual analysis of treatment response on the GHQ total score suggested more dramatic and consistent decreases for members of the mindfulness group than for members of the skills group (Figure 7).
Figure 7. Participant Scores on the Global Health Questionnaire at Time 1, 2, and 3.

Note. Closed data paths and dashed lines indicate the mindfulness group. Open data paths and solid lines indicate the skills group.

* Indicates a missing data point at T1 for participant 6.

A series of Fisher Exact Tests were performed to determine both between- and within-group differences at each assessment point. No significant pre-treatment differences between Mindfulness and Skills groups were observed on either the PSI-SF or the GHQ (p=1.0; p=1.0 Tables 6 & 8).
Table 6. Significance Levels of Within- and Between-Group Comparisons on the Parenting Stress Index-Short Form.

<table>
<thead>
<tr>
<th></th>
<th>Tx T2</th>
<th>Tx T3</th>
<th>M T2</th>
<th>M T3</th>
<th>S T1</th>
<th>S T2</th>
<th>S T3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tx T1</td>
<td>p&lt;.05</td>
<td>p&lt;.05</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tx T2</td>
<td></td>
<td></td>
<td>NS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M T1</td>
<td></td>
<td></td>
<td></td>
<td>p&lt;.05</td>
<td>p&lt;.05</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td>M T2</td>
<td></td>
<td></td>
<td>NS</td>
<td></td>
<td></td>
<td>p&lt;.05</td>
<td></td>
</tr>
<tr>
<td>M T3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NS</td>
</tr>
<tr>
<td>S T1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S T2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NS</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Tx = any treatment. M = mindfulness-based program. S = skills-based program. NS = non-significant.

Fisher Exact Tests indicate that parent training in any form resulted in statistically significant within-group decreases (p<.05) on the PSI-SF from T1 to both T2 and T3. These findings held specifically for mindfulness training; within-group decreases were significant between T1 to T2 and T3 (p<.05), including significant changes from T1 to T2 and T1 to T3, but not T2 to T3. A within-group comparison of the skills-based parent training group revealed non-significant results. Between-group Exact Fisher Tests resulted in significantly greater improvement for the mindfulness group at T2 over the skills group (p<.05), but no differences at T3. These results were replicated by a binomial test comparing direction of change across assessment points (Table 7).
Table 7. Significance Levels of Between-Group Change Score Comparisons on the Parenting Stress Index-Short Form.

<table>
<thead>
<tr>
<th></th>
<th>S T1 → T2</th>
<th>S T1 → T3</th>
<th>S T2 → T3</th>
</tr>
</thead>
<tbody>
<tr>
<td>M T1 → T2</td>
<td>p&lt;.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M T1 → T3</td>
<td></td>
<td>p&lt;.05</td>
<td></td>
</tr>
<tr>
<td>M T2 → T3</td>
<td></td>
<td></td>
<td>NS</td>
</tr>
</tbody>
</table>

*Note.* M = mindfulness-based program. S = skills-based program. NS = non-significant.

A more significant decrease in PSI-SF score was observed from T1 to T2 and T3 in the mindfulness group (p<.05) compared to the skills group. Similarly to the Fisher Exact Test, no significant differences were indicated between T2 and T3 by this analysis.

On the GHQ, no significant differences at T2 or T3 were documented within-subjects for treatment as a whole (Table 8).
Table 8. Significance Levels of Within- and Between-Group Comparisons on the Global Health Questionnaire.

<table>
<thead>
<tr>
<th></th>
<th>Tx T2</th>
<th>Tx T3</th>
<th>M T2</th>
<th>M T3</th>
<th>S T1</th>
<th>S T2</th>
<th>S T3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tx T1</td>
<td>NS</td>
<td>NS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tx T2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M T1</td>
<td></td>
<td></td>
<td>p&lt;.05</td>
<td>p&lt;.05</td>
<td>NS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M T2</td>
<td></td>
<td></td>
<td>NS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M T3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S T1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NS</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td>S T2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NS</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Tx = any treatment. M = mindfulness-based program. S = skills-based program. NS = non-significant.

Participants in the mindfulness group demonstrated significant decreases on the GHQ from T1 to T2 and T3 (p<.05). Again, these improvements were only evident when compared with T1 and were not observed between T2 and T3. The Fisher Exact Test revealed no significant differences from T1 to T2 or T3 for the skills group, and no between-group differences were observed at T2 or T3.

A binomial test indicated a trend suggesting that more participants in the mindfulness group experienced a decrease in GHQ score from T1 to T2, but these results were not significant (Table 9).
Table 9. Significance Levels of Between-Group Change Score Comparisons on the Global Health Questionnaire.

<table>
<thead>
<tr>
<th></th>
<th>S T1 → T2</th>
<th>S T1 → T3</th>
<th>S T2 → T3</th>
</tr>
</thead>
<tbody>
<tr>
<td>M T1 → T2</td>
<td></td>
<td></td>
<td>NS*</td>
</tr>
<tr>
<td>M T1 → T3</td>
<td></td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td>M T2 → T3</td>
<td></td>
<td></td>
<td>NS</td>
</tr>
</tbody>
</table>

Note. M = mindfulness-based program. S = skills-based program. NS = non-significant.

* approaching significance

Visual inspection and binomial tests were also performed to evaluate the direction of treatment response on the two items targeting stress in all areas of the participant’s life (“All”) and stress related to parenting a child with autism (“Child”). Data collected on these questions again revealed variable treatment response. No consistent change patterns were evident between groups on the “All” question (Figure 8).
Figure 8. Participant Scores on the Stress (All) Question at Time 1, 2, and 3.

* Indicates a missing data point at T1 for participant 6.

However, a more consistent decreasing trend was observed for mindfulness group members on the “Child” question (Figure 9).
Figure 9. Participant Scores on the Stress (Child) Question at Time 1, 2, and 3.

* Indicates a missing data point at T1 for participant 6.

Binomial analyses revealed statistically non-significant trends for the “All” question from T1 to T2 and from T2 to T3, indicating better treatment response for the mindfulness group (Table 10).
Table 10. Significance Levels of Between-Group Change Score Comparisons on the Stress (All) Question.

<table>
<thead>
<tr>
<th></th>
<th>S T1 → T2</th>
<th>S T1 → T3</th>
<th>S T2 → T3</th>
</tr>
</thead>
<tbody>
<tr>
<td>M T1 → T2</td>
<td>NS*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M T1 → T3</td>
<td></td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td>M T2 → T3</td>
<td></td>
<td></td>
<td>NS*</td>
</tr>
</tbody>
</table>

*Note. M = mindfulness-based program. S = skills-based program. NS = non-significant. * approaching significance

No statistically significant differences were observed at any assessment point for the “Child” question (Table 11).

Table 11. Significance Levels of Between-Group Change Score Comparisons on the Stress (Child) Question.

<table>
<thead>
<tr>
<th></th>
<th>S T1 → T2</th>
<th>S T1 → T3</th>
<th>S T2 → T3</th>
</tr>
</thead>
<tbody>
<tr>
<td>M T1 → T2</td>
<td>NS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M T1 → T3</td>
<td></td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td>M T2 → T3</td>
<td></td>
<td></td>
<td>NS</td>
</tr>
</tbody>
</table>

*Note. M = mindfulness-based program. S = skills-based program. NS = non-significant. * approaching significance

Visual analysis was used to measure change on the parent-child interaction scale, the raw data from which are represented in Tables 12 and 13.
Table 12. Frequency of parent behavior coded during the teaching interaction at T1 and T2.

<table>
<thead>
<tr>
<th>Parent</th>
<th>Group Assn.</th>
<th>Pre-Treatment (T1)</th>
<th>Post-Treatment (T2)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Prompts Reinforce-</td>
<td>Direct Instruction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Directment Instruction</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Mind.</td>
<td>11 1 15</td>
<td>10 1 19</td>
</tr>
<tr>
<td>2</td>
<td>Skills</td>
<td>10 4 19</td>
<td>6 0 8</td>
</tr>
<tr>
<td>3</td>
<td>Skills</td>
<td>23 3 34</td>
<td>13 7 33</td>
</tr>
<tr>
<td>4</td>
<td>Mind.</td>
<td>12 14 37</td>
<td>7 2 11</td>
</tr>
<tr>
<td>5</td>
<td>Skills</td>
<td>4 0 5</td>
<td>7 2 13</td>
</tr>
<tr>
<td>6</td>
<td>Mind.</td>
<td>5 1 8</td>
<td>10 3 18</td>
</tr>
<tr>
<td>7</td>
<td>Skills</td>
<td>13 1 20</td>
<td>6 1 11</td>
</tr>
</tbody>
</table>

Mean (Tx) 15 3.4 19.7 8.4 2.3 16.1
Mean (M) 9.3 5.3 20.0 9 2 16
Mean (S) 12.5 2 19.5 8 2.5 16.25

Note. Tx = any treatment; M = mindfulness group; S = skills group.

Table 13. Percent of 10-second intervals coded with parent behavior during the play interaction at T1 and T2.

<table>
<thead>
<tr>
<th>Parent</th>
<th>Group Assn.</th>
<th>Pre-Treatment (T1)</th>
<th>Post-Treatment (T2)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Directing Ignoring Interaction Time</td>
<td>Directing Ignoring Interaction Time</td>
</tr>
<tr>
<td>1</td>
<td>Mind.</td>
<td>7 0 53</td>
<td>0 0 56</td>
</tr>
<tr>
<td>2</td>
<td>Skills</td>
<td>3 13 53</td>
<td>7 0 20</td>
</tr>
<tr>
<td>3</td>
<td>Skills</td>
<td>20 0 40</td>
<td>14 3 47</td>
</tr>
<tr>
<td>4</td>
<td>Mind.</td>
<td>30 0 100</td>
<td>10 0 94</td>
</tr>
<tr>
<td>5</td>
<td>Skills</td>
<td>7 40 53</td>
<td>33 33 36</td>
</tr>
<tr>
<td>6</td>
<td>Mind.</td>
<td>13 0 70</td>
<td>3 0 50</td>
</tr>
<tr>
<td>7</td>
<td>Skills</td>
<td>13 3 30</td>
<td>0 0 83</td>
</tr>
</tbody>
</table>

Mean (Tx) 13.3 8.0 52.7 10.0 5.1 55.1
Mean (M) 16.7 0.0 75.3 4.3 0.0 60.0
Mean (S) 10.8 14.0 35.8 14.3 9.0 51.6

Note. Tx = any treatment; M = mindfulness group; S = skills group.
Group differences were observed on the parent-child interaction scores from T1 to T2. Figures 6 through 11 depict the means of parent behavior for each intervention group and then combined for treatment as a whole. During the teaching session, the skills group decreased the number of prompts used during the 5-minutes sample, while the mindfulness group showed no difference (Figure 10).

Figure 10. Average number of prompts provided during 5-minute teaching session at Time 1 and Time 2.

Conversely, the skills group increased the frequency of reinforcement during the teaching session and the mindfulness group demonstrated a decrease (Figure 11).
Figure 11. Average frequency of reinforcement provided during 5-minute teaching session at Time 1 and Time 2.

An overall decrease in the amount of direct instruction provided during this session (e.g., prompts and commands) was observed for both treatment groups (Figure 12).
During the 5-minute play session, the skills group demonstrated an increase in the amount of direction provided during play; a significant decrease in directive behavior was observed in the mindfulness group (Figure 13).
Figure 13. Average percentage of intervals scored with parent direction during 5-minute play session at Time 1 and Time 2.

Between T1 and T2 the skills group showed a decrease in the percentage of intervals during which parents ignored their children (Figure 14).
Figure 14. Average percentage of intervals scored with parent ignoring during 5-minute play session at Time 1 and Time 2.

No difference in ignoring was observed in the mindfulness group; however, these participants were ignoring at zero rates at T1. In terms of overall interaction time between parent and child, the skills group demonstrated an increase in percentage of intervals, while the mindfulness group showed a decrease (Figure 15).
Figure 15. Average percentage of intervals scored with parent-child interaction during 5-minute play session at Time 1 and Time 2.

![Graph showing the percentage of intervals with direct interaction]

*Note.* Y-axis does not cross at zero.

**Discussion**

**Feasibility**

A preliminary trial of these two parent training approaches in Central New Jersey indicates the acceptability of each program and the feasibility of running both groups concomitantly for subsequent comparison. Potential participants were easily identified through school-based programs and statewide organizations for children with autism, although direct recruitment was by far more effective in identifying interested families. The response rate of 26.9% in the current study is slightly lower but still comparable with those reported in other parent training literature (e.g., 35%: Garvey, Fogg, Kratovil, &
Gross, 2006; 31%: Heinrichs, Bertram, Kuschel, & Hahlweg, 2005). In terms of retention, the attrition rate of 30% is similar or lower than those reported elsewhere (e.g., 30%: Dumka, Garza, Roosa, & Stoerzinger, 1997; 51%: Firestone & Witt, 1982; 28%: Forehand, Middlebrook, Rogers, & Steffe, 1983; 23%: Heinrichs et al., 2005). On average parents attended a high percentage (83%) of treatment sessions compared to other reported statistics (e.g., 39%: Garvey et al., 2006; <48%; Dumka et al., 1997). High attendance rates are not surprising considering elevated participant socio-economic and educational status, as these characteristics have been negatively associated with early attrition and low participation (Garvey et al., 2006; Heinrichs, 2006; Heinrichs et al., 2005). Although limited resources prevented its inclusion in the current study, future recruitment and retention could likely be bolstered by the provision of child care. Most parents indicated a child care conflict as a reason for not participating or for missing sessions, and almost all parents spontaneously indicated on the acceptability questionnaire that child care would be a helpful element of future groups. These responses are consistent with literature suggesting that child care incentives are important and especially compelling for low-income families (Heinrichs, 2006).

Upon collection of the final participant sample, it was a concern that the leaders would struggle to accommodate the diverse characteristics of group members. Varying ethnic backgrounds, functioning levels of the participants’ children, and the inclusion of mothers and fathers were all highlighted as relevant considerations for treatment. However, the conduciveness of the groups to individualization combined with relatively small sample size made it easy to remain sensitive to cultural and child-related issues in the context of each session. For example, in the skills group it was often necessary to
provide examples of applying behavioral principles to severely impaired children as well as children with Asperger’s Syndrome. By facilitating group discussion and encouraging members to help each other troubleshoot, leaders were able to keep all group members involved in these more individualized topics. Cultural issues arose more in the mindfulness group, particularly in the realm of acknowledging and discussing emotion. For example, the Chinese-American mother was initially reluctant to identify any emotions, while the Latina mother conceptualized emotion in terms of somatic reactions to stress. In these cases, it was essential to validate the difficulty of thinking about thoughts and emotions in a new way, while again encouraging members to help each other identify stress patterns.

