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Mindful Parenting Decreases Aggression and Increases Social Behavior in Children With Developmental Disabilities

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Research shows that after training in the philosophy and practice of mindfulness, parents can mindfully attend to the challenging behaviors of their children with autism. Parents also report an increased satisfaction with their parenting skills and social interactions with their children. These findings were replicated and extended with 4 parents of children who had developmental disabilities, exhibited aggressive behavior, and had limited social skills. After mindfulness training, the parents were able to decrease aggressive behavior and increase their children's social skills. They also reported a greater practice of mindfulness, increased satisfaction with their parenting, more social interactions with their children, and lower parenting stress. Furthermore, the children showed increased positive and decreased negative social interactions with their siblings. We speculate that mindfulness

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produces transformational change in the parents that is reflected in enhanced positive behavioral transactions with their children.

Keywords: *mindful parenting, childhood aggression, social interaction, parental stress, satisfaction with parenting*

Data from prevalence studies have indicated that up to 14% of preschool children engage in moderate to severe maladaptive behaviors (Campbell, 1995; Lavigne et al., 1996) and that over half of them continue to have significant behavioral difficulties up to 6 years later (Marakovitz & Campbell, 1998; Speltz, McClellan, DeKlyen, & Jones, 1999). These maladaptive behaviors are more common in preschool children who have any developmental risk factors. For example, between 13% and 30% of children with intellectual and developmental disabilities exhibit maladaptive behaviors severe enough to warrant formal intervention (Emerson, 1995). Severe maladaptive behaviors in children with intellectual and developmental disabilities are also a risk factor for parental stress (Baker, Blacher, Crnic, & Edelbrock, 2002). Parents of such children exhibit higher chronic and episodic stress levels than parents of children without disabilities (Emerson, 2003). Furthermore, in behavioral interventions for maladaptive behavior in children with developmental disabilities, parental stress appears to negatively correlate with positive outcomes (Rhodes, 2003).

It is unclear from current research whether parental stress is unidirectional (from the child to the parent) or bidirectional (Baker et al., 2003; Keogh, Garnier, Bernheimer, & Gallimore, 2000). Bidirectional causation would fit a transactional model of development suggesting that "the development of a child is . . . a product of the continuous dynamic interactions between the child and the experience provided by his or her family and social context" (Sameroff & Fiese, 2000, p. 140). That is, a child shapes the behavior of his or her parents and, in turn, the parents shape the behavior of their child. As Davies (2004, p. 4) noted, "the parent's ability to respond adaptively to the child's unfolding development is influenced by immediate circumstantial and more distant social factors that support, or alternatively create stress on, the parent." Both parents and their children are active participants in the children's development, including their maladaptive behaviors.

We can reduce parental stress either by engaging them in stress reduction programs or by helping them to better manage their children's maladaptive behaviors. Hastings and Beck's (2004) review of stress interventions for parents of children with developmental disabilities suggests that parental stress can be reduced through a number of service models (e.g., respite care

or case management) as well as by group interventions using cognitive–behavior therapy. In an uncontrolled study, Baker, Landen, and Kashima (1991) reported reduced maternal stress after behavioral parent training. In a controlled version of this study, parents of children with developmental disabilities and behavior disorders reported reductions both in their stress and in the children's behavior problems (Feldman & Werner, 2002).

Given the established links between parental stress, coercive parenting practices and maladaptive behaviors in children with developmental disabilities, it is imperative that parents are offered learning opportunities that will enable them to shift their parent-child transactions to a more positive pathway. A number of structured parent training programs have been used for this purpose, including parent management training based on the work of Forehand and McMahon (1981), Patterson (1982), and Kazdin (2005), and parent-child interaction therapy (Eyberg, 1988). Other approaches have taught parents very specific skills to deal with the target behaviors of their children. For example, parents of children with developmental disabilities have been taught how to apply specific behavioral procedures to control their children's maladaptive behaviors. Typically, these have included implementing planned antecedent and consequent contingencies.

In our own work, we found that transformational changes occur in caregivers and parents as a result of mindfulness training. These transformational changes enable the caregivers and parents to produce positive differences in the behavior, learning, and well-being of those they care for, without implementing planned antecedent or consequent contingencies. For example, in one study, enhancing mindfulness by caregivers produced a substantial increase in the levels of happiness displayed by individuals with profound multiple disabilities, compared with that shown during baseline (Singh et al., 2004), and in another study, enhancing mindfulness in staff substantially decreased their use of physical restraints in response to aggression by individuals in three group homes, when compared with both baseline and behavioral training conditions, and increased the number of learning tasks mastered to competency by these individuals (Singh, Lancioni, Winton, Curtis, et al., 2006). In a parent training study, we taught three mothers of children diagnosed with autism the philosophy and practice of mindfulness in a 12-week course and assessed the outcome of the training on their children's behavior (Singh, Lancioni, Winton, Fisher, et al., 2006). In addition to monitoring changes in the children's behavior, mothers rated satisfaction with their parenting skills and the interactions with their children. Our results showed that the mothers' mindful parenting decreased their children's aggression, noncompliance, and self-injury and also increased the mothers' satisfaction with their parenting skills and interactions with their children.

We have described mindfulness as having a clear, calm mind that is focused on the present moment in a nonjudgmental way. When an individual is fully in the present moment, that individual is very open to perceiving and responding to a situation with more options than he or she previously realized (J. Kabat-Zinn, 1994). Thus, a mindful parent can respond to his or her child's maladaptive behavior in alternative ways that go beyond the rigid application of the antecedent and contingency management techniques that are typically taught in parent training programs. In this study, our aim was to replicate and extend the Singh, Lancioni, Winton, Fisher, et al. (2006) study by teaching mindfulness to parents of children with developmental disabilities. We assessed the effects of such training on the children's maladaptive behavior and interactions with siblings and on the parents' ratings of parental stress, satisfaction with their parenting skills, and interactions with their children.

Method

Parent-Child Participants and Settings

Four mother–child dyads participated. In Dyad 1, the mother was 23 years old and had one other child, a 6-year-old girl without disabilities. The index child was a boy (4 years, 11 months old), with an overall functioning ability of 8 to 15 months on the Vineland Adaptive Behavior Scales (Sparrow, Ball, & Cicchetti, 1984). The mother had a high school diploma and was enrolled in a college course through the Internet. In Dyad 2, the mother was 27 years old and had two other children, a 2-year-old boy and a 3.5-year-old girl, both without disabilities. The index child was a 5-year-old girl with an overall functioning ability of 22 to 30 months on the Vineland scales. The mother had a college degree in computer science and worked part time from home in the evenings when the children were asleep. In Dyad 3, the mother was 26 years old and had one other child, a 4-year-old boy, without disabilities. The index child was a 6-year-old boy with an overall functioning ability of 27 to 32 months on the Vineland scales. The mother was a college student. In Dyad 4, the mother was 31 years old and had one other child, a girl (6 years, 2 months old) without disabilities. The index child was a 4-year-old boy with an overall functioning ability of 15 to 22 months on the Vineland. The mother had not completed high school. The mothers, all African American, were homemakers and cared for their children full time. They were married to the children's fathers, who worked during the day and fully participated in parenting their children when at home. All four index children attended a day care center for children with

developmental disabilities for 2 hr/day, 3 days/week. The mother–child dyads were recruited for mindfulness training through the day care center. Each mother had received training in and utilized behavior management techniques that focused on contingency management and rule-governed behaviors.

Objective Measures

We used behavioral observations to monitor two behaviors of the children, aggression and social interactions with siblings.

Aggression. This was the target maladaptive behavior. It included any of the following acts directed at the mother or a sibling: hitting, biting, kicking, slapping, pushing, and shoving. Data were collected during the day and early evening when the index child was at home with the mother, which, typically, was for 8 and 10 hr each day. Using an event recording procedure, the mother marked the occurrence of each instance of aggression, in real time, on a Palm PDA. All four fathers served as reliability raters, collecting data on a separate Palm PDA for 2 to 4 hr each week, typically in the evenings or on weekends. An agreement was defined as both the mother and father recording an instance of aggression at about the same time (i.e., within ±2 min). Percentage of interobserver agreement was calculated for each week by dividing the total number of agreements by the total number of observations made by the primary observer (the mother) and multiplying by 100. Across the four mother–child dyads, the interrater reliability for all observations with both parents present ranged from 92% to 100%, with a mean of 96.5%.

Social interactions. The interactions of the children with their siblings were defined as positive, negative, or neutral. A positive interaction was any interaction that involved playing collaboratively, sharing toys, and verbally interacting in a socially acceptable manner. A negative interaction was any act that included snatching toys, hitting, biting, kicking, slapping, pushing, shoving, or verbally interacting in an antagonistic manner. A neutral interaction was any isolate play without verbal interchanges.

Social interaction data were collected for 15 min, once a week, in a playroom at the day care center that contained a variety of toys and other play equipment appropriate for day care children. The observers were two behavior analysts who were trained to 95% reliability by the first author during a series of five independent observations of each index child and sibling. On different occasions, each observer acted as primary observer and the other as reliability rater. Reliability ratings were based on every fourth observation of each child. The children were observed once a week on three

occasions during baseline, on alternate weeks during the mindfulness training phase, and in every fourth week during the mindfulness practice phase. Over the study, each child was observed 22 times for 15 min at a time. A partial time sampling method was used in which, for 5 s, each child was observed and then, during the next 5 s, a recording was made on a Palm PDA. That is, over a 15-min session, six observations were made and recorded each minute. For each weekly observation, percent interobserver agreement was calculated by dividing the total number of agreements between the two observers by the total number of observations made by the primary observer and then multiplying by 100. Across all observations and children, the overall interrater reliability ranged from 83% to 96%, with a mean of 92%.