As mentioned earlier, the small group sizes (i.e., 3-4 participants) were beneficial in allowing group leaders to individualize the programs to all parents. A significant amount of time was devoted to homework review, reactions to role plays and exercises, and participants were encouraged to ask questions throughout each session. Although the original study design was conceptualized to accommodate much larger groups (i.e., 10-15 participants), this pilot trial indicates that maintaining a small sample may be more likely to universally benefit group members. However, it was also noted by several parents that they would have liked larger groups. A second trial is currently underway in which slightly larger samples were recruited (i.e., 4-6 participants); thus far leaders have found these to be manageable in terms of allocating adequate time to parent concerns and participation.

A questionnaire administered at T2 indicated high acceptability ratings and were similar for both groups. Parents were likely to indicate the relevance of the material to
their lives and their intention to practice the target skills following the end of treatment. Most parents were satisfied with the treatment schedule and indicated that future groups should follow a similar format. A point of particular satisfaction was that meetings were held on weekday evenings, when it was easier to coordinate jobs and child care. This is consistent with literature suggesting that accessibility of services is a primary factor in deciding whether to participate in parent training programs (Gross & Grady, 2002).

Overall, the parent training groups were relatively inexpensive to conduct. The majority of costs related to recruitment (e.g., postage and copies) and meeting supplies (e.g., binders, handouts, water). Additional fixed costs unique to the purposes of the current study included assessment measures and manuals, videotaping equipment, toys for the observations, and participant payment. The total cost of running the current study was approximately $1300, comprising both clinical and research-related materials. The cost of conducting a similar study without additional research equipment is an estimated $250. This model appears to be feasible for dissemination with several caveats. First, the investigator of the current study had free access to a location in which to conduct the meetings. Second, the group leaders were doctoral students with several years of relevant training and who were supervised by doctoral-level licensed psychologists. In a community-based setting it may be more difficult to secure professionals who are adequately trained in the core competencies of the treatment approaches and who are willing to work for little or no money. Third, the importance of administrative support has been highlighted as a key element of successful parent training programs (Gross & Grady, 2002) and it is unclear from the current study how viable a similar approach would be in a community-based context. Overall however, this model seems reasonable
and appropriate for future efficacy research in the field of parent training, where it can be supported by a university, medical, or school-based institution.

**Outcome**

Considering the preliminary nature and the small sample size of the data, the results of the current study provide initial support for the efficacy of a mindfulness-based approach to parent training and replicate findings supporting the use of parent training in general for parents of children on the autism spectrum. As predicted, significant decreases in parenting stress observed at both T2 and T3 highlight both immediate and longer-terms benefits of these training programs. Differences between groups at T2 but not T3 suggest that a mindfulness approach may be more potent in the short term, but also that participants receiving behavioral skills training tend to “catch up” to these effects over the course of a few months.

The nature of the two group approaches may account for some of these differences. The targets of the skills group are directed toward affecting others’ behavior, and this outward-focused approach may decrease stress less in the short-term. Behavior change has also been demonstrated to occur over time (Sigman et al., 1999); contingencies and adaptations to new routines are not immediately acquired, particularly with the target population. However, one would expect that with the continued application of skills child behavior would improve at home and parental stress levels would decrease concomitantly at T3.

The focus on the self and the individual’s global health is unique to the mindfulness group, and this holistic approach may be more likely to garner immediate improvement. Other data trends support this argument, such as significant improvements
observed on the GHQ from T1 to T2 and T3 for the mindfulness but not the skills group, as well as the trend favoring change scores for the mindfulness group at T2. In addition, participants in the mindfulness group trended toward indicating lower scores at T2 and T3 than the skills group on the measure of overall stress, but not child-related stress. Based on these findings it appears that the overall “well-being” benefits gained from the mindfulness program are represented on multiple measures (e.g., overall stress, parenting stress, general health), whereas changes from a child-focused approach are most likely to be reflected on measures of parenting stress.

Inconsistent with the original hypotheses was the lack of a sleeper effect (i.e., decreases between T2 and T3) for stress and general health in the mindfulness group. However, participants in the mindfulness groups demonstrated a greater magnitude of decrease between T1 and T2 on both the PSI-SF and especially the GHQ, so they may have approached a scoring floor by the second assessment point. Visual analysis suggests a potential sleeper effect for the mindfulness group on the child-related stress question, but without a Fisher Exact Test it is difficult to determine if this effect is significant. The addition of future subjects will make it possible to more thoroughly explore this possibility through the use of nonparametric statistics.

Data on parent-child interactions revealed findings that were both expected and inconsistent with the original hypotheses. At T2 parents in the skills group demonstrated a slight increase in their use of reinforcement during a teaching session. This finding is not surprising because the principles of reinforcement were targeted explicitly throughout the entire behavioral skills program, including in the homework. Parents in the mindfulness group provided less reinforcement following treatment, perhaps because
they were specifically instructed to practice observing and describing skills (parent-focused strategies) in the context of play and teaching.

During teaching sessions, participants in both groups provided fewer prompts and direct instructions at T2. This was anticipated for individuals in the mindfulness group, who again were encouraged to focus more on staying present in the moment than trying to use teaching strategies. However, considering the inclusion of direct instruction and prompting in the behavioral skills manual, it is unclear why skills group members also used these strategies less.

It is possible that through working on teaching strategies over eight weeks, parents became more effective at directing their children’s behavior, and therefore required fewer supportive instructional techniques. The emphasis on incidental and pivotal response teaching during the program also may have inspired parents to favor more naturalistic instruction strategies over direct approaches. Alternatively, training programs may encourage parents to perceive themselves as effective, even when their behavior has not changed. Parental reports of feeling more in control of child interactions and behavior suggest that these perceptions are related to decreases in parenting stress (Hastings et al., 2005a). Although previous literature has documented positive effects of behavioral training on parent stress (e.g., Bristol, Gallagher, & Holt, 1993; Smith, Buch, & Gamby, 2000; Tonge et al., 2006), it has not indicated whether applying skills competently is necessary to support these benefits.

Parent-child play interactions revealed more consistent findings with the hypotheses across both groups. Increases in parent directivity and direct parent-child interaction were observed in the skills group, while large decreases in both these domains
were demonstrated by the mindfulness members. These changes reflect the divergent foci of the two parent training groups. Skills group targets of supporting child play through prompting and reinforcement likely increased parents’ awareness of play-related goals. Decreases in parent ignoring behavior also support the notion that parents were more cued into child behavior and their own role in the interaction at T2. Additionally, the use of naturalistic teaching strategies may be reflected more during these play interactions than during instructional opportunities. Conversely, the mindfulness goal of being aware of and accepting the moment may detract a parent’s attention and resources from providing behavioral support. Participants in this group were likely more accepting of their children’s play “as it is” and therefore were less intrusive.

Although the expected increases in overall social validity were not observed in the current study, pre to post differences on particular items and sections parallel patterns in the outcome data. For example, the stable trend (mindfulness) and slight increase (skills) in parent-related behavior suggests that parents do appear to be as or more effective in their child interactions following treatment. The decrease in scores on child-related questions may indicate a potential adjustment period to new parent behavior during play; this hypothesis is highlighted by the more dramatic decrease for skills group members, who were more likely to be interacting directly with their children. Interestingly, both groups showed a decrease in intrusiveness ratings following treatment, which was expected for the mindfulness but not the skills group. One explanation is that parents in the skills group are using more effective strategies (e.g., reinforcement, direct interaction) than intrusive strategies (e.g., repeating commands, directing child’s play) and therefore are perceived as more typical. Individuals in the skills group were rated more highly on
the item related to overall quality of the interaction at T2, also indicating that perceiving parents as effective may contribute to an interaction’s typical appearance. No change was observed in the mindfulness group; however, because they were rated more highly on this item at T1 it is possible that they approximated a pre-treatment ceiling and did not have sufficient room to improve. Finally, the nature of the measurement system may have masked changes in social validity scores. The use of a 5-point Likert scale may not capture subtle changed in the typicality of parent and child behavior over time, and an expanded scale will be a useful addition to future research.

Limitations and Future Directions

Interpretations of the presented data must be considered in light of several key limitations. First, the small sample size necessitated the use of nonparametric statistics, which are limited in power and scope for ordinal data. Because it requires the conversion of ordinal information to categorical data, the Fisher’s Exact Test is considered a conservative measure of deviation from the null hypothesis and therefore can be less susceptible to Type I error. This conservative nature maintains when dealing with rows and columns that are not fixed, a criterion which many of the current data did not fulfill. However, the multiple analyses performed on the data set do increase the probability of Type I error, and it is possible that the results reflect some false positives. Increased Type I error can be acceptable when conducting exploratory work to inform the direction of more refined statistical analyses. In light of the numerous within and between-comparisons made in the current study, it is important not to over-interpret the results. Significant findings presented here are intended to guide hypotheses for future samples, rather than support definitive conclusions regarding treatment efficacy.
Second, the use of such a small sample size makes it very difficult to draw meaningful conclusions from the data and to establish external validity of treatment effects. It is possible that the benefits observed in the current participants are unique to this sample; however, the continuation of the study with a second sample aims to alleviate this concern. With the addition of new participants the sample size will be large enough to be accommodated by more rigorous nonparametric or parametric analyses. Such an extension intends to combat against the potential threat of Type I errors and contribute to the overall generalization of findings to new participants. Ideal circumstances dictate completing enough rounds of groups to make within- and between-group ANOVAs possible with adequate statistical power (i.e., approximately 30 participants per group for P=0.8). This is certainly a long-term goal that should be preceded by replication of the current findings within the nonparametric domain.

Third, the measurement systems developed for assessing parent-child interactions may not adequately address the mechanisms of change. Hypotheses regarding parent behavior, especially the use of behavioral skills, were not upheld and it is unclear whether this reflected no real change in participants or whether the measurement system did not capture those changes. A re-evaluation of the interaction operational definitions is warranted to explore other potential means by which to measure change. A related measurement concern is that the social validity rating system may limit the ability to detect within- and between-group differences. The clustering of scores around ratings of 2, 3, and 4 suggests that potential differences were not sufficiently represented by the total scores. Even a small expansion to a 7-point Likert scale may help resolve this issue and provide more definitive information regarding social comparison changes.
Although the research is in its early stages there are many future research questions that have arisen, many of which are based on observations made during treatment sessions. Evaluation of process variables is a logical first step. The primary investigator noticed different patterns between groups in terms of initial buy-in and willingness to participate as well as how these factors changed over time. This may be unique to the first sample, but it has appeared so far to replicate with the second group of participants. Continuous assessment of alliance, group participation, and homework completion would more quantifiably detect potential changes throughout the eight weeks. Because parent perception is shown to strongly relate to stress, it would also be interesting to each week ask parents to complete an abbreviated acceptability and social validity questionnaire (e.g., how satisfied participants are with treatment this week, how much they think they have benefited from the program thus far). These data could be analyzed between groups, as well as in terms of participant characteristics and provide a foundation for future mediator and moderator analyses.

For example, experiences with both fathers and mothers have highlighted potential process differences that would be interesting to explore. Based on observation, mothers have been more likely to acknowledge negative thoughts and emotions while fathers tend to be problem-solving and outcome driven. Comparisons of mothers and fathers’ experiences in both groups in terms of process variables and satisfaction will be helpful in determining how best to provide universal support for group members. A less economically and educationally homogenous sample also could provide opportunities to replicate and extend previous relationships between these participant variables and outcome.
Although parents express high levels of satisfaction with their respective treatments, a few have indicated interest in the alternative treatment approach. Benefits observed within each group suggest that they both include key skills to helping parent effectively deal with stress. One potential exploration is the utility of a modified treatment package that incorporates core competencies from both programs. Another approach may evaluate stacking both treatments and comparing the order in which they are most beneficial. Considerable parent time constraints may favor the former approach as the logical first step. However, eventually both treatments could be applied and either component analyses or a dismantling study would indicate the necessary elements of effective intervention.

Finally, research that has successfully measured positive parental behavior change as a result of related programs has generally included direct observational feedback and/or in-home training or support (e.g., Crockett, et al., 2007; Ingersoll & Dvortcsak, 2006; McIntyre, 2008; Rocha, Schreibman, & Stahmer, 2007; Smith, Buch, & Gamby, 2000). A lack of systematic checks has been highlighted as methodologically problematic in previous controlled trial parent training research (Drew et al., 2002). Provision of regular videotape feedback, home-based checks, or in-home booster sessions could significantly contribute to the correct implementation, generalization, and maintenance of skills for both groups. The efficacy of this approach and the feasibility within the current model is another area of further exploration.

In summary, providing parents with mindfulness and behavioral skills treatment packages appears to help them cope with the stressors of raising a child on the autism spectrum. Little is yet known about the critical effective elements of these treatments and
regarding the experience of group members throughout the programs. Continued
investigation of these issues will hopefully further support this important population. By
reducing individual stress we hope to make life a little easier for parents themselves and
that those benefits will then be extended to their children.
Appendix A

Experimenter Script for Parent-Child Interaction

5-Minute Free Play Sample

“Choose some toys that you think your child might like and play together for a few minutes.”

5-Minute Teaching Sample

“Now, choose a game that your child doesn’t already know. Try to teach it to him in these next few minutes.”
Appendix B

Parent-Child Interaction Sample Codes

1) Prompting

a. Manual prompt: parent directs the child’s action through physical guidance (e.g., hand-over-hand, hand on wrist, touching child’s face). Blocking stereotypy (e.g., holding hands down) is not coded as a prompt unless preceded by a verbal direction (e.g., “show me quiet hands”).

b. Gestural prompt: parent directs the child’s action using her own body but without touching the child (e.g., pointing, tapping, shadowing).

c. Model: parent demonstrates a desired action; must be paired with a direction (e.g., “look”, “you do it”, “put it in”). Does not include the parent performing the action for the child without asking him to also complete the task.

d. Note: If the form of a prompt changes within one instruction (e.g., starts as a gestural and becomes physical) code the most intrusive prompt for that response.

2) Providing consequences

a. Reinforcement

i. Physical: parent tickles, high fives, or otherwise touches the child after he performs a desired action.

ii. Social: parent praises the child after he performs a desired action.

iii. Tangible: parent provides a preferred toy or edible after he performs a desired action. Tokens are coded as tangibles.
However, when tokens are exchanged for an item, code only one instance of tangible reinforcement.

iv. **Note:** These may be double coded if provided together for the same response (e.g., social + tangible).

b. Punishment

i. Positive: parent provides a verbal or physical reprimand.

ii. Negative: parent takes away a preferred item.

3) Use of verbal commands

a. Single: parent provides instruction through a verbal direction (e.g., “Do this,” “Put it here”).

b. Multiple: parent repeats a command without providing a prompt or an elaboration of the direction. For example, “Give it to me. Give me the green car,” would be an elaboration and would be coded as two single commands. However, “Touch ball. Show me ball,” is coded as a multiple command.

c. **Note:** Do not count prompts as commands.

d. **Note:** Do not count verbal model prompts as a second command. For example, if the parent instructs, “Say red,” and then models “red” for the child, the second “red” is coded as a model prompt and not a multiple command.

4) Imitation: parent copies her child’s verbal or physical behavior within 2 seconds
5) Following child’s lead: parent engages in or elaborates upon a game chosen or initiated by the child.

6) Directing: parent tries to engage the child with an item/activity chosen by the parent.

7) Ignoring: parent does not interact with child for 10 or more seconds. Interaction attempts include: statements/questions/commands, physical contact, engaging with similar materials.

Note: Prompting, providing consequences, use of verbal commands, and imitation will be rate-based. Following child’s lead, directing, and ignoring will be duration-based.
Appendix C

Parent-Child Interaction Social Validity

Please rate the following statements about the parent using the scale provided below.

1  2  3  4  5

Strongly Disagree  Disagree  Neither agree nor disagree  Agree  Strongly Agree

1. The parent is frustrated with the interaction.

1  2  3  4  5

2. The parent demonstrates empathy for his/her child.

1  2  3  4  5

3. The parent is responsive to his/her child.

1  2  3  4  5

4. The parent is supportive of his/her child.

1  2  3  4  5

5. The parent is enthusiastic about playing with his/her child.

1  2  3  4  5

6. The parent is directing his/her child’s actions.

1  2  3  4  5

7. The parent is enjoying the interaction.

1  2  3  4  5

8. The parent is acting intrusively.

1  2  3  4  5
Please rate the following statements about the child using the scale provided below.

1 2 3 4 5

Strongly Disagree Disagree Neither agree nor disagree Agree Strongly Agree

9. The child is enjoying the interaction.

1 2 3 4 5

10. The child is responsive to his/her parent.

1 2 3 4 5

11. The child is enthusiastic about the interaction.

1 2 3 4 5

12. The child is frustrated with the interaction.

1 2 3 4 5

13. The child is withdrawing from the interaction.

1 2 3 4 5

14. Please rate the overall quality of the interaction on the following scale.

1 2 3 4 5

Awkward Somewhat awkward Fair Good Very good/ typical
Appendix D

Treatment Acceptability

Please rate the following statements about your experience in the training program using the scale provided below.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
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1. **The content provided was presented at an appropriate level.**

   1   2   3   4   5

2. **The content provided was too basic.**

   1   2   3   4   5

3. **The content provided was too advanced.**

   1   2   3   4   5

4. **The program addressed goals that were important to me.**

   1   2   3   4   5

5. **The program gave me skills that I can use in my everyday life.**

   1   2   3   4   5

6. **I plan to continue using the skills I learned in the future.**

   1   2   3   4   5

7. **The program length was too long.**

   1   2   3   4   5

8. **The program length was too short.**

   1   2   3   4   5
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<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

| Strongly Disagree | Disagree | Neither agree nor disagree | Agree | Strongly Agree |

9. I felt supported and valued throughout the program.

1   2   3   4   5

10. I was excited to participate in this program.

1   2   3   4   5

11. I thought the program content was interesting.

1   2   3   4   5

12. I was provided with new information throughout the program.

1   2   3   4   5

13. The program content was relevant for me and/or my family.

1   2   3   4   5
Appendix E
Mindfulness-Based Parent Training (MBPT)

Note: The content included in this manual has been taken and adapted from the following sources.


**WEEK 1: – Observe, Describe, Participate**

**Discussion #1:** Introduction of group members and treatment rationale. Members will introduce themselves and their family members with emphasis on describing their children with autism. Group leaders provide an introduction to parent stress and the rationale for the current treatment.

- “Parents of children with autism are documented to experience more stress than parents of typically developing children, parents of children with chronic illness, and parents of children with other developmental disabilities. What are some areas of parenting in which the group experiences stress? It is common for parents to experience stress related to their child’s care and treatment. Behavioral characteristics may also be a source of stress, especially when dealing with challenging behavior. In all these instances it is...
easy to get caught up in worrisome thoughts about a child’s abilities, difficulties, and challenging behavior. The purpose of this mindfulness group is to teach skills to help you, not to be unaware of these thoughts and concerns, but to disengage from them, so that you can coexist with these distressing thoughts without letting them distress you. These techniques have been shown to be useful in many populations to help reduce stress, depressive symptoms, and anxious symptoms, and to improve an overall sense of well being.”

**Lecture #1: Introduction to MBPT.** Orient clients to skills to be learned in this module and the rationale for their importance.

- **Explain focus of core mindfulness skills:** “Mindfulness can be described as ‘learning to be in control of your own mind, instead of letting your mind be in control of you.’ To a certain extent, being in control of one’s mind is actually learning to be in control of attention processes – that is, what one pays attention to and how long one pays attention to it.”

- Draw from participants examples of how their inability to control their attention creates problems. Examples may include inability to stop thinking about things, (e.g., the past, the future, current emotional pain or hurt, physical pain); inability to concentrate on a task when it is important to do so; inability to focus on another person or to stay on a task because of distraction.

- **Mindfulness skills require practice, practice, practice.** “You will be learning skills that are not easy for many people. Some things will be hard
to do or think about. Even when you may wonder why are doing certain activities, remember that the goal is to help you feel better in the long run.”

Discussion #2: Practice. Discuss with participants the crucial importance of behavioral practice in learning any new skill.

- “Behavioral practice includes practicing control of one’s mind, attention, over behavior, body, and emotions.”

- Draw from participants their beliefs about the necessity of practice in learning: “Can you learn without practice?”

Activity #1: Hershey’s kiss exercise.

- Note to leaders: The exercise is an excellent introduction to mindfulness.

  First, it provides an experiential rather than a verbal problem-solving base for learning. It sets a scene in which learning takes place through practice and feedback from the practice. The practice is central and will become the core of the course. But the chocolate exercise is also a very good introduction to the way in which we, as instructors, can most helpfully respond to what people say following the exercise. We need to embody in the way we deal with issues raised in the class the very approach to those issues we hope participants will find helpful. If we do not embody a spirit of genuine curiosity and inquiry about people’s experience, or if we tend to rush for a premature explanation of what is going on, how can we expect participants to change the way they approach the tasks that are going to do? The hope is that, in time, a gradual tuning of people’s experience might take place, and with it, the realization that
one can practice mindfulness by being present in all waking moments, no matter how ordinary or routine.

- Read the script from the *Chocolate Exercise Transcript.*

- Ask open-ended (e.g., “What comments would anyone like to make about what we just did?”). This way of using the practice in the class is not easy to learn. Closed-ended questions come all too naturally (“Did anyone feel tired?”, “Did your mind wander?”). Such closed questions produce, rather inevitably, a “yes” or “no” response.

- **Note to leaders:** Leaders should be able to relate the participant’s experience to the theme of the program: that the wandering mind during periods of automatic pilot can be particularly dangerous when stress is rising, and associations and memories are likely to perpetuate distress. It is therefore good to know what’s going on in this stream of associations and to be able to disengage intentionally.

- The chocolate exercise also offers participants a direct sampling of a new way of relating to experience, contrasting it with the usual automatic pilot of doing things. They find that paying attention in this way reveals unexpected little things about chocolate, such as its shape, smoothness, and the small point at one end. Some say they can only think of how they like or how they dislike chocolate. Others say that they are able to see the chocolate with greater clarity, or that the chocolate has a stronger, more vivid taste.

- Ask, “Did anyone notice anything different from the way you usually eat? What was the difference?” Participants most commonly point out the
difference between the way they ate the chocolate during the exercise and their normal way of eating.

**Activity #2:** Body scan exercise, imaginal “child” scan exercise.

- Read *Body Scan Meditation* transcript.
- Handout 6.2 – Automatic pilot
- Handout 7.2 – Tips for the body scan

**Lecture #2:** Mindfulness “What” skills.

- “In mindfulness we talk about two types of skills (1) "what" skills (i.e., what to do) and (2) "how" skills (i.e., how to do it). There are three “what” skills: observe, describe, and participate. It is very important to remember that for these, a person can only do one thing at a time – observe, or describe, or participate, but not all three at once. In contrast, the “how” skills can be applied all at once. First we talk about observing. Observing is sensing or experiencing without describing or labeling the experience. It is noticing or attending to something.”

**Activity #3:** Observe. Have participants try some of the following.

1. “Experience your fanny on the chair.”
2. “Experience your hand on a cool surface (e.g., a table or chair) or a warm surface (e.g., your other hand).”
3. “Attend to and try to sense your stomach, your shoulders.”
4. “Stroke just above your upper lip, the stop stroking and notice how long it takes before you can’t sense your upper lip any longer.”
5. “Watch’ in your mind the first two thoughts that come in.”
6. “Imagine that your mind is a conveyor belt, and that thoughts and/or feelings are coming down the belt. Put each thought and/or feeling in a box near the belt.”

7. “Imagine that your mind is the sky and thoughts, sensations and/or feelings are clouds. Gently notice each cloud as it drifts by (or scurries by).”

8. “If you find yourself describing thoughts, sensations, or feelings, ‘step back,’ in your mind so to speak, and observe your describing.”

9. “If you find yourself distracted, observe that; observe yourself as you become aware that you were distracted.”

**Note to Leaders:** It is essential to help participants observe in a nonattached way. No matter what they do, they can just “step back” and observe.

- Get feedback. Work with clients until they get the idea of observing.
- Check how long each person can observe. It is common to have to start and restart many times in the course of 1 or 2 minutes. Remind participants to step back within themselves, not outside of themselves to observe. Observing is not dissociating.
- If an individual has difficulty staying inside instead of going outside of herself, suggest that she try the following: “Imagine that the place you go outside of yourself is a flower. The flower is connected to your center by a long stem. The center is the root of the flower. Imagine coming down the stem to the root. Do this each time.”
- Explain: “Describing is using words to represent what you observe. Observing is like sensing; there are no words. Observing is noticing and
attending. Describing is a reaction to observing; it is labeling what is observed.”

Discussion #3. Observe versus describe.

- Discuss the difference between describing and observing. Again, observing is like sensing without words. Describing is using words or thoughts to label what is observed.
- Discuss how describing a thought as a thought requires one to notice that it is a thought instead of a fact. Give examples of the differences between thinking “I am a jerk” and being a jerk. Get feedback. Get lots of examples. It is crucial that participants understand this distinction.
- Discuss the difference between describing and judging. Judging is labeling something in an evaluative way. Describing is “just the facts.”

Activity #4: Describe.

- Have participants practice observing thoughts and labeling them as thoughts. Suggest labeling them into categories (e.g., “thoughts about myself,” “thoughts about others,” etc.)
- Use the conveyer belt exercise. “Picture your thoughts coming down a conveyer belt and as thoughts and feelings come down the belt, sort them into categories: For example, you could have one box for thoughts (of any sort), one box for sensations in your body, one box for urges to do something (for example, urges to stop).”

Lecture #3: Participate.
• Explain: “Participating is entering wholly into an activity, becoming one with the activity. It is throwing yourself into something. It is spontaneous behavior to a certain extent, although you can also do it mindfully.”

• “Remember that participating is the ultimate goal. The only reason we observe and describe is to understand and improve things. Think of the example of driving a car: When we switch cars to one with a different way of driving or if we go to England and have to drive on the left side of the road, we suddenly need to stop and observe and describe.”

• Gather other examples from clients.

Discussion #4: Discuss with participants which “what” skill (observing, describing, participating) is their strength and which is their weakness. The one they have most difficulty with is the one to practice the most.

Homework: Practice observing your child at least once a day and make a deliberate effort to bring moment-to-moment awareness to what he or she is doing, just as we did in the Hershey’s kiss exercise. Simply zero in on what he or she is doing. Make note of these times on your record form.

• Handout 6.5 – Record form

WEEK 2 – Nonjudgmental Acceptance

Activity #1: Review homework. Solicit examples of participant use of mindful observance from the past week. Ask one or two parents to give a full description of their child’s actions to the whole group. Did anyone find the task difficult? Engage the group in troubleshooting strategies to overcome these obstacles.

Lecture #1: Acceptance.
Many people find ‘acceptance’ a very difficult idea to grasp. People may feel that acceptance is the same thing as resignation, when in fact, it turns out that the opposite is true. Acceptance means actively responding to feelings by allowing or letting be before rushing in and trying to fix or change them (the more common response). Allowing these feelings to be in awareness means that you register their presence before deciding how to respond to them. This takes a conscious commitment and the deliberate deployment of energy. This is different from resignation, on the other hand, which implies passivity and degree of helplessness. Such difficulty in getting across the flavor of acceptance illustrates the limitations of single words as vehicles to convey the essence of a particular stance or relationship to experience.

Note to leaders: Poetry can be used as an alternative vehicle for communicating this different relationship to experience. For example, consider the attitude of active acceptance that is expressed simply and profoundly in the poem “The Guest House” by Rumi, a 13-century Sufi poet.

Activity #2. The Guest House.

Read “The Guest House” to illustrate just how radical a shift we seek. “Here is someone speaking about assuming a positive relationship to unwanted feelings with phrases and words such as ‘welcome,’ ‘treat each guest honorably’ ‘Invite them in,’ ‘be grateful.’ Is this attitude even possible? Might we actually cultivate a basic friendliness to all experiences, including the most difficult and feared?”
“Even if we find such a stance difficult to imagine, making even a tentative first step in this direction can be invaluable and transformative. This involves meeting things, including our strong emotions, as they are, letting go of any attempts to show them the door.”

**Lecture #2: The importance of acceptance.**

- “Acceptance is so important because its opposite is too risky. An unwillingness to accept negative feelings, physical sensations, or thoughts (due to aversion) is the first link in the mental chain that can rapidly lead to the reinstatement of old, automatic or habitual patterns of mind that can cause stress. This can be related to us, in thoughts like, ‘I should be strong enough to cope with that’ or they can be related to your children, with thoughts such as ‘He should be doing more.’” By contrast, to bring intentionally an alternative relationship of acceptance/allowing/letting be to unwanted experiences has effects on a number of fronts. First, by encouraging us to pay attention more intentionally, it serves to offset the tendency for our attention more automatically ‘hijacked’ by passing thoughts or moods.
  
  Second, it shifts the basic stance toward experience, from one of ‘not wanting’ to one of ‘opening.’ This allows the chain of conditioned, habitual responses, to be broken at the first link. Third, it gives the person a chance to see whether his or her thoughts are accurate, are telling the truth.