Subjective Measures

As in the earlier study, each mother was required to complete three subjective scales, two providing measures of satisfaction and one providing a measure of her use of mindfulness when dealing with her child's maladaptive behaviors (Singh, Lancioni, Winton, Fisher, et al., 2006). Each of these scales measured satisfaction in subjective units on a scale ranging from 0 (*total dissatisfaction*) to 100 (*total satisfaction*). They followed the general principles of the Subjective Units of Discomfort Scale (SUDS; Stanley & Averill, 1998), which has a long history of being used to quantify subjective experience of discomfort. The mother used each of the scales once a week. In addition, in this study, each mother was required to complete a measure of perceived parental stress during the final week of the baseline and of the mindfulness practice phase.

Subjective units of parenting satisfaction (SUPS). We used the SUPS to assess the degree of mothers' satisfaction with their parenting skills. Ratings ranged from 0 (*total dissatisfaction with their parenting*) to 100 (*total satisfaction*).

Subjective units of interaction satisfaction (SUIS). We used the SUIS to assess the degree of mothers' satisfaction with their mother–child interactions. Ratings ranged from 0 (*total dissatisfaction with their interactions*) to 100 (*total satisfaction*).

Subjective units of use of mindfulness (SUUM). We used the SUUM to assess mothers' amount of use of mindfulness in parenting. Ratings ranged from 0 (*no use of mindfulness*) to 100 (*total use*).

Perceived parental stress. The mothers assessed their perception of their stress by completing the Parenting Stress Index (PSI; Abidin, 1990). The PSI provides an index of multiple areas of stress related to the mothers' views of how they function as parents. The scale assesses parents' perceived sources of stress, delineates perceived stress from life events, and distinguishes sources of stress from the child from sources of stress related to parental functioning. Each of the 120 items is rated on a 5-point scale. Child, parent, and total perceived stress scores were used in our study.

Informal Parent Interviews

During the last week of the mindfulness practice phase, the parents were individually interviewed about their experiences and perceived outcomes of mindfulness parent training. The interviews focused on (a) meditation practice, (b) use of mindfulness in daily life, (c) social interaction with their children, (d) relationship with their spouses, (e) mindfulness versus previous training in other forms of intervention, (f) personal growth, and (g) hopefulness.

Experimental Design and Procedures

We used a multiple-baseline design across participants (mother–child dyads). Baseline was followed by mindfulness training and then mindfulness practice. Except for shorter baselines and an additional mother–child dyad, the experimental procedures used by Singh, Lancioni, Winton, Curtis, et al. (2006) were replicated.

Baseline. This was implemented, devoid of any programmed intervention, for 3, 5, 8, and 12 weeks across the four mother–child dyads. The mothers were given no instructions on child management techniques and were asked to simply continue with whatever management techniques they had been using before the initiation of the study. Throughout this and later phases, the mothers collected data on their child's aggressive behavior and rated their satisfaction with their own parenting, mother–child interactions, use of mindfulness, and perceived parental stress.

Mindfulness training. The training phase was initiated immediately after baseline. An initial session was followed by three further training sessions (Monday, Wednesday, and Friday) in each of Weeks 3, 6, 9, and 12. Formal training ended after the 12th week. Throughout this phase, as soon as they were given an exercise, the mothers were requested to apply it in

the interactions with their children, along with any mindfulness skills they had been previously taught. They were not requested to stop using any other child management procedures that they wanted to use.

We conducted mindfulness training with each mother separately. In the initial session, the first author explained the details of the training and the philosophy of mindfulness. Each mother was given a copy of *Everyday Blessings: The Inner Work of Mindful Parenting* (M. Kabat-Zinn & Kabat-Zinn, 1997) to be read as preparation for the rest of the mindfulness parent training program. Each later training session was scheduled for 2 hr and involved one-on-one training by the first author. The mothers were taught meditation methods to enhance their mindfulness and were given exercises to help them practice mindfulness during their interactions with their children. The 12-session mindfulness training program and the structure of each training session are presented in the appendix.

Mindfulness practice. This phase immediately followed mindfulness training and lasted 52 weeks. We asked mothers to continue with all the mindfulness exercises and to use all their mindfulness skills in interactions with their children, but we gave them no further instructions. Again, they were not requested to stop using any other child management procedures.

Results

The mean number of aggressive behaviors per week during baseline and the experimental conditions, for each mother–child dyad is presented in Figure 1. Although frequencies of aggressive behavior varied across the four children, for each dyad there was some decrease during the 12-week parent mindfulness training phase, followed by more systematic and substantial reductions during the mindfulness practice phase. With Dyad 1, the child's mean number of aggressive behaviors per week decreased by 33% from baseline (14.3) to training (9.6) but showed an 87% decrease from training to practice (1.3). With Dyad 2, the child's mean number of aggressive behaviors per week decreased by 26% from baseline (8.6) to training (6.3) and 94% from training to practice (0.4). With Dyad 3, the child's mean number of aggressive behaviors per week decreased 30% from baseline (13.9) to training (9.7) and 91% from training to practice (0.9). With Dyad 4, the child's mean number of aggressive behaviors per week decreased 36% from baseline (14.4) to training (9.2) and 88% from training to practice (1.1).