- “Consider a thought such as ‘If he keeps acting like that, I’m going to lose my mind.’ Has anyone experienced a thought like that at some point? Allowing it simply to be there and, as best we can, noticing the effects it has on the body
and seeing the moment-by-moment changes in its intensity may offer us the chance to see that the thought may fade. Its dire prediction did not come true. Thoughts will be discussed in more depth later in the program.”

Activity #3: Bringing acceptance to the sitting meditation.

- “Now we want to examine an alternative route for learning to relate differently: working through the body by bringing out attention/awareness to manifestations of difficult experiences.”

- “Before, the practice had been one of using the breath or body as the focus of attention. The intentional task has been to bring awareness to the sensations of the breath as it moves in and out of the body. Inevitably, our awareness and attention stray from the breath to other thoughts, bodily sensations, and feelings. When this occurs, the instructions up to now have been simply to notice where the mind is, then gently and firmly escort awareness back to the breath, and continue to maintain awareness focused on the movement of the breath.”

- “What do we do when our awareness repeatedly gets pulled in the same direction, to a particular thought stream, feeling, or set of bodily sensations? What is being asked of us when the pull on our attention is strong and our minds keep going back to the same negative place? One way to begin ‘opening to the difficult’ is to think of the practice as having two steps. The basic approach remains to become mindfully aware of whatever is most predominant in one’s moment-by-moment experience. So, if the mind is repeatedly drawn to a particular place, to particular thoughts, feelings, or
bodily sensations, then the instructions are, to bring awareness deliberately and intentionally to that place. That is the first step.”

- “The second step is to bring awareness to how are relating, in the body, to whatever arises in that place. At this point in the practice, we want to introduce the idea of acceptance, starting with its opposite, nonacceptance:”

- “We can ‘be with’ an arising thought, feeling, or bodily sensation, but in a nonaccepting, reactive way. If we like it, we tend to hold onto it; to want it to stay; we become attached to it. Of we do not like it because it is painful, unpleasant, or uncomfortable in some way, we tend to contract, to push it away out of fear, irritation, or annoyance; we want it to go. Each of these responses is the opposite of acceptance.”

- “One way to relate skillfully to unpleasant experiences is to register that they are here, to allow them to be as they are, in this moment, and simply to hold them in awareness. Responding in this way, described as ‘allowing, ’ ‘letting be, ’ or ‘holding in awareness, ’ conveys the core theme of acceptance toward difficult feeling states. This in contrast to automatically reacting to these thoughts or emotions.”

- Handout 10.1 – Allowing/letting be (emphasize use with children)

- Ask, “What are examples of thoughts that you have ‘held on to’ with your children? What are examples of thoughts you have tried to push away?

**Lecture #3: Mindfulness “How” skills.**

- “Many times, these negative thoughts include some kind of judgment. Our goal is to take a nonjudgmental stance when observing, describing, and
participating. Judging is any labeling or evaluating of something as good or bad, ad valuable or not, as worthwhile or worthless. The essence of it is the valuing of things as more or less ‘good’ or ‘bad.’ An important mindfulness skill is not judging things in this manner. For example, there is a difference between judging what your child does, which is applying a label of ‘good’ or ‘bad,’ and describing the consequences of what he or she does. Consequences may be painful, destructive, or harmful. A person who stops judging can still observe or predict consequences. Sometimes judging is a shorthand way of describing consequences. For example, saying ‘This piece of meat is bad’ is a shorthand way of saying ‘It is filled with bacteria and may make you sick if you eat it.’ 

Discussion #1: Nonjudgmentally.

- Ask for examples of the difference between judging and noticing consequences:
- If the group has trouble, suggest examples such as “Your behavior is terrible versus “Your behavior is annoying me” or “What you are doing is going to result in being stressed”. These can relate to the group’s children or other individuals.

Lecture #4: Making comparisons.

- “Judging can sometimes be a shorthand way of comparing things to a standard; in this case, judging gives information. For example, saying that a tomato is ‘bad’ may mean that it is not like a fresh tomato. Or judging may be a shorthand way of stating a preference. Saying that a room looks ‘bad’ or a
book was ‘terrible’ is based on a personal preference in decorating or in reading material (or, sometimes on a personal or community standard for how rooms should look or how books should be written).”

- “The problem is that over time, people forget that judging is shorthand and begin to take it literally as a statement of fact.”

- Elicit from participants all the times others have applied judgments to them when they felt what they were doing, thinking, or feeling was neither good nor bad. What kind of judgments have they made regarding their children?

- Handout #3 – “How” skills

- “Acceptance” versus “fixing things”. Note to leaders: One of the most subtle and difficult issues can be how to bring an accepting attitude to something without having the hidden agenda of “fixing” it. The distinction between fixing and accepting is a difficult one to grasp, perhaps because when people talk about accepting something, they often describe positive changes that they have noticed as a result. Acceptance is then linked to positive outcomes, so it is natural then to try to reproduce such a positive outcome and use “acceptance” as part of “doing/driven” mode, as a means of achieving the goal of relaxation or happiness.

**Homework:** Identify one example every day of a judgment and describe the accompanying fact. Notice at least two examples of judgments relating to your child.

Continue mindful observation of your child throughout the week.
WEEK 3 – Thoughts (Part 1)

Activity #1: Review homework. Solicit examples of participant’s observed judgments from the past week and how easy or difficult it was to disengage from those judgments.

Lecture #1: Automatic thoughts and observing thoughts.

- Hand out the automatic thought questionnaire and ask participants if anyone recognizes items from the list. Define automatic thoughts, as the thoughts that pop into our heads throughout the day.
- Handout 9.4 – Automatic thought questionnaire (adapted for child)
- Handout 10.2 – Awareness of thoughts

Lecture #2: Distancing from thoughts.

- A key objective here is to help participants find ways of reducing their degree of identification with what they are thinking, to encourage them to see thought as thoughts (even the ones that say they are not). “The aim in discussing thoughts is to enable you to shift your relationship, so that you no longer relate from you thoughts but to your thoughts, as objects of awareness.”
- “Now we wish to make the relationship with your thoughts more explicit: to make thoughts the objects of awareness. In the sitting meditation that we are about to start, let’s take the opportunity to pay particular attention to observing and recognizing thoughts as thoughts, to bring awareness to them as discrete mental events, and to see each thought as simply a thought, an idea in the mind. The phrase ‘thoughts are not facts’ suggests that we don’t have to believe everything we think or take it as absolute truth.”
• “Take a few moments now to become aware of the thoughts that are arising in your mind, imagine yourself sitting in a cinema. You are watching an empty screen, just waiting for thoughts to come. When they come, can you see what exactly they are and what happens to them? Some of them will vanish as you become aware of them.”

• “Note that you are ‘waiting’ for thoughts to come. The attitude of mind is rather like that of a cat, patiently and attentively waiting at the mouse hole for any sign of movement. But much of the time, our attention is anything but cat-like.”

• Joseph Goldstein offers a helpful analogy:

  “When we lose ourselves in thought, thought sweeps up our mind and carries it away, and in a very short time we can be carried far indeed. We hop a train of association not knowing that we have hopped on, and certainly not knowing the destination. Somewhere down the line we may wake up and realize that we have been thinking, that we have been taken for a ride. And when we step down from the train, it may be in a very different state of mind from where we jumped aboard.”

Activity #2: Unpleasant thoughts.

• Encourage participants to bring to mind deliberately some concern, difficulty, or unpleasant memory – to become aware of and briefly bring to mind any thought that go along with it.

• “Practice bringing awareness, a gentle interest, to your thoughts as they arise in the field of awareness.”
• Some participants find the metaphor of the cinema screen very helpful, but others find different metaphors and analogies useful.

• Offer alternatives. Some see “thoughts” come onto an empty stage and exit through the opposite wing. Others find it helpful to think of their mind as the sky, with clouds moving across it at varying speeds. Some may prefer watching their thoughts float down a river on leaves or float through the sky in bubbles.

**Homework:** Be especially aware of your thoughts this week. Practice bringing awareness to your thoughts and then let them go, using imagery (e.g., cinema, leaves, bubbles). Make an effort to bring your awareness to unpleasant thoughts and note the effects of letting go of these thoughts on your mood.

**WEEK 4 – Thoughts (Part 2)**

**Activity #1:** Review Homework. What kind of thoughts did you pay attention to last week? What were group members experiences with the process of “letting go” of thoughts?

**Activity #2:** Standing behind the waterfall.

- “So far, the emphasis has been on bringing awareness to your thoughts. But sometimes, the thoughts are so negative that to bring awareness to them directly seems too difficult. If this happens, we have a number of options.

  First, we might bring our awareness to a place where such thinking might be having an impact on the body.”
• “If there is a place in the body that is experiencing intense sensation, then bring your awareness to that region. Surrounding the physical sensations with a sense of friendly interest.

Perhaps, on each outbreath, saying, ‘It’s OK. Whatever it is, it’s OK.’ Soften and open to the sensations you are experiencing. Particularly if there’s any sense of resistance, bringing gentle awareness to it, on each outbreath, opening and softening as best you can, rather than tensing or bracing.

When it feels comfortable, returning the focus to the breath or to the body as a whole.”

• Second, since many thoughts are closely tied to particular feelings, we might focus directly on the feeling that gives rise to the thought. For example, if the thought is ‘It’s hopeless, things are never going to get better,’ we risk being dragged down by a powerful waterfall of ruminations about the consequences of things we cannot control.”

• “However, instead of getting tangled in thoughts, we have the option of asking, ‘What is this I am feeling now, specifically, in this moment?’ In this case, we may discover more feelings than were apparent earlier: ‘I am feeling very anxious, worried, tense, angry and frustrated, uncertain and confused as well.’ Focusing on the feelings that partly drive the vicious cycle of thoughts may give us another place to stand. We may find ourselves standing behind the cascading
waterfall of negative thoughts and feelings, and able to see their force more clearly without being dragged down by them.”

• “Remember that thoughts are seen as events in the mind, events to which we are ordinarily so close that it is often difficult to realize they are ‘just thoughts.’ We are not looking to gather evidence for or against them or answer them back. Instead, mindfulness looks to encourage people to bring a different mind, a different quality of attention to bear upon them; to observe them as part of a whole package that, although we do not know where it has come from, now needs to be acknowledged and treated with an attitude of gentleness and acceptance.”

• “Hopefully, in this way, we can reduce some of the effort that we have expended in dealing with them, as if they were telling the truth about the world or ourselves, the past, or the future. We also stop allowing ourselves to be controlled by them or, at least, we begin to see the tendency for that to happen emerge in the present moment. Once we see negative thoughts from this perspective, from behind the cascading waterfall, our emotional response to them will be different in subtle but important ways.”

Lecture #1: The tape in the mind.

• “The meditation teacher Larry Rosenberg points out that when we get to the point where we’ve watched the mind a great deal and seen the same old thoughts come up again and again, we don’t rise to the bait anymore: ‘It’s
like seeing Gone with the Wind for the fifth time or the twelfth, however many it takes you. The first eleven were great, but the twelfth doesn’t work anymore. You just don’t care. The same thing happens with the movie in your mind, if you really start to watch it.’

• “Naming our favorite thought patterns is one way that helps us to recognize them when they are starting up. It allows us to say, ‘Ah, I know this tape, this is my ‘I can’t stand my boss’ tape or ‘No one recognizes how hard I work tape.’ This will not necessarily switch it off, or if it appears to, it will almost certainly return soon, like a children’s movie at holiday season. The difference will be in the way we relate to it: as ‘fact’ that should be addressed seriously on the one hand; for example, by phoning the boss and complaining to him or her, or on the other hand, as a tape running in the head that will continue to be a minor inconvenience until the ‘batteries run down’ and it ceases of its own accord.”

Discussion #1: Identifying the tape in the mind. Ask participants to share examples of their own “tapes.” Ask them to run through those tapes in their minds and see what they notice about their bodies.

Note to leaders: Participants may notice that bodily sensations often seem to be magnets for thoughts. Thoughts may arise as a reaction to an awareness of sensations: “Why am I feeling this way?”, “It’s my age. I’ll never have the energy I used to have,” “If this headache doesn’t go away, I will have to cancel my plans for tonight.” To approach these thoughts mindfully does not require that they do anything different than what we have been doing up to now for sensations and feelings. They imagine they are in a cinema or
theater and simply decide to watch the film or theater of the mind as thoughts come and
go on the screen or stage. Point out that this is not easy to do, and it should be practiced
for only 3 or 4 minutes at a time in the early stages.

**Lecture #2: Thoughts are not facts.**

- “Some people are paid to compare things to standards or to predict
  consequences – that is to judge. Teachers give grades, grocers put out ‘good’
  food or produce and discard ‘bad’ food. The word ‘good’ is also used to give
  children and adults feedback about their behavior so they will know what to
  keep doing and what to stop. So one thing to remember is ‘Don’t judge
  judging.’ It is essential at times. But most people overdo it, especially in
  judging themselves or their loved ones.”

**Discussion #2: Thoughts versus facts.**

- “Again, we want to highlight the difference between a judgment and a
  statement of fact. A statement of fact may seem to be a judgment because the
  fact is simultaneously being judged. For instance, ‘I am fat’ may simply be a
  statement of fact. But if one adds (in thoughts, implication, or tone of voice)
  that the idea being fat is bad or unattractive, then a judgment is added.
  Another common judgmental word is ‘stupid,’ as in ‘I did a stupid thing,’ ‘I
  am stupid,’ or ‘What a stupid thing to say.’

- Handout 11.1 – Thoughts are not facts

- “What are some examples of thoughts that seem like “facts” about your child?
  What effect do those thoughts have on your mood?”
If participants have trouble, offer this example. “*My child is not normal. Has anyone ever had this thought? What judgments go along with it?*”

Handout 11.6 – Relating to thoughts

**Lecture #3: How to address thoughts in the moment.**

- “*It is well and good to keep all these things in mind, but we also want you to feel that there is something they you do immediately, when you feel your thoughts getting the better of you.*”
- “*Taking a breathing space (no matter how briefly) is always the first step. Bringing awareness to the breath, a person has a greater chance of acknowledging what is going on with him-or herself at this moment. With this awareness often comes the sense of a greater choice about how to respond. One picture we have in mind is that the breathing space is like a door. Opening the door reveals a number of different corridors down which we might decide to go.*”
- “*Once that has been done, there are a number of options as to what to do next. Here are some options in this handout to try on your own:”*

1. To simply watch your thoughts come and go in the field of awareness, without feeling that you have to follow them.
2. To view all your thoughts, and particularly negative thoughts, as mental events rather than facts. It may be true that a particular thought “event” is often associate with strong feelings. It is therefore tempting to think of it as being true. But it is still up to you to decide to what degree it is true, if at all, and how you want to deal with it.
3. To write your thoughts down on paper. This lets you see them in a way that is less emotional and overwhelming. Also, the pause between having the thought and writing it down can give you a moment to reflect on its meaning.

4. To ask yourself the following questions: “Did this thought just pop into my head automatically?”, “Does it fit with the facts of the situation?”, “Is there something about it that I can question?”

- “The idea is that, with time, you may begin to see thinking as an activity on its own, and just note when it is happening. This reveals the process of thinking as it unfolds, but without getting lost in its content or what the thoughts are trying to say. By relating to your experience of thinking in this way, it may enable you to choose between those thoughts you wish to act on and those they can simply let be.”

- “If we are able to recognize our self-talk in this way, we place ourselves in a better position to choose what we want to do about it. If, when we notice an avalanche of thinking, we take a breathing space, there are a number of things we can do next, if need be. These include not only observing our self-talk, or writing it down, but also bringing our awareness to the feelings behind it, as best we can, with an attitude of gentleness: ‘There may be other ways to see this.’”

- “Finally, paying such careful attention to our sensations and thoughts can give us a moment to take a different view of our difficulties, so that they become less stressful. For example, if we are criticized by our boss at work, instead of letting it snowball into insecurity or defensiveness, with
mindfulness, we can watch our initial reactions go by before we speak, then speak more consciously and therefore more effectively.”

- “The important point is that all thoughts are mental events (including the thoughts that say they are not!).”

- Handout 11.2 – Ways to see thoughts differently
- Handout 11.5 – When you are aware of negative thoughts

**Homework**: Complete thought log, making note of automatic thoughts and how you saw each thought differently. When you identify a distressing thought, do a full body scan and describe what you notice.

**WEEK 5 – Staying Present (Part 1)**

**Activity #1**: Review homework. Gather examples of automatic thoughts and the imagery used to let go of those thoughts. What did participants notice about their bodies when they were thinking negative thoughts?

**Lecture #1**: Staying present.

- “The goal here is to focus on one thing in the moment.” Explain the process of doing one thing at a time with awareness. Emphasize focusing attention on only one activity or thing at a time, bringing the whole person to bear on a task or activity.

- “Focusing on one thing at a time is the opposite of how people usually like to operate. Most of us think that if we do several things at once we will accomplish more; this is not true. However, this does not mean that you cannot switch from one thing to another and back. The trick is to have your
mind completely on what you are doing at the moment. This refers to both mental and physical activities.”

- “Focusing on one thing in the moment does not mean that one cannot do complex tasks requiring many simultaneous activities. But it does mean that whatever one does, one should attend fully to it. Thus, the essence of the idea is acting with undivided attention. The opposites are mindlessness (i.e., automatic behaviors without awareness) and distracted behavior (i.e., doing one thing while thinking about or attending to another).”

**Discussion #1: One thing in the moment.**

- Discuss an example of doing two things at once, such as playing with your child and thinking about the past or worrying about the future.

- Explain: “A mindfulness perspective would suggest that if you are going to think about the past, you should devote your full attention to it. If you are going to worry about the future, devote your full attention to it. If you are going to play with your child, devote your full attention to it.” Get participants to come up with other examples (e.g., watching TV or reading while eating dinner) including those that relate to their children.

**Lecture #2: Breathing space.**

- “It is not unusual for people who are coping with the demands of developing a formal meditative practice to forget about the need to incorporate this practice into their daily lives. Just as your child’s programming probably includes planning for generalization, some ‘generalization practice’ is important to link what is being learned in here to a larger range of different
situations. Generalizing what is learned in formal practice is not easy. Of
course, we have already given instructions on how to make mindfulness a
routine activity (e.g., eating, playing with a child). But we need to go further
and bring small parts of the formal practice into daily life. We have developed
a ‘minimeditation’ for this purpose: the 3-Minute Breathing Space.”

- “The breathing space should occur three times a day at set times. You are
couraged not only to use it at the preprogrammed times, but also, when you
feel you need it, for example, if you feel stressed.” The result is that the 3-
Minute Breathing Space becomes an important vehicle for bringing formal
meditation practice into daily life.

- “Many people find that first, that they can use it to deal with problems
directly, as they are developing. Second, they find that it is a way to pause,
even in the midst of a hectic day, and reestablish contact with the present
moment.”

- “There are three basic steps to the exercise. The first involves stepping out of
automatic pilot to ask ‘Where am I?’ ‘What’s going on?’ The aim here is to
recognize and acknowledge one’s experience at the moment. The second step
involves bringing the attention the attention to the breath, gathering the
scattered mind to focus on this single object- the breath. The third step is to
expand the attention to include a sense of the breath and the body as a
whole.”

- Handout 8.3 – Breathing space transcript

**Activity#2: Breathing space.**
• Read the breathing space transcript.

• After the exercise, ask participants for feedback. What do participants notice about length versus brevity? Where did the mind go during the activity? Troubleshoot, if necessary.

• **Note to leaders:** Notice how this can link with the sense many people have that they often exhaust themselves by anticipating all the things they have got to do, not just for this day, but for the rest of the week and the next month. They carry a burden that doesn’t need to be carried. Tuning into just this moment, and into what is before them right now, allows the energy to come through, to complete just this moment’s task.

• Scheduling another formal practice in a day, even one as short as 3 minutes, will not happen automatically. Participants are therefore given some time to break up into pairs to discuss how they plan to arrange for three occasions each day to practice the 3-Minute Breathing Space over the coming week.

**Lecture #3:** Mindful walking.

• “Mindful walking takes the everyday activity of walking and used it as a mindfulness practice to become more aware of bodily sensations. We walk, knowing that we are walking, feeling the walking.”

• “It has been described as ‘meditation in motion’: being with each step, walking for its own sake, without any destination. As with other mindfulness practices in this program, we use the movements and sensations of walking to bring ourselves into the present. The focus is on maintaining moment-to-moment awareness of the sensations accompanying our movements, letting go
of any thoughts or feelings about the sensations themselves. This seemingly simple exercise can be a powerful teacher of a core message in mindfulness, because our bodies are more anchored in the here and now, while our minds all too easily ricochet between the past and future. This anchoring allows a greater sense of who we really are in the present moment.”

- “The practice can be especially useful when you feel agitated and unable to settle. The physical sensation of walking, people comment, tends to enable them to feel more ‘grounded.’ To some extent, this can be generalized across all the mindfulness exercises: When the mind is agitated or a person feels pressured, it is easier to be mindful with a practice that involves physical movement than with one that does not.”

- How can participants envision applying similar principles to their children?

- Handout 8.4 – Mindful walking

**Activity #3: Mindful walking.**

- Read the *mindful walking transcript.*

- Get participant feedback of thoughts and bodily sensations from the exercise.

**Homework:** Practice mindful walking, eating, etc. If thoughts arise, use strategies for letting go of these thoughts and gently redirect awareness back to the present activity.

**WEEK 6 – Staying Present (Part 2)**

**Activity #1:** Review Homework. How easy or difficult was it to remember to be mindful of your activities? What did you notice about the process of staying present? What did you notice about your mood?

**Lecture #1:** Mindfulness of thoughts and sounds.
“Now we would like to do a short ‘seeing’ or ‘hearing’ meditation as a way of ‘arriving/gathering’ and coming into the present. Noticing just one feature in the field of sight or sound (such as a leaf on a tree or the sound of a car engine) and then spreading awareness out from it can be a powerful way of staying present: changing the mode of mind from ‘doing’ to ‘being,’ from ‘problem solving’ to ‘allowing.’ The idea is that, if new thoughts arise, we just let them go as best as we can and bring our minds back to what we see or hear. This sense of ‘letting go’ will counter the tendency to struggle with such thoughts.”

“Awareness of posture is the starting point. The aim is to feel stable and focus attention on just being with moment-to-moment experience. You will start the sitting meditation by focusing attention on the breath. If you notice your mind wandering, simply note where it went, register the fact that it has gone, and then gently bring your attention back to the breath.”

“It is important to remember that you are not trying to control the breath. The task is simply to bring full care and attention to the actual physical sensations as the breath moves in and out of the body, allowing the breath to breathe itself. The breath is used as an anchor to reconnect to the present whenever the mind wanders.”

Note to leaders: The longer people sit, the more they will find themselves reacting to what they are doing. It is helpful at these times to remember that the easiest way to let go is simply to stop trying to make things different from how they are. The task remains just to note any thoughts and return to the
breath. Practicing with the breath in this way will allow people to train their attention and observe the movement and patterns of the mind. With time they will learn to open awareness to whatever arises in the mind or body, and to use that as a focus.

**Activity #2: Sitting meditation.**

- Read *sitting meditation transcript.*
- After completing the meditation, note, “*It is worth pausing to reflect that the intention of the mindfulness approach is ultimately to allow us to become aware that there is a ‘larger space’ in which thoughts may be held in awareness. Being able to hold a larger number of elements in experience at any one time is an important part of being sensitive to the wider context, and it contrasts with the narrower focus required at the outset to help ‘gather’ oneself.*”
- “*Becoming more aware of what is occurring in moment-to-moment experience involves being flexible in attention, noting when attention is focused on one aspect of experience, while maintaining a sense that this narrow focus can be held within a broader field of view. ‘Staying present’ with awareness of the breath, body, sounds, and thoughts is a way to practice taking this wider perspective.*”
- Leaders solicit examples of opportunities to “stay present” during stressful times with participants’ children. At these times the breathing space may be used as a way of handling difficult situations.
**Activity #3: Imaginal exposure.** Leaders ask participants to think of a specific time when they were stressed or distressed by an interaction with their child. Group members are encouraged to feel the distress in their bodies and allow automatic thoughts to surface. They are then asked to practice “staying present” by nonjudgmentally focusing on sights, sounds, and thoughts.

- Handout 9.1 – Staying present

**Lecture #2: Mindful playing.** Extend the principles of mindful walking to interactions with participants’ children.

**Discussion #1: Mindful playing.**

- Have participants identify times they can engage in mindful playing. What will be the elements of mindful playing? Focus on nonjudgmental acceptance, staying present, observe/describe/participate.

- What are some potential challenges to mindful playing? How can participants overcome these obstacles?

**Activity #4: Role play.** Have participants role play mindful playing with group leaders and other participants.

**Lecture #3: Mindfulness with children.**

- Emphasize the need for participants to be mindfully aware of their children and of themselves.

- Encourage parents to focus on taking care of themselves; this will lead to less stress and more positive interactions with their children.

**Homework:** Engage in mindful walking and mindful playing at least once per day.
WEEK 7 – Pleasant Events

Activity #1: Review homework. Discuss mindful playing exercise from past week. Were there any obstacles to staying present during play? Did anyone experience negative automatic thoughts during the activity? How did participants redirect their attention?

Lecture #1: Noticing the link between activity and mood.

- “Take a moment to mind what you do during a typical working day. If you spend much of your day apparently doing the same thing, try breaking the activities down into smaller parts: talking to colleagues, making coffee, eating lunch, checking email, playing with your child. And what about evenings and weekends? What sort of things do you do then? Make a list in your head. Now see if you can divide the list into 1) those things that lift your mood, give you energy, nourish you; and 2) those things that dampen your mood or drain your energy. Finally, ask yourself how you might be able to find more time to do the things that give you energy, and deal more skillfully with those things that drain you of energy.”

- “Up to this point, the breathing space has involved three steps: 1) acknowledging what is going on in the mind and body, 2) bringing attention to the breath, and then 3) expanding attention to the body. In the last session, we saw how, following such a breathing space, we might use various means of relating differently to troubling thoughts. We now explore how, following awareness of the breath, taking action is an alternative option.”

Activity #2: Identifying activities.
• Ask participants to write down some of the typical things they do in a day. Then have them categorize the activities into the positive and the negative. In pairs or small groups, participants ask the following questions:

• Of the positive activities: “How might I change things so that I take more time to do these things or become more aware of them?”

• Of the negative or draining activities: “How might these best be done less often?”

• “One theme that often emerges is a great awareness of the negative activities that cause problems than of the positive activities. Did anyone notice this?”

• “Another common theme is that people often feel guilty if they take time for themselves. Can people relate to that?”

• “Note that we are all pulled in many directions much of the time. If we want things to be different, but our thoughts tell us things won’t change, then we are stuck. But what if, by becoming more aware of what is happening, we start to ‘taste the chocolate’ – to pay more attention even in the midst of the busyness. Is there a possibility of ‘looking for the spaces’ even when things are hectic, so that looking after yourself is not an optional extra? Taking action starts with simply noticing what is going on around you.”

**Discussion #1:** Solicit examples of times when activity affected participants’ mood. What kind of activities from each participant’s life is likely to improve mood? Which of these activities can be done with the participant’s child?

• Handout 7.7 – Pleasant events calendar

**Lecture #2:** Focusing on mastery and pleasure.
• “One goal today is to encourage you to discover how you might best deal with periods of distress or events that may lead to more stress or depressed mood. The idea is to use day-by-day experience to discover and cultivate activities that can be used as tools to cope with periods of worsening mood or increasing stress. Having these tools available makes it more likely that you will persist with them in the face of sadness, frustration, or stress.”

• “When people feel sad, there are two types of activities that can lift mood. The first type is one that simply gives pleasure. The second is one that gives a sense of mastery. These kinds of activities nourish participants by contributing to a sense of accomplishment, or feeling that they are in control of aspect of their lives. These may include writing a letter, shopping for groceries, cleaning the bedroom, or teaching a child a new game.”

**Discussion #2: Pleasant activities.**

• Solicit examples of pleasurable activities and activities that provide a sense of accomplishment. These may include tasks that seem trivial (e.g., watching a video, phoning a friend). These may have seemed too unimportant to put on the earlier list of nourishing or draining activities.

• Encourage the group to expand the list of nourishing activities and put a P next to those that give pleasure and an M next to those that give a sense of mastery. Participants are then asked to select those activities that might be scheduled in the future.
• The discussion then moves on to how participants can best schedule such activities (including breaking them down into small steps), so that they are not omitted by default.

**Lecture #3: Take-home point.**

• Give specific instructions. “*When feeling down or stressed, first bring awareness to the breath. Take a breathing space if possible. Then, choose what to do next: either focus on thoughts or take action. There is both a general and a specific message here. The general message is that by actually being present in more of our moments, and making mindful decisions about what we really need at each of those moments, we can use activity to become more aware and alert, and to regulate mood. The specific message is that depressed mood cannot be overlooked. We must always make a choice about what (specifically) to do next. This can be expressed simply: in low mood, take a breathing space, then make a choice; be with the thoughts as thoughts, or take action. The nature of low mood demands such specificity. Whatever action is taken, the idea is to act mindfully: to ask, ‘What do I need for myself right now? How can I best take care of myself right now?’ “

**Homework:** Record times you engage in pleasant events. Schedule at least one pleasant event each day and describe bodily sensations, thoughts, and mood. Engage in at least three pleasant activities with your child.
WEEK 8 – Being Effective

**Activity #1:** Review homework. Did anyone experience challenges to scheduling pleasant events? How easy or difficult was it to stay present during these activities? What did participants notice about their mood over the past week?