Mean percentages of positive and negative social interactions of each index child with his or her sibling are presented in Table 1. During baseline,

Figure 1
Number of Participants' Aggressive Behaviors During Each Week of Baseline, Mindfulness Training, and Mindfulness Practice

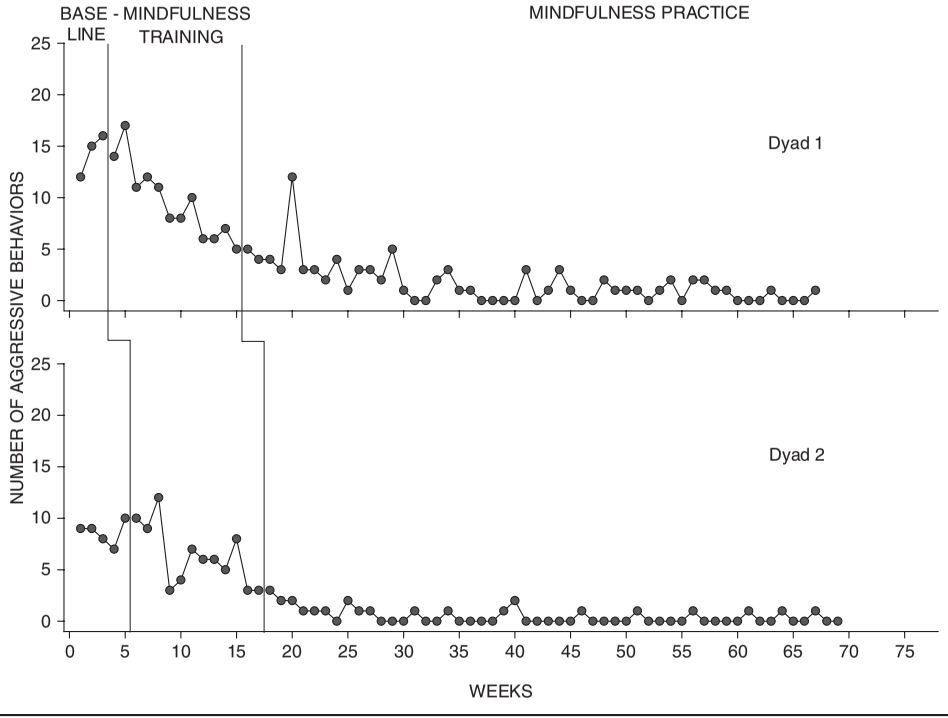

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Figure 1 (continued)

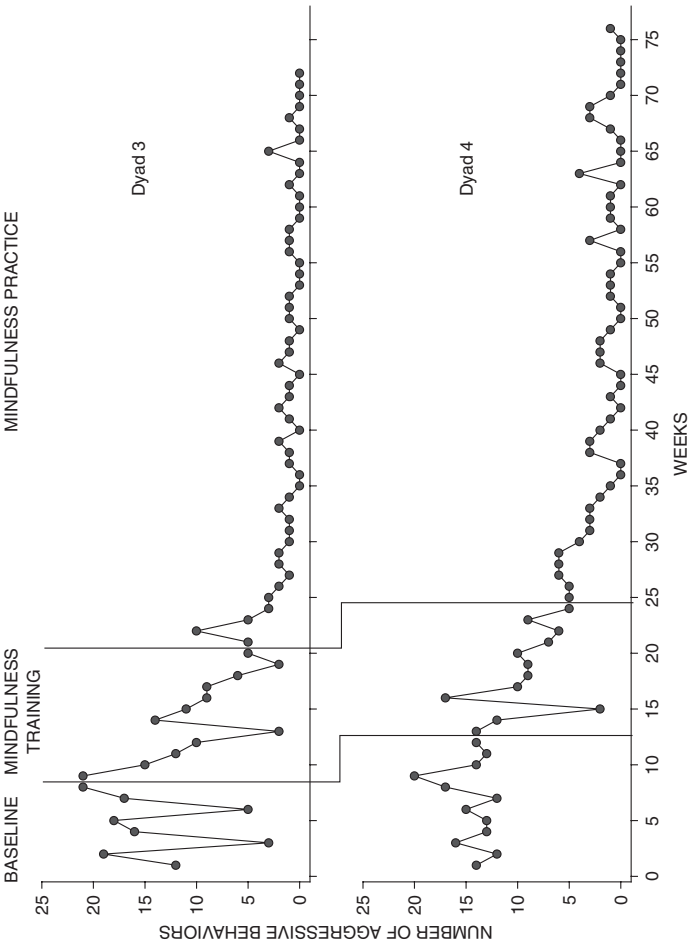

Table 1
Social Interactions Between the Index Child and Sibling

	Baseline		Mindfulness Training		Mindfulness Practice	
Dyad	Positive	Negative	Positive	Negative	Positive	Negative
1	25	32	30	26	46	9
2	36	20	43	17	56	1
3	19	27	22	28	43	7
4	22	31	24	29	47	11

the percentage of positive interactions ranged from 19% to 36% ($M = 26\%$); for negative interactions, the percentages ranged from 20% to 32% ($M = 28\%$). During the mindfulness training phase, there were small increases in positive interactions ($M = 4\%$) and, except for Dyad 3, for which there was a small increase, small decreases in negative interactions ($M = 3\%$). During the practice phase, there were larger increases in positive interactions for all dyads ($M = 18\%$) and larger decreases in negative interactions ($M = 18\%$). The percentage of positive interactions ranged from 43% to 56% ($M = 48\%$); for negative interactions, the percentages ranged from 1% to 11% ($M = 7\%$).

The subjective ratings of the mothers on their satisfaction with their parenting, mother–child interactions, and use of mindfulness are presented in the three panels of Figure 2. Although levels for individual dyads varied, the same pattern across phases was shown by all mothers. Self-ratings on parenting satisfaction were quite low during baseline, increased during mindfulness training, and reached high levels during mindfulness practice (baseline, training, and mindfulness practice averages were 28%, 41%, and 85%, respectively). Higher levels, but with a similar trend across phases, occurred with the ratings of mother–child interaction satisfaction (averages were 45%, 56%, and 90%, respectively). The ratings by the mothers of their use of mindfulness were at moderate levels during baseline, decreased during the mindfulness training phase and then increased to high levels during the mindfulness practice phase (averages were 56%, 40%, and 83%, respectively).

The perceived parental stress ratings of the mothers are presented in Table 2. The data show a modest decrease in both the PSI Parenting and Child subscales across all four mothers. Across the four mothers, the overall change in scores was between 15% and 26% ($M = 21\%$) for the Parenting subscale, between 18% and 25% ($M = 22\%$) for the Child subscale, and between 17% and 26% ($M = 21\%$) for the total scale scores. We utilized a paired samples t test to evaluate whether there were statistically

Figure 2
Mothers' Self-Ratings of Satisfaction With Their Parenting, Their Mother–Child Interactions, and Their Use of Mindfulness

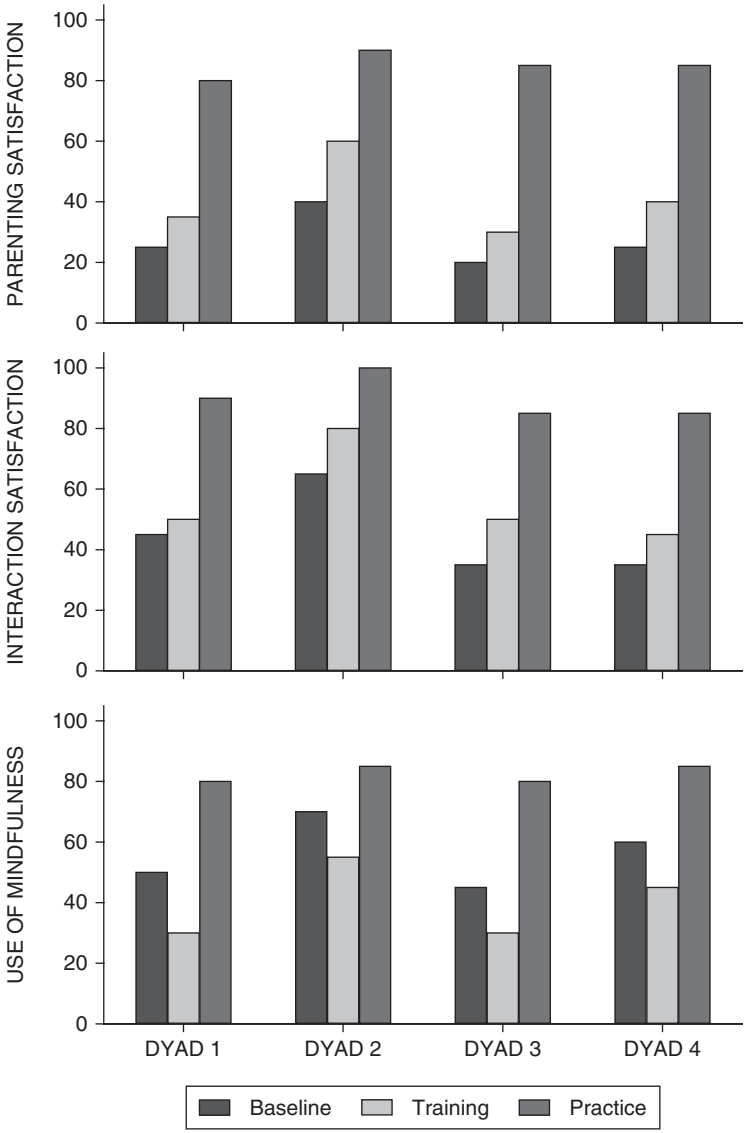

Table 2
Mothers' Perceived Parental Stress Ratings During Baseline and at the End of the Mindfulness Practice Phase