**Lecture #1:** Being effective.

- “The goal here is to focus on being effective – to focus on doing what works, rather than what is ‘right’ versus ‘wrong’ or ‘fair’ versus ‘unfair.’ Generally, it is the opposite of ‘cutting off your nose to spite your face.’”

- “Doing what works (or what is effective) requires knowing what one’s goal or objective is. For instance, a person may want to get a raise at work, but she may also think that her supervisor should know without being told that she deserves one, so she refuses to ask for it. In this case, the person is putting being right over achieving her goal.”

- “Being effective requires knowing the actual situation and reacting to it, not to what one thinks should be the situation. For example, when driving on the freeway, people who drive more slowly are instructed by signs to drive in the right lane. People who tailgate slower drivers in the left lane (instead of just passing on the right) are acting as if all are prepared to follow the directions. All are not!”

**Discussion #1:** Get examples of participants’ “cutting off their noses” to make a point. Leaders: share examples of your own here as well – the more outrageous or humorous, the better.

**Lecture #2:** Summary of program.
• What changes have group members noticed in their approach to both life and parenting?

• What changes have they noticed in the way they interact with others, such as their children and spouses?

• “It will be important to keep up all the strategies you have learned in this program to experience long-term benefits. Many people find that they experience even more benefits after concluding the program and continuing with their practice.”

• “Our mindfulness ‘what’ skills included observing, describing, and participating.”

• “The mindfulness ‘how’ skills included nonjudgmental acceptance, focusing on one thing in the moment, staying present, and being effective.”

• “How do you think that you will keep up with these skills? Which activities and skills can you see yourself continuing to use?” (Examples include breathing space, mindful playing, etc.)

• “What challenges to being mindful do you anticipate? Why will it be worth it to overcome these obstacles?”

• Have the group brainstorm ways to ensure the continued practice of mindfulness in their lives.
Appendix F
Skills-Based Parent Training Manual

Note: The content included in this manual has been taken and adapted from the following sources.


WEEK 1 - Psychoeducation and Behavioral Principles

**Discussion #1:** Introduction of group members and treatment rationale. Members will introduce themselves and their family members with emphasis on describing their children with autism. Group leaders provide an introduction to parent stress and the rationale for the current treatment.

- “Parents of children with autism are documented to experience more stress than parents of typically developing children, parents of children with chronic illness, and parents of children with other developmental disabilities. What are some areas of parenting in which the group experiences stress? It is common for parents to experience stress related to their child’s care and
treatment. Behavioral characteristics may also be a source of stress, especially when dealing with challenging behavior. In all these instances it is easy to get caught up in worrisome thoughts about a child’s abilities, difficulties, and challenging behavior. The purpose of this group is to teach skills to help you affect your child’s behavior. Although we will be lecturing on the principles that guide behavioral treatment, we really want to focus on how you can use the strategies with YOUR child in YOUR home.”

- Inform parent of the success of skills-based parent training groups in the literature, focusing on the evidence base for such groups.

- Provide session overview for the group. Each week will incorporate lectures, discussions, role plays, and homework to practice skills at home.

Lecture #1: Evidence-Based Treatment.

- “In the broad field of clinical psychology, there has been increased interest in and emphasis on the use of empirically supported treatments for psychological disorders, including autism. Researchers and clinicians have taken steps to identify the comprehensive programs and focal methods that are most effective in treating autism. We want to talk about definitions of evidence-based treatment, along with the criteria used to evaluate treatments.”

- Science, Pseudoscience, Antiscience. “When examining the evidence for the effectiveness of an intervention for individuals with autism, a distinction can first be made between what is clearly science, and what is not. To identify therapies that are evidence based, it is helpful to ensure that the elements of
science and the scientific method have been used to demonstrate support for the effectiveness of a given intervention.”

- “Science is based in part on (1) the direct and objective observation of measurable events, (2) a systematic manipulation of conditions, (3) procedures that rule out alternative explanations for results, and (4) replication of the results.”

- “Pseudoscience promotes specific phenomena without the use of the scientific method and without providing evidence of efficacy or effectiveness.”

- “Antiscience, comprises the body of treatments that rejects the use of scientific methods altogether. In contrast to pseudoscience, antiscience demonstrates a complete disregard for any type of data and suggests that empirical testing of the treatment is a violation of the treatment. Interventions supported by antiscience are based on belief alone.”

- Get examples from the group of science, antiscience, and pseudoscience, especially as related to interventions for children with autism. Examples include ABA (science), secretin therapy (pseudoscience), astrology, facilitated communication (antiscience).

- What is the only evidence-based treatment for autism? ABA!

Lecture #2: Introduction to Applied Behavior Analysis (ABA)

- ABA Definition: The science in which the principles of behavior are systematically applied to increase socially significant behavior to a meaningful degree and to demonstrate experimentally that the principles employed are responsible for the change in behavior.
What does this mean? “Cooper’s definition encompasses several main points. When we talk about changing behavior, we want to do so scientifically, and systematically, meaning using experimental designs, data collection, and data analysis to evaluate the effects of interventions.”

Take home point: we want to make sure that what we are doing with our kids is actually responsible for changes in their behavior.

**Lecture #3: Introduction to the principles of behavior.**

- Principle 1: Behavior is strengthened or weakened by its consequences.
  - Consequences may either be positive and strengthen behavior or negative and weaken behavior.
  - Get examples of both positive and negative consequences of adult behavior in the real world.
  - Get examples of positive and negative consequences of the behavior of a child with autism.
  - “This link between consequences and behavior is what ABA refers to as a ‘functional relationship.’ Any individual behavior varies as a function of what follows it.”
  - Handout 2.1 – The Effects of Consequences.

- Principle 2: The nature of a consequence is determined by its effect on behavior.
  - Introduce concepts of reinforcement and punishment. Get examples from group of reinforcers and punishers.
Provide an example: If a child acts out and a parent reprimands him, which consequence is being provided? We need to know what happens to the behavior in the future to know if reprimands are reinforcing or punishing.

- Reinforcement – behavior increases in the future.
- Punishment – behavior decreases in the future.
- “This ties back to our first principle of behavior, that behavior is guided by consequences, whether they are positive or negative.”

- Principle 3: Behavior can be predicted in terms of probabilities, not certainties.
  - Emphasize that we are looking to generally affect behavior, in terms of trends rather than absolutes. No one person is going to respond to the same contingency every time.

**Discussion #2: Behavioral principles in action.**

- Get examples from the group of “functional relationships” from their children’s lives. What have their children learned from positive reinforcement? What have they learned from punishment?
- How do participants think their children learn best? Emphasize that the literature suggests that reinforcement can be more powerful than punishment.

**Lecture #4: Data collection**

- “Throughout this program we will introduce various strategies that are intended to affect your child’s behavior. As we said before, you will be asked
to practice them at home each week. How will you know what effects these techniques have on your child’s behavior?”

- Highlight the importance of effective measurement, including choosing a behavior to track and recording changes in that behavior. How many parents have collected data on their child’s behavior?
- Introduce basic procedures for collecting data. We do not want to overwhelm parents with complicated or time-consuming recording methods; rather this is intended as an introduction into attending to child behavior.
  - Frequency data
  - Data on correct responding
- Handout – Data sheet: frequency
- Handout – Data sheet: percent of opportunities

**Activity #1: Data collection.**

- Leaders will role play a teaching scenario while participants take frequency, and then percent opportunity data on the leader’s behavior.
- What are participant’s impressions about these methods?

**Homework:** Practice observing the effects of consequences on behavior. Choose a behavior to track during the next week and use reinforcement to change that behavior. Collect data on the behavior throughout the week.

**Discussion #3: Planning for homework.**

- Get examples from participants of behavior that they will try to change in the next week.
- When will they apply contingencies?
• How often will they take data?
• What type of data collection will they use and why?

WEEK 2 – Reinforcement

**Activity #1:** Review homework. How easy or difficult was it for participants to apply behavioral principles? What kinds of reinforcement did they use? What effects on behavior did they observe? Were there any challenges to applying contingencies or collecting data? *(Note to leaders: Issues to raise might include consistency [e.g., across people, across time], frustration [applying strategies or in response to a lack of behavior change], time restrictions. Encourage the group to troubleshoot overcoming these challenges for next week.)*

**Lecture #1:** Principles of Reinforcement.

• As discussed last week, reinforcement is defined by its effects to *increase* behavior in the future.

• Discuss positive versus negative reinforcement.

• Get examples from the group of using both positive and negative reinforcement with their children. In general, which can they see being the more natural type to use at home?

**Lecture #2:** Identifying Reinforcers.

• Some reinforcers come readily to mind (examples include toys, edibles) but there are many types of reinforcers.

• What are some other examples of reinforcers? (Praise, activities, social interaction, breaks.)
• ABA emphasizes *individualization* and this applies to reinforcement as well.

• How do participants go about identifying reinforcers for their children?

• “*The first step in developing reinforcers is to simply expose your child to potential reinforcers. Sometimes a child does not know how to operate a toy and therefore doesn’t know how exciting it can be. Or, he may not know that he would actually like a novel toy, activity, or food. We can certainly relate to this phenomenon – like the first time we try sushi.*”

• “*Giving free access to potential reinforcers can also create new reinforcers. Once a person has free access, it may become something the person would be interested in earning more of. Cable TV is a great example of this. Have we all experienced the week of ‘free’ HBO to get us hooked? They are hoping that this free access cues us into the reinforcing value of HBO and makes us more likely to buy it when the free week runs out.*”

• “*Even when we have a good idea about what functions as a reinforcer, preferences can change from day to day and even moment to moment. The research indicates that behavior is more likely to respond to reinforcers that are desired in the moment, and one way to assess for this is to provide choices. For example, we can use semi-structured assessments called preference assessments to identify current preferences and relative preferences.*”

• Review procedures for paired-choice and multiple stimulus without replacement preference assessments.

**Activity #2: Preference Assessments.**
• Have participants break into groups of 2 or 3 and practice running preference assessments.

• Ask the group, “When do you think preference assessments should be run? How can you see yourselves using them with your children?” Emphasize ongoing assessment of preference and their use prior to structured instruction.

**Lecture #3: Differential Reinforcement.**

• “Some reinforcers may be more valuable than others. Some are okay and some are ‘to die for!’ It is critical to have a full range of reinforcers so that you can utilize differential reinforcement. That is, you want to provide good reinforcement for good behavior and extraordinary reinforcement for extraordinary behavior. In this way, you will not only reinforce better behavior, but you will provide incentives for improved performance. For example, you would want to provide better quality reinforcement for a new skill your child is working on than for a skill he already does consistently.”

• “How does this apply to the behavior you are trying to change in your children?” Get examples from participants. Focus on smaller units of differential reinforcement as well, such as independent versus prompted responses, immediate versus delayed responding, and quality of response (e.g., speech plus eye contact versus speech alone).

• Handout – Differential and informational feedback.

**Lecture #3: Reinforcement Schedules.**

• “Reinforcement schedules refer to the delivery of reinforcement at predetermined times. Our efforts to be systematic in the application of
behavioral principles include being systematic about reinforcement as well. Reinforcement schedules can be used in structured teaching situations and during more informal teaching throughout the day.”

- “Typically, when a child is learning a new skill, reinforcement is provided on a very frequent basis. Initially, your child may require reinforcement every time he or she engages in the desired behavior. When you reinforce every time we call this a continuous schedule of reinforcement.”

- CRFs are very thick schedules of reinforcement, but reinforcement can also be provided on thinner schedules. We usually talk about two dimensions of reinforcement schedules: variable versus fixed and ratio versus interval.

- Handout – Reinforcement schedules.

- “The goal of reinforcement is that it is to be provided at natural frequencies. Although you may initially use continuous reinforcement, it will be critical to quickly move to more intermittent schedules, such as every 15 minutes or every few responses. Whatever schedule your child is likely to encounter in the natural environment (e.g., in a classroom) should be the ultimate objective.

**Activity #3: Reinforcement Schedules.**

- Have the group break into pairs. Give each pair a reinforcement schedule to practice in a role play.

**Lecture #4: Rules of Reinforcement.**

- Handout – Rules of reinforcement
• Review the rules with the group. Are there questions about any of these concepts or how to apply them?

Lecture #5: Motivating Operations.

• “Everyone experiences times when certain reinforcers will be more valuable than others. For example, when you haven’t eaten all day you may be more likely to stop at McDonald’s on the way home than if you had a meal in the last hour. Similar variables can effect how well a reinforcer works for your child at any given time. We refer to these as ‘motivating operations’ – that is, what may be affecting someone’s motivation to engage in some behavior in exchange for a reinforcer.”

• Within MOs are included abolishing operations (AOs) and establishing operations (EOs). Describe the effects of each on behavior.

• Most common examples include satiation (AO) and deprivation (EO).

• “We usually think of satiation and deprivation as they relate to food and drink, such as being ‘water deprived’ and being ‘full.’ However, these can be in effect for other types of reinforcement, including toys, activities, and attention.”

• What are some examples of EOs and AOs that participants have encountered at home?

• Discuss how to benefit from MOs. Highlight that reinforcement will be more salient in the presence of an EO, and children may be more likely to engage in appropriate behavior under these conditions.

Discussion #1: Reinforcement at home.
• Have the group brainstorm ideas for using differential reinforcement and reinforcement schedules with their children in the coming week.

**Homework:** Continue practicing using reinforcement at home, with data collection on your child’s behavior. Add in a reinforcement schedule for appropriate behavior and use differential reinforcement at least one time per day.

**WEEK 3 – Discrete Trial Teaching and Prompting**

**Activity #1:** Review Homework. Have participants give examples of how they used reinforcement schedules and differential reinforcement with their children. How easy or difficult was it for participants to implement these techniques?

**Lecture #1:** Introduction to DTT.

• “A common misconception about DTT is that it is separate from ABA. DTT is a teaching strategy used within the principles of ABA, not a separate intervention. It is a specific methodology used to maximize learning by focusing on the following: 1) breaking a skill into smaller parts; 2) teaching one sub-skill at a time until it is mastered; 3) providing concentrated teaching; 4) providing prompting and prompt fading; and 5) using reinforcement procedures. DTT relies heavily on repetition because it has been shown that repetition is essential to skill acquisition for learners with autism. Each teaching session involves many trials with each trial having a distinct beginning and end. In addition, a very small unit of information is presented and the instructor looks for a very clear response from the student.”