	Baseline			Posttraining		
Dyad	Parenting subscale	Child subscale	PSI total	Parenting subscale	Child subscale	PSI total
1	155	160	315	131	130	261
2	144	148	292	120	121	241
3	166	175	341	128	133	261
4	170	163	333	125	123	248

Note: PSI = Parenting Stress Index.

significant differences between the mothers' PSI scale scores at baseline and those at the end of the mindfulness practice phase. Baseline scores on the Parenting subscale, $t(3) = 6.24$, $p < .01$; and on the Child subscale, $t(3) = 9.44$, $p < .01$; as well as the PSI total score, $t(3) = 7.72$, $p < .01$, were significantly higher than scores obtained during posttraining.

In informal interviews, the mothers made a number of noteworthy observations. First, they reported that if they were not disciplined in their meditation practices and mindfulness exercises, they could not achieve a consistent and enduring practice on a daily basis. Second, they found parental mindfulness training to be very dissimilar to all previous training programs they had attended. The chief difference was that whereas previous training had focused on specific techniques or rules that the mothers had to implement with their child with developmental disabilities, this training was about their own inner work, which produced transformational change in themselves. They reported that this transformation "spilled over" to others with whom they interacted and produced palpable positive changes in their child (or children) and spouses. Third, they noted that although they appreciated past training and had spent considerable time learning how to manage specific behaviors of their children, in hindsight they realized that the approach was narrow, restrictive, and based on the idea of controlling the behavior of their child once the maladaptive behavior was already established. By contrast, the parental mindfulness training provided them with a broad approach that tapped into their knowledge, skills, and intuition and enabled them to have a much more holistic picture of their child within the context of the family and the social and physical environments. They noted that with consistent practice, they were able to begin responding in a calm

and positive manner without conscious thought and that this had the effect of preempting maladaptive behavior and encouraging positive social behavior in their children and other family members.

Discussion

Reductions occurred in the aggressive behavior of all four children. Some reduction from baseline was evident during mindfulness training, but more substantial reductions occurred during the mindfulness practice phase and, by the end of the phase, aggressive behavior was occurring minimally. These data replicate the findings in the earlier study of mindfulness training with parents of children with autism (Singh, Lancioni, Winton, Fisher, et al., 2006). It should be noted that in both studies, the children's behavior was not targeted either directly or indirectly, and the parental mindfulness training did not focus on reducing child maladaptive behavior. The observed changes in child maladaptive behavior were positive collateral changes associated with parental mindfulness training.

We were interested in assessing other collateral effects of parental mindfulness training on child behavior. We examined the children's social interactions with siblings in a formal context familiar to them, a playroom at the day care center, using the standard research strategy of structured behavioral observations. The resultant data showed minimal increases in positive social interactions from baseline to the mindfulness training phase, followed by much larger gains during the mothers' mindfulness practice phase. The negative social-interaction data showed a similar but opposite effect—minimal reductions from baseline during mindfulness training, followed by much larger decreases during mindfulness practice. These data strongly support the suggestion that the effects of parental mindfulness training spilled over to the children, without any formal intervention with the children. The mothers' mindful behavior contributes to positive changes in their children's behavior, and this new, changed behavior now occurs when the child interacts with people other than the mother. Whether this is because the children's behavior is similar to that occurring in the interactions with their mothers or because they have learned from the mother how to be more mindful of others would require further investigation. This spillover effect has been noted also with behavioral interventions.

On the basis of our previous study, we expected and found that the mothers' satisfaction with their parenting skills and social interactions with their children increased from baseline levels to mindfulness training and then

reached the highest levels when they began using mindfulness consistently in their daily lives—during the practice phase. Furthermore, self-ratings of the use of mindfulness were also similar to that found in the previous study, with higher levels occurring during baseline than during mindfulness training, but with the highest levels of all occurring during the mindfulness practice phase. In informal interviews, the mothers noted, as had the mothers in the previous study, that they did not fully understand the concept and application of mindfulness before the training and thus had made the higher baseline ratings. With understanding and consistent use during the practice phase, their ratings increased beyond baseline levels. The mothers reported increased motivation to use mindfulness as they experienced positive outcomes, not only in their own lives but also in the lives of their index child and other family members. Our data suggest that consistency in the use of mindfulness during the practice phase may have had an important effect on the child behavior outcome, but this will need empirical verification.

Stress in parents of children with developmental disabilities has been extensively researched (Hastings & Beck, 2004). As it is likely that parental stress is reciprocally related to child maladaptive behavior, its amelioration would be important for the psychological well-being of both mother and child. Furthermore, some researchers have shown that this stress is malleable and can be reduced by treating the maladaptive behavior of their children (Kazdin & Wassell, 2000). Others have shown that parental stress reduction can be a positive collateral effect of behavioral parent training (Feldman & Werner, 2002). Thus, all other outcomes being equal, any new model of parent training would need to show that parental stress is moderated by child treatment outcome. Our data show that both the children's aggressive behavior and the parental stress decreased with parental mindfulness training. In this regard, parental mindfulness training appears at least as effective as forms of parent training that directly modify children's maladaptive behavior.

The informal posttraining interviews suggest that the mothers found mindfulness training to be both effective and useful in transforming their lives. They identified that effort was required to maintain disciplined meditation, follow through on the mindfulness exercises, and learn how to be in the present moment. They also noted that the specific child management techniques learned from previous training programs were narrow in scope, focused on treating established maladaptive behaviors, and required them to be constantly vigilant about what was motivating their children's behaviors. They felt that because these techniques took considerable effort to control their children's behavior, they used them only when the behavior

became intolerable. They also reported that because they were always thinking ahead about how they would handle their children's maladaptive behavior, they were cognitively exhausted by the end of the day. Indeed, one mother noted that being so focused on treating her child's maladaptive behaviors almost resulted in her missing out on the life she had with him. With mindfulness training, however, she was able to realize the importance of being present in the experience of life itself. Although none of the mothers knew how or why the changes occurred, all four felt that their lives had been positively transformed because of the mindfulness training. Part of the transformation for mindful parents appears to be changes in the way they relate to all events in their environment, rather than the acquisition of a set of skills to specifically change their children's behaviors.

This study, as with our previous one with parents (Singh, Lancioni, Winton, Fisher, et al., 2006), adds further support for the growing literature on the effectiveness of mindfulness as a clinical intervention (Baer, 2003; Germer, Siegel, & Fulton, 2005; Hayes, Follette, & Linehan, 2004; Salmon et al., 2004; Segal, Williams, & Teasdale, 2002). For example, the recently introduced construct of mindful caregiving in developmental disabilities (Singh, Winton, et al., 2006) suggests that mindful staff can increase the happiness of individuals with profound multiple disabilities (Singh et al., 2004), decrease aggression and increase learning by adults in group homes (Singh, Lancioni, Winton, Curtis, et al., 2006), and be a more effective member of a treatment team (Singh et al., 2002). These studies reinforce the view that a positive and lasting transformational change occurs in the parents during, and following, mindfulness training. Recent research suggests that this transformational change may occur at both behavioral and neurophysiological levels (Davidson et al., 2003; Lutz, Greischar, Rawlings, Ricard, & Davidson, 2004; Schwartz & Begley, 2002).

This study was not designed to identify the mechanisms by which transformational change occurs in people who learn and practice mindfulness in their daily lives. Even so, we believe that some of the experiential characteristics of mindfulness described in the wisdom traditions may provide a starting point for exploring this issue (e.g., Gunaratana, 2002; McLeod, 2002). First, there needs to be an unconditional acceptance of oneself, others, and their behaviors. In the context of behavior change, a mother's unconditional acceptance of her child changes the context and alliance from actively controlling her child's maladaptive behaviors to a holistic context in which positive interactions take place in a manner exemplified by loving kindness, without the mother's actually focusing on any specific behaviors. This inevitably changes the mother–child transactions from a behavior-control

pathway to an interdependent, loving kindness pathway that recognizes the needs of both the mother and child that go beyond contingency management (M. Kabat-Zinn & Kabat-Zinn, 1997). In practicing mindfulness, the mother has to learn unconditional acceptance of the behavior, not only of the child, but also, of herself.

Second, mindfulness practice leads to emptying one's mind from limitations imposed by past conditioning. Often, a mother has learned various child management techniques in parent training courses that enable her to control specific behaviors of her child. This leads her to view her child's behavior from a very narrow perspective, because the mother filters the child's behaviors through the perceptual boundaries imposed by prior parent training. In turn, the mother prematurely commits herself to a specific mode of responding to her child's behavior, thus preempting her from being fully in the present moment (Singh, 2001). By learning how to empty her mind, a mother approaches her child's behavior with a "beginner's mind" (Suzuki, 1970), thus allowing her to spontaneously intuit possibilities she had not envisaged previously.

Third, attending to what is actually occurring in the present moment is emphasized. We have found that mothers often respond to their children without a focus on the here and now and allow considerations of the past or future to intrude. Fourth, mindfulness encourages attending to one thing at a time—to what is most important at that moment. In the present context, a mindful mother applies "bare attention" (Nyanaponika Thera, 1992) to her child's behavior, not to considerations as to why it is occurring or whatever action should she take. Fifth, attending to the here and now with bare attention allows the mindful mother to spontaneously respond in an appropriate manner to the child's behavior. With practice, mindfulness assists parents in bringing their minds back to the present moment instantaneously and without reflection. When being mindful and fully in the present moment, parents can respond to their child in a calm and compassionate manner without conscious thought and without analyzing contingencies maintaining the child's behavior.