• Components of a Discrete Trial
- Instruction/Discriminative Stimulus (signal for the behavior)
- Student response
- Feedback/Consequence (for correct or incorrect responding)
- Intertrial interval
- Prompt

- SD
  - Can be verbal instruction or visual stimulus
  - Give examples and get examples from participants from their children’s programming
  - Progresses through teaching – may start as a simple and concise direction to help avoid confusion and highlight the relevant stimulus
  - “As the student progresses, instructions should become more complex and include more natural language. This helps promote generalization, or the likelihood that the skill will transfer to the natural environment. Think about a simple greeting program. When you first start, you may use the SD ‘hi’ to cue your child to say ‘hi.’ However, not everyone in the world will greet him by saying ‘hi.’ By being flexible with the SD you will increase the likelihood that he will respond to people who say ‘hi’ but also ‘hello,’ ‘hey there,’ and ‘good morning.’”
  - “It is also important to ensure that the SD is related to the desired response. For example, if you want your child to count, ‘1, 2, 3, 4’ the instruction should be ‘count.’ If you want your child to tell you how
many objects there are, the SD should be ‘how many?’ instead of ‘count.’”

- Give enough time for the child to respond. Sometimes our learners need more time to process than other children. This can also be faded out so that eventually the pace of instruction is similar to the natural environment.

- **Response**
  - Importance of knowing what response you are looking for (i.e., consistency of consequences, increases likelihood of correct responding)
  - Nonresponding as a response

- **Consequence**
  - Can include feedback on performance, error correction, or reinforcement
  - Handout – Examples of consequences
  - Immediate, consistent, differential

**Activity #2: DTT Practice.**

- Leaders model a few examples of running discrete trials, including successful and failed trials

- Participants split into groups and practice running DTT with each other.

**Lecture #2: Prompting.**

- “A prompt is assistance given by the instructor to promote correct responding. It should occur before a learner makes his or her response in
order to prevent an error from occurring. Generally, it is given at the same
time or just after the instruction. By using prompts, we can speed up the
learning process and reduce frustration due to repeated incorrect
responding.”

- Describe and model variety of prompts: 1) Visual; 2) Position; 3) Gestural; 4) Physical (full and partial); 5) Model; 6) Verbal.
- “Prompts can be organized in a hierarchy from least intrusive to most
intrusive. The prompt level should be selected to provide just enough
assistance to ensure success, but not more than needed. This can protect
against prompt dependency, or a learner’s tendency to wait for a prompt
rather than engage in an independent response.”

- Discuss when to use prompt hierarchies (i.e., most-to-least for new tasks;
least-to-most for mastered tasks).

**Discussion #1: Identifying appropriate prompts.**

- Leaders present vignettes of teaching programs and ask participants to decide
which prompts and prompt hierarchies would be appropriate.

**Activity #3: Prompting Practice.**

- Participants break into groups and practice applying various prompts with
other group members.

**Lecture #3: Interspersals and Behavioral Momentum.**

- “Repeated trials targeting one behavior can be frustrating, especially in the
early stages when a child may be contacting more error correction than
reinforcement.”
“Interspersals are acquired tasks that can be inserted between trials for a new, target behavior. Because they are likely to be performed correctly and reinforced, they keep the pace of instruction moving nicely.”

“In addition, they can maintain a child’s motivation to keep working, a phenomenon called behavioral momentum.”

Leaders model the use of Interspersals for the group.

Lecture #4: Motivation.

“While teaching needs to be systematic and some students may need a higher level of structure, it is not necessary to be overly regimented, especially for parents teaching skills in the home. Teaching should be as natural as possible to increase the student’s motivation and participation and facilitate generalization.”

Handout – Making therapy generalizable

Activity #4: Motivation in teaching.

Have participants role play a massed trial scenario with low affect (i.e., “boring” teaching) and then role play a teaching session with interspersals and high affect (i.e., “motivating” teaching).

Homework: Identify a new skill to teach your child. Use a DTT approach to work on that skill with your child this week. Remember, it is important to provide many teaching opportunities so multiple sessions per day is ideal. Use the percent opportunity data collection form to record your child’s responses to instruction.

* Handout – Data sheet: percent of opportunities
WEEK 4 – Naturalistic Teaching

**Activity #1: Review Homework.** What were participants’ experiences with DTT? What were their children’s experiences? How did data collection and prompting go? What was difficult about it?

**Lecture #1: Naturalistic Teaching.**

- Ask participants, “*What are some of the limitations or frustrations you experienced with DTT?*” Some parents may report frustration with the contrived nature of DTT and that it does not feel very natural. Bring up this issue if it is not raised by a participant.

- “*DTT is very effective for learning new skills, but it is a technique that can limit generalization. What are some of the differences between how SDs are presented in a DTT format and how they are presented in the natural environment?*”

- Emphasize that SDs in the natural environment tend to be more varied and flexible, do not tend to be repeated, and responses may contact less reinforcement.

- “*One way to supplement DTT is to use naturalistic teaching. Naturalistic teaching refers to a variety of teaching strategies that provide learning opportunities at natural times throughout the day.*”

**Lecture #2: Incidental teaching.**

- “*The broadest naturalistic strategy we use is incidental teaching. One of the fundamental obstacles in autism is the extreme difficulty children have in learning through casual observation. Providing natural opportunities as well*
as actively teaching skills will help your child learn how to acquire information through everyday casual experiences. Naturalistic teaching provides learning opportunities within the course of other activities, rather than in a structured setting. One of the great things about incidental teaching is that it does not have to be planned; you can do incidental teaching at any time throughout your child’s day.”

- Give examples of incidental teaching. Get examples of skills participants are working on with their children in DTT format and brainstorm how to use incidental teaching to target those skills.

- Emphasize that to provide enough learning opportunities, parents must always be “on the ready.” During a course of a play session, for example, participants should always have in the back of their mind, “What skills are my child learning right now? How can I create an SD in the current context to target that skill? How can I be sure others are also providing natural opportunities?”

**Activity #2: Incidental Teaching Role Play.**

- Have participants break into small groups and role play incidental teaching, focusing on the skills each parent is currently targeting with their children.

- Get feedback from the group and troubleshoot.

**Lecture #3: Pivotal Response Training.**

- “Pivotal response training (PRT) is a strategy that addressed two ‘pivotal’ challenges to learning: a lack of motivation and a failure to respond to multiple cues.”
• “Children with autism often demonstrate a lack of inherent motivation to learn new skills and to participate in their social environments. Such lack of motivation may be characterized by behavior such as temper tantrums, crying, noncompliance, inattention, stereotypy, or trying to leave the room. We do not know for certain why such children are so difficult to motivate but it may have something to do with the fact that since they often fail, they have simply learned not to try. Whatever the reason, it is obvious that the problem of motivation has to be resolved before we can expect great gains from these learners.”

• “The other major pivotal behavior is responsivity to multiple cues. A great deal of research over the years has identified a specific attentional characteristic present in many children with autism. This characteristic has been called ‘stimulus overselectivity’ and it involves the failure to attend to all the important cues in an educational setting. To give an example, in one early study children with autism were taught a task that was signaled by multiple cues, such as light, sound, and tactile cues. Later testing indicated that the children had learned only one of the cues and did not attend to the rest. How does this translate to the context of your children’s learning? Is anyone trying to teach her child a new label? Okay, let’s say you point to a picture of [dog] and say ‘[dog].’ If your child looks at the picture but does not also hear the spoken word, he will not learn the association between the two. Instead of trying to teach the verbal and visual cue separately, PRT aims to help a child be more likely to attend to both cues to begin with.”
• Handout – Points to remember from PRT

• “The basics of the structure of the learning session are not that different from DTT. The important components are 1) an opportunity to respond; 2) the response; and 3) the consequence. The difference lies in the way in which these steps are chosen and approached.”

• Review the PRT points. For each point, leaders will hand out vignette examples highlighting the main idea.
  
  o Point #1 – The opportunity to respond should be clear, appropriate to the task, uninterrupted, and the child must be attending. “When presenting your child with an instruction, it is important to first make sure you have his attention. Obviously he will learn little or nothing if he is not paying attention. This means he should be looking at the relevant materials but also not engaging in self-stimulatory behavior or tantrumming. Once he is attending you can give an instruction that is clear and appropriate to what he is doing at the time.”

  o Point #2 – Maintenance tasks should be interspersed with the new target skills. “This is similar to the point about using interspersals during DTT. In the same way during more naturalistic teaching, the child’s motivation and self-confidence should be increased by allowing him to be successful overall, even if he is not successful with the new task. Procedures which just drill a child on new, difficult tasks are likely to lead to frustration and loss of motivation.”
Point #3: To a large extent, tasks should be chosen by the child. “Just as any of us would be more motivated or interested in reading a book on a topic we enjoy, your kids might be more interested in interacting with toys and materials that they enjoy. In any situation, your child might choose a toy to play with or he might wish to terminate an activity by saying ‘all done’ or pushing the materials away. Whenever you can, you should comply with these wishes. In doing so you will have two positive effects. First, it will reinforce your child’s attempts to communicate. Second, it will help your child be motivated by his learning environment.” (Note to leaders: Some participants may have questions or issues with this point. It is important to let parents know that it is not always possible to let the child have total control. Under no circumstances should the child be allowed to engage in dangerous or unacceptable behavior, such as aggression, self-injury, stereotypy.) Introduce the idea of shared control and relate it to child-directed activities and turn-taking. Emphasize the use of turn-taking during interactions to provide learning opportunities.

Point #4: The instruction should include multiple components. “While motivation is important, it is also important to structure learning in a way as to increase your child’s ability to multiple types of cues in the environment. We know that the best way to do this is to teach with multiple cues and also to require that they use multiple cues as well. By multiple cues we mean that your child is aware of and responds to
two or more types of signals in the environment (e.g., “red pen” indicates both a pen – not a pencil – and that it is red – not blue).”

- Point #5: Reinforcement must be contingent upon behavior. “This means that your response must be as immediate as possible after your child’s response, appropriate to the response, and dependent upon the response. It should be clear to your child that your response (whether it is a correction or reinforcement) depends upon his or her behavior. These points are identical to those we made in session two, when discussing reinforcement. It is important to note that those principles apply whether you are teaching in a structured format like DTT, or in a more natural way.”

- Point #6: Any attempt to respond to the learning opportunity should be reinforced. “This means we want to be certain to encourage the child to try by reinforcing any attempt, rather than only reinforcing a correct response. While the response does not necessarily have to be correct it does have to be a reasonable attempt. Thus, your child should be directing his attention to the task, the attempt should be related to the task, and it has to be emitted with a reasonable amount of effort. For example, if your child knows how to say ‘I want cookie’ you would not reinforce just ‘cookie’ or a gesture to the cookie without words. The main thing to remember is that you want your child to be encouraged and motivated so that he will continue to try.”
Point #7: The reinforcer should have a specific relationship to the desired behavior. “The type of reinforcer used is extremely important. All reinforcers should have a direct relationship to the desired behavior. We call this the direct response-reinforcer relationship and it basically means that the reinforcer should be a natural consequence for the behavior. So, if your child says, ‘car’ it would be more natural for him to get to play with a toy car than to receive a skittle. The main advantage of a direct reinforcer is that it is the type of consequence a child can expect to receive in the real world, and maintaining behavior in the real world is the ultimate goal. We ourselves learn to use language to manipulate the environment and we continue to use language because it is successful for that purpose. We learn to say ‘help me please’ because it usually leads to assistance. This makes it likely that we will use similar language again. However, if we say, ‘help me please’ and someone says ‘good talking’ or gives us a skittle, we would be unlikely to continue to use that phrase.”

Activity #4: PRT Practice.

- Ask participants to make a list of skills they would like to target with their children. Then have them create a list of a) times of day they can naturally target this skill; 2) examples of SDs for each skill; and 3) reinforcers that have a direct response-reinforcer relationship.

Homework: Practice PRT by targeting at least 3 of the skills from your list.
WEEK 5 – Social Skills and Play

**Activity #1: Review homework.** Have participants relate their experiences using naturalistic teaching. What differences did they see in their children’s behavior in response to naturalistic teaching versus DTT? What differences did they notice for themselves?

**Lecture #1: Rationale for Targeting Play and Social Skills**

- “*Play and social skills are among the most important skills your child needs to learn. The quality of your child’s life will improve dramatically through social connections. Deficiencies in these areas often lead to isolation, boredom, and even depression. Being able to interact and play with other children in a meaningful way will increase your child’s happiness and provide him with a vehicle to learn important lessons about the world.*”

- “*Social and play skills have been linked to other positive outcomes as well. For example, children’s language development can be effectively stimulated through these skills. We usually see at least as much development of language through play and social skills as through structured therapy. Language is developed far more naturally through social interactions and play.*”

- “*Social and play interactions will become a primary forum for your child to learn a variety of skills. Naturally, for this to occur it will require careful and systematic intervention. However, the benefit will be that your child will learn in the most natural manner.*”

- “*Social programs and play programs also integrate some of the strategies we discussed earlier. Obviously, they are most conducive to naturalistic teaching*
techniques. The use of naturally occurring reinforcers will also be important. In these contexts, social reinforcement is the most relevant to your child’s interactions with others. Bringing peers into the picture will also be crucial. We have often found that peers can stop inappropriate behavior faster, more effectively, and far more naturally than teachers can. Additionally their consequences are must less contrived (e.g., ‘don’t do that!’ versus ‘you’re not being a good friend’). There is also some research suggesting that children are more likely to imitate their peers than adults.”

Discussion #1: Current social and play-based interventions.

- How many participants’ children are currently working on some kind of social or play skill? Get examples.
- Where would participants rank these programs on a hierarchy of skills?
- **Note to leaders:** Some parents may be resistant to devoting a great deal of time teaching these skills. The majority of parents does not view this as a priority and may question the importance. Be sure to re-emphasize the link between social and play skills and other skills, particularly communication.
- Discuss with parents that the tremendous variety in social and play behavior can make them difficult to teach, and participants might be tempted to “fall back on” the ease of teaching more defined skills. If necessary, engage the group in a discussion about why it is worth it to expend the extra effort to target social skills and play.

Lecture #2: Joint attention
• This is a deficit that is often noticed by parents, although they may not have heard it described as such.

• Joint attention refers to the coordination of a person’s attention between an object and another person.

• Give examples of joint attention.

  “Joint attention also indicates a child’s awareness of the environment and the activities of others. Children who engage in joint attention make eye contact, shift their gaze between people and the environment, and demonstrate a desire to share their experiences with others.”

  “Joint attention is an important skill because it has been linked to other social skills, such as communication, play, imitation, and affect. In addition, a child who engages in joint attention will be more able to interact successfully with other people, especially his peers.”