Although the concept of responding without thought sounds counterintuitive, recent experimental research suggests that humans can perform more accurately if they respond without deliberation, rather than take their time and use higher level cognitive processes (Zhaoping & Guyader, 2007). One implication of that study is that our rational mind may perform worse than our subconscious mind, but we have been trained to let our conscious mind override the subconscious. Mindfulness training attunes the practitioner to the subconscious mind.

Taken together with our previous study, the data indicate that parental mindfulness training enables parents to better manage their children's behaviors without engaging in specific contingency-management techniques. Collateral changes in the parents include reduced stress and increased satisfaction in their skills and social interactions with their children. The children exhibited less aggression and engaged in more appropriate social interactions with their siblings. This study adds to the mindfulness literature but awaits independent replication. Our studies included small samples of convenience and individualized parent training. Many factors could have affected study outcomes, and these need further investigation.

Appendix
Outline of the 12-Session Mindfulness Parent Training Program

1. General introduction to mindfulness parent-training program
   a. Discussion of mother–child positive and negative interactions
   b. Discussion of parent and/or child training programs in which the mother has previously participated
   c. Mother's experiences with previous parent training programs
   d. Discussion of mother's expected outcomes from a parent training program
   e. Discussion of the aims of the mindfulness parent training program
   f. Review of program requirements: reading, meditation practice, application of mindfulness, and data collection
   g. Maintaining a practice journal
   h. Set homework tasks

2. Knowing your mind
   a. Interactive review of homework
   b. Review of mindfulness and mindlessness
   c. Identification of instances of mindfulness and mindlessness during mother-child interactions
   d. Basic meditation techniques for sitting and walking meditation
   e. Meditation practice on *Observing Your Mind*
   f. Discussion of practice on *Observing Your Mind* and its applications in mother-child interactions
   g. Set homework practice

3. Focused attention
   a. Interactive review of homework
   b. Review of focused attention

   c. Breathing as focused attention or awareness
   d. Meditation practice on *Breathing*
   e. Discussion of practice on *Breathing* and its applications in mother–child interactions
   f. Set homework tasks

4. Focused attention on arousal states
   a. Interactive review of homework
   b. Review of arousal states that precede and follow mother–child interactions
   c. Meditation practice on *Arousal*
   d. Discussion of practice on *Arousal* and its applications in mother–child interactions
   e. Set homework tasks

5. Being in the present moment
   a. Interactive review of homework
   b. Review of being in the present moment in the midst of chaos
   c. Meditation practice on *Being in the Present Moment*
   d. Discussion of practice on *Being in the Present Moment* and its applications in mother–child interactions
   e. Set homework practice

6. Beginner's Mind
   a. Interactive review of homework
   b. Review of premature cognitive commitment; bounded vs. unbounded reality
   c. Meditation practice on *Beginner's Mind*
   d. Discussion of practice on *Beginner's Mind* and its applications in mother–child interactions
   e. Set homework practice

7. Being your child
   a. Interactive review of homework
   b. Review of being in the "zone" or having a "peak experience"; being one with your child
   c. Meditation practice on *Being Your Child*
   d. Discussion of practice on *Being Your Child* and its applications in mother–child interactions
   e. Set homework practice

8. Nonjudgmental acceptance
   a. Interactive review of homework
   b. Review of acceptance and nonjudging; nonjudgmental acceptance of your child

c. Meditation practice on *Nonjudgmental Acceptance*
d. Discussion of practice on *Nonjudgmental Acceptance* and its applications in mother–child interactions
e. Set homework practice

9. Letting go
   a. Interactive review of homework
   b. Review of doing one's part and letting go of everything else
   c. Meditation practice on *Letting Go*
   d. Discussion of practice on *Letting Go* and its applications in mother–child interactions
   e. Set homework practice

10. Loving kindness
    a. Interactive review of homework
    b. Review of acting with compassion
    c. Meditation practice on *Loving Kindness*
    d. Discussion of practice on *Loving Kindness* and its applications in mother–child interactions
    e. Set homework practice

11. Problem solving
    a. Interactive review of homework
    b. Review the nature of problems and solutions
    c. Meditation practice on *Problem Solving*
    d. Discussion of practice on *Problem Solving* and its applications in mother–child interactions
    e. Set homework practice

12. Using mindfulness in daily interactions
    a. Interactive review of homework; data collection
    b. Putting it all together; review of meditation exercises and applications
    c. Meeting mother's expectations; mother–child interactions then vs. now
    d. Discussion on mindfulness in daily interactions
    e. Plans for follow-up, keeping in touch, and long-term practice

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