• A variety of behaviors to target, including eye contact, pointing, following another’s point, following another’s gaze, shifting attention between objects in the environment.

• Discuss the difference between initiations versus responsivity. This will be an important concept across social and play skills and has particular relevance for targeting joint attention skills.

• Handout – Joint attention skills

• Handout – Steps for teaching joint attention

Discussion #2: Teaching joint attention
• The purpose of this discussion is for participants to brainstorm what types of strategies they could use to teach joint attention.

• Provide group with examples of joint attention skills to teach and have them discuss various elements of the teaching process, including 1) prompting and prompt fading; 2) DTT versus naturalistic strategies; 3) reinforcement.

• Have group role play teaching joint attention in pairs.

Lecture #3: Teaching Play Skills

• “In order to teach play skills, one must first decide what skills to teach. Careful consideration should be given to the selection process. Play skills should include interactive ones such as board games as well as activities that are suitable for playing by oneself. Preference should be given to activities that are suitable for the child’s age and will facilitate joining in with peers. Keep in mind, however, that although you can provide external reinforcement for engaging in toy and social play, reinforcement will be most effective if it comes at least in part from your child’s own enjoyment in the activity itself. Make sure you notice what your child likes best and aim to teach skills with similar materials. Preference assessments may also be useful here to assess ongoing changes in preference.”

• “Children with autism may never have learned to play with toys in an appropriate manner. Instead they may disregard toys all together, or use them in a self-stimulatory manner, such as spinning the wheels of a car. Thus, often the first step in teaching a child play skills to teach him how to interact appropriately with toys.”
• Strategies to teach functional play can include modeling, prompting, verbal instructions and LOTS of reinforcement.

• More complex play skills can be taught initially in an informal manner.
  - Pick several items to work on at a time
  - Use both DTT (for new or more difficult tasks) and naturalistic strategies
  - Start with small amounts of play time and work your way up

• Ask participants, “In teaching play, what are some advantages of using DTT and naturalistic teaching?”

• Task analysis: “All skills should be divided into teachable parts. This simplifies the skills and reduces frustration. It also helps to ensure that each step is understood. The easiest way to create a task analysis is to do the skill yourself. Write down all the steps, in order. These will become your individual teaching components.”

**Activity #2: Teaching a play skill**

• Ask participants to make a hierarchy of at least five play skills they would like their child to learn.

• Have the group identify a play skill to teach. Ask them to develop a task analysis together. Participants will then choose two play skills for their own child and develop task analyses for these skills.

**Lecture #4: Social Play with Peers**

• Social play skills can be taught in the same manner as any play skill.

• Children can practice social play at home before interacting with a peer.
• Playing with siblings is a great opportunity for your children to practice social skills and to see how peers may respond to his play.

• Handout – Examples of social play

• To facilitate opportunities to engage in social play, play dates can be helpful

• “In preparation for peer sessions, appropriate play skills should be identified and taught in one-on-one DTT sessions. Selection of play skills should be based upon which play skills will facilitate social integration as well as what your child will enjoy.”

• “When your child has some basic play skills, start bringing peers in for short periods of time (such as 30 minutes). At first, these sessions should focus on making the experience reinforcing for both the peer and your child. After about two sessions, the peer may take on a ‘buddy’ role, in which he provides some guidance for your child’s play.”

• Guidelines for peer play dates
  
  o Make the activities fun for your child and the peer
  
  o Let the peer be responsible for ‘helping’ your child and providing natural social reinforcement
  
  o Vary the activities that the children engage in
  
  o Arrange for the peer to provide predetermined SDs throughout the interaction
  
  o Prompt your child to engage, when necessary
  
  o Give both children time to play however they like, in between sessions

• Handout – Examples of activities for peer training
Discussion #3: Targeting social play

- How do participants see themselves targeting social play skills?
- How do participants envision integrating siblings and peers into teaching play and social skills?

Lecture #5: Promoting independence

- “As always, the goal is for your children to be able to play with a minimal amount of help from an adult. Some strategies to promote independent play include:”
  - Gradually fade yourself from the play situation, including fading prompts
  - Always provide praise and reinforcement for good playing. Use differential reinforcement for higher levels of independence
  - Provide opportunities to play with a variety of toys to promote generalization and maintain motivation

Homework: Work on two play skills you identified in your hierarchy. Notice what prompting and reinforcement strategies are required and whether the skills are better suited for DTT or naturalistic teaching. If possible, talk to your child’s sibling or the parent of a peer about bringing them into semi-structured play sessions.

WEEK 6 – Functional Assessment

Activity #1: Review homework. Get feedback from participants about their successes and challenges in targeting social and play skills. Note to leaders: This discussion may
require some extra time for troubleshooting. If participants experienced any obstacles, be sure to brainstorm ways for them to overcome those challenges in the coming weeks.

**Discussion #1: Challenging behavior.**

- “The assessment and treatment of problem behavior is a significant concern for families. Challenging behavior can interfere with a child’s ability to learn, and it can be stigmatizing or dangerous for the child or others.”
- Get examples from the group of their children’s challenging behavior that they would like to target.
- What interventions have they used before? What has worked and not worked?

**Lecture #1: Functional Assessment Rationale.**

- “Functional assessment is a process for gathering information that can increase our understanding of what in the environment is maintaining challenging behavior.”
- “Imagine that you are a medical doctor presented with a 7-year-old boy who engages in head-hitting. What intervention would you choose for him? What would you want to know about the behavior before choosing an intervention?” (Examples include where/when it happens, how frequently, etc.)
- “The logic behind functional assessment is driven by two principles.”
  - Most behavior serves a purpose (i.e., allowing a child to gain access to something desirable, escape something undesirable, or communicate some other message or need)
• Behavior tends to occur within a particular context, such as at certain
times of day, with certain people, or during certain activities.

• “Children will change the inappropriate behavior only when it is clear that a
different response will more effectively accomplish the same thing. For this
reason, identifying the causes of behavior – meaning, what the students ‘gets’
or ‘escapes’ – can give us necessary information to help address the behavior.

• Reasons for engaging in challenging behavior.
  • Gain access to something (e.g., attention, tangibles, activities)
  • Get out of something (escape demands, sensation)
  • Self stimulation (feels good)

• Give examples of each.

• “Functional assessment looks at the relationship between events in the
  environment (i.e., antecedents and consequences) and behavior.”

• Goals of a functional assessment
  • Identify problem behavior
  • Identify antecedents to problem behavior (events, times, situations)
  • Identify consequences that maintain problem behavior
  • Develop a hypothesis about what is maintaining problem behavior

• Why is this important? Discuss implications regarding effective treatment
  planning and contraindicated interventions.

Lecture #2: Descriptive Analysis
• Method by which you can form a hypothesis about what maintains challenging behavior based on observations of the behavior in the environment (i.e., antecedents and consequences).

• Just watch what happens naturally!

• What kind of information should you look for?
  
  o General setting events
  
  o Immediate antecedents
  
  o Immediate consequences

• “By recording a variety of instances of the behavior, you will be able to analyze patterns that may not otherwise be obvious. In order to be most accurate, you should observe many times across a variety of situations.”

• Take data!

• Handout – ABC data sheet

• Show examples of completed data sheets and show group how to calculate conditional probabilities. As a group, calculate conditional probabilities on a new data sheet.

• As a group, practice interpreting the results of conditional probability graphs.

**Activity #2: ABC Data.**

• Leaders will role play a situation while participants practice taking data on the antecedents and consequences, calculating conditional probabilities, and generating a hypothesis.

• Engage group in a discussion of when they would use this at home.

**Lecture #3: Functional Analysis.**
“A functional analysis is the most sophisticated functional assessment procedure because it is essentially a mini-experiment to determine what maintains problem behavior. The purpose of an FA is to manipulate antecedents and consequences to see what effect they have on behavior. Although these manipulations may seem unnatural, hundreds of studies have validated the use of FA procedures.”

“First we want to describe how an FA looks in a clinical setting and then we can talk about how this would apply to use in a home environment.”

“Traditional FAs include five conditions, which are purposefully manipulated to see when challenging behavior is most likely to occur.”

- Attention (positive reinforcement)
- Tangible (positive reinforcement)
- Demand (negative reinforcement)
- Ignore/Alone (automatic reinforcement)
- Toy play/Control (comparison condition)

- Describe FA procedures. Reinforce that high rates of behavior indicate function, acknowledging that this may seem counterintuitive at first.

- Describe data collection.

- Handout – FA data sheet.

- Demonstrate how to graph data, using excel or paper.

**Activity #3: FA Practice**

- Leaders will role play a functional analysis while participants collect data.
• Have participants break into groups and practice running conditions and taking data. Ask them to graph their data and identify the likely maintaining variables.

Discussion #2: Using FA at home

• Discuss the applications of FA in the home. Acknowledge that analogue FAs are not always practical for parents. What are some alternatives?

• Parents may manipulate only antecedents or only consequences and see the effect on behavior.

• They may use shorter conditions, or provide manipulations during naturally occurring activities (provide examples, such as withdrawing attention for a minute during play or restricting access to preferred items).

• Most important point is for parents to be aware of what patterns to look for in their child’s behavior.

• Ask each participant to identify a behavior to assess, choose a method of assessment, and decide when they will use that procedure.

Homework: Use both descriptive assessment and at least one “series” of FA for the chosen behavior. Collect data and formulate a hypothesis about the function of the behavior.

WEEK 7 – Decreasing Challenging Behavior

Activity #1: Homework review. Have participants share their experiences conducting descriptive assessment and functional analysis.

Lecture #1: Linking assessment to treatment
• “After conducting a functional assessment, you have hopefully determined the maintaining factors for the challenging behavior. As we stated last week, it is important that the treatment is directly related to the function of the behavior.”

• Give more examples of contraindicated procedures.

Lecture #2: Antecedent-Based Interventions

• “Antecedent-based interventions are measures that are intended to be used before your child engages in problem behavior. That is, the point is to change the environment to make it less likely that he or she will want or need to engage in problem behavior. Antecedent-based strategies are preferred as a starting point because they are the least intrusive. They can include changes to the physical environment, but mostly the target is to alter the MO to engage in challenging behavior.”

• Noncontingent reinforcement. “Noncontingent reinforcement involves a time-based delivery of stimuli with reinforcing properties. In NCR, reinforcement is delivered independent of your child’s behavior. The idea is to change the MO to engage in challenging behavior.”

• Provide examples of NCR, including what these would look like for various functions.

• Functional communication training. “In functional communication training, you would teach your child to appropriately request something, minimizing his or her need to engage in challenging behavior.”
• Provide examples of FCT, highlighting the use of varied topographies of response (e.g., verbal, card touch, etc.) and including examples corresponding to various functions. Emphasize that FCT should be taught like any other skill, with prompt fading and reinforcement.

• Have participants brainstorm appropriate requests to teach that are related to the function of their child’s behavior.

**Lecture #3: Consequence-Based Interventions**

• “Consequence-based strategies are used following the occurrence of a behavior. In this way they are thought of as reactive procedures and therefore more intrusive than antecedent-based interventions.”

• **Extinction.** “Extinction is when you discontinue the reinforcement of a previously reinforced behavior. The goal is to alter the link between the behavior and reinforcement. When engaging in a behavior no longer produces reinforcement, it is likely to decrease and be ‘extinguished.’”

• Give examples of extinction and highlight the difference between extinction and ignoring.

• Discuss extinction bursts and its implications – parents should be encouraged to hang in there!

• Points to remember about extinction
  
  o Only effective if you can control all reinforcers for the behavior. For example, if your child whines for attention and because he enjoys it, extinction will not work.

  o Does not work for self-stimulatory behavior
Differential Reinforcement. “Differential reinforcement involves using both reinforcement and extinction to decrease behavior. When using DR, appropriate behavior is reinforced and inappropriate behavior is put on extinction. Reinforcement can be provided for alternative behavior or the absence of problem behavior.”

- DRO – Describe and provide examples.
- DRA – Describe and provide examples

Have participants break into small groups and practice using DRO and DRA.

**Discussion #1: Apply behavior reduction programs.**

- Ask participants to break into small groups and identify one or two challenging behaviors they would each like to address. Have them brainstorm/discuss what strategies would be appropriate for each and role play in their groups.

**Lecture #4: One last point.**

- When in doubt of the function of a behavior, ignore! Behavior can easily become attention or tangible maintained.

- Handout – Challenging behavior and possible treatments.

**Homework:** Start applying behavior reduction principles at home with one or two target behaviors. Collect data on the rate of behavior to discuss next week. It is important to be consistent, so you should be working on this every day.
WEEK 8 – Punishment Procedures

Activity #1: Review homework. Get examples of how participants addressed challenging behavior and what patterns the data show. Discuss and troubleshoot difficulties with the procedures (may need to re-address consistency).

Lecture #1: Rationale for punishment.

- Punishment should be used as a last resort
- Punishment is the most intrusive intervention
- Should be reserved for dangerous behavior (e.g., severe aggression or self-injury)
- Does not teach an adaptive response – should be combined with teaching
- Explain positive punishment versus negative punishment, with examples

Lecture #2: Time Out.

- “Time out is when you withdraw your child from the opportunity of earning positive reinforcement. At first, this may seem easy to confuse time out with extinction. When using extinction, you remove the reinforcer that was previously available. In time out, you remove the child from the environment in which reinforcers are available.”
- It is important to keep in mind what your “time in” environment is. Time in refers to the reinforcing environment.
- Exclusionary time out: child is physically removed from the time in environment.
- Steps to exclusionary time out:
o Identify the appropriate behavior (e.g., “No hitting, go to time out”) in a neutral tone

o Guide him to the area with minimal attention

o Keep not reinforcing the child while he is in time out

- Nonexclusionary time out: child is not removed from the environment, but he is not able to access reinforcement
  
  o Planned ignoring
  
  o Contingent observation

- Discuss which time-out procedures are indicated for various functions of behavior

**Lecture #3: Response Cost.**

- “This refers to the loss of a specific amount of reinforcement when a child engages in an inappropriate behavior. You can think about it as a type of fine – when we break the law (e.g., speeding) we pay a fine. When your child engages in problem behavior he can also have to pay a ‘fine.’”

- Examples include loss of tokens, play time, reinforcers for a specific amount of time.

**Discussion #1: Punishment.**

- For what behaviors and how do participants envision using punishment procedures at home?

- **Note to leaders:** Some parents may not intend to use punishment at all and should not be pressed to do so.

**Discussion #2: Review.**
• What strategies have worked the best for participants?

• Which have been most difficult?

• What have been the main challenges to using behavioral strategies in the home?

• What concerns or feedback do participants have?

• Brainstorm how to maintain the use of behavioral principles at home.
References


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