

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/302913323>

Parent Training

Chapter · May 2016

DOI: 10.1007/978-3-319-26583-4_17

CITATIONS

5

READS

336

2 authors:



Laura Lee McIntyre
University of Oregon

127 PUBLICATIONS 4,722 CITATIONS

SEE PROFILE



Cameron Neece
Loma Linda University

59 PUBLICATIONS 2,396 CITATIONS

SEE PROFILE

- McKenzie, K., Sharp, K., Paxton, P., & Murray, G. (2002). The impact of training and staff attributions on staff practice in learning disability services: A pilot study. *Journal of Intellectual Disabilities, 6*(3), 239-251.
- Michell, G., & Hastings, R. P. (1998). Learning disability care staffs: emotional reactions to aggressive challenging behaviors: Development of a measurement tool. *British Journal of Clinical Psychology, 37*, 441-449.
- Mores, B., & Grant, G. W. (1976). Nurse expectations for accomplishment of mentally retarded patients. *American Journal of Mental Deficiency, 80*, 644-649.
- O'Neill, R. E., Horner, R. H., Albin, R. W., Sprague, J. R., Storey, K., & Newton, J. S. (1997). *Functional assessment and program development for problem behavior: A practical handbook* (2nd ed.). Pacific Grove, CA: Brooks/Cole.
- Oliver, C., Hall, S., Hales, J., & Head, D. (1996). Self-injurious behaviour and people with intellectual disabilities: Assessing the behavioral knowledge and causal explanations of care staff. *Journal of Applied Research in Intellectual Disabilities, 9*, 229-239.
- Perry, J., Felce, D., Allen, D., & Meek, A. (2011). Resettlement outcomes for people with severe challenging behaviour moving from institutional to community living. *Journal of Applied Research in Intellectual Disabilities, 24*(1), 1-17.
- Reid, D. H., Rotholz, D. A., Parsons, M. B., Morris, L., Braswell, B. A., Green, C. W., & Schell, R. M. (2003). Training human service supervisors in aspects of PBS: Evaluation of a statewide, performance-based program. *Journal of Positive Behavior Interventions, 5*(1), 35-46.
- Reynolds, S., Lynch, S. L., & Litman, S. (2011). Training care teams of children with autism spectrum disorders in positive behaviour support: An innovative approach. *Healthcare Quarterly, 14*(Spec No 3), 95-99.
- Rose, J., Gallivan, A., Wright, D., & Blake, J. (2014). Staff training using positive behavioural support: The effects of a one-day training on the attributions and attitudes of care staff who work with people with an intellectual disability and challenging behaviour. *International Journal of Developmental Disabilities, 60*(1), 35-42.
- Rose, D., & Rose, J. (2005). Staff in services for people with intellectual disabilities: The impact of stress on attributions of challenging behaviour. *Journal of Intellectual Disability Research, 49*, 827-838.
- Rotholz, D. A., & Ford, M. E. (2003). Statewide system change in positive behavior support. *Mental Retardation, 41*(5), 354-364.
- Sailor, W., Freeman, R., Britten, J., McCart, A., Smith, C., Scott, T., & Nelson, M. (2000). Using information technology to prepare personnel to implement functional behavioral assessment and positive behavioral support. *Exceptionality, 8*(3), 217-230.
- Schalock, R. L., & Keith, K. D. (1993). *Quality of life questionnaire: Standardization manual*. Hastings, NE: Mid Nebraska Mental Retardation Services.
- Sprague, J. R., Flannery, B., O'Neill, R., & Baker, D. J. (1996). *Effective behavioural consultation: Supporting the implementation of positive behaviour support plans for persons with severe challenging behaviors*. Eugene, OR: Specialized Training Program.
- Stokes, T. F., & Baer, D. M. (1977). Implicit technology of generalization. *Journal of Applied Behavior Analysis, 10*(2), 349-367.
- Thackeray, M. (1987). Clinician confidence in coping with patient aggression: Assessment and enhancement. *Professional Psychology: Research and Practice, 18*(1), 57-60.
- Tyler, P., Oliver-Africano, P. C., Ahmed, Z., Bouras, N., Cooray, S., Deb, S., ... Crawford, M. (2008). Risperidone, haloperidol, and placebo in the treatment of aggressive challenging behaviour in patients with intellectual disability: A randomized controlled trial. *The Lancet, 371*(9606), 57-63. doi: 10.1016/S0140-6736(08)60072-0
- Wacker, D. P., & Berg, W. K. (2002). PBS as a service delivery system. *Journal of Positive Behavior Interventions, 4*(1), 25-28.
- Wardale, S., Davis, F., Carroll, M., & Vassos, M. (2014). Outcomes for staff participating in positive behavioral support training. *International Journal of Positive Behavioural Support, 4*(1), 10-23.
- Wardale, S., Davis, F., & Dalton, C. (2014). Positive behavioral support training in a secure forensic setting: The impact on staff knowledge and positive behavioral support plan quality. *International Journal of Positive Behavioural Support, 4*(2), 9-13.
- Willis, T., & La Vigna, G. W. (1990). *Behavioral assessment report and intervention plan*. Los Angeles, CA: Institute for Applied Behavior Analysis.
- Willis, S., Shephard, J., & Baker, P. (2013). Evaluating the impact of positive behaviour support training on staff knowledge, attributions, emotional responses and helping behaviour: Capturing hearts and minds. *International Journal of Positive Behavioural Support, 3*(1), 31-39.

Parent Training

Laura Lee McIntyre and Cameron L. Neece

Introduction

More than 1.5 million children in the USA are estimated to have an intellectual and developmental disability (IDD; Batshaw, Shapiro, & Farber, 2007; Federal Interagency Forum on Child & Family Statistics, 2009). Children with ID are at risk for a variety of poor outcomes, in part because they have cognitive, social, and language deficits (Dosen & Day, 2001). This risk is exacerbated when there is a concomitant behavior problem or mental health disorder (Reiss, 1994). Epidemiological studies suggest a high prevalence of dual diagnosis of ID and behavior/mental health disorder, occurring at a frequency ranging from 10 to 70 %, with most estimates between 30 and 45 % (Emerson, 2003; Nezu, Nezu, & Gill-Weiss, 1992). Thus, more than 500,000 American children have this dual diagnosis. Children and adolescents with ID are nearly 3-4 times more likely to have a diagnosable behavior/mental health disorder than are

their typically developing counterparts (Baker, Neece, Fenning, Crnic, & Blacher, 2010; Emerson, 2003). Dual diagnosis places adults at dramatically increased risk for social isolation and vocational and residential difficulties (Borthwick-Duffy & Eymann, 1990). Family members and other caregivers of individuals with ID and co-occurring behavior problems often report higher levels of stress, caregiving burden, and/or depression than do parents of children with ID only (Blacher, Shapiro, Lopez, & Diaz, 1997; Bromley & Blacher, 1991; Herring et al., 2006; McIntyre, Blacher, & Baker, 2002). Few studies have examined the underlying mechanisms of psychopathology in children with ID, although evidence suggests self-regulation and family interactions are potential pathways (Crnic, Baker, Blacher, & Gerstein, under review; Floyd, Harter, Costigan, & MacLean, 2004). Regardless of cause of early behavior problems, children with developmental delay as young as age 3 years already have three times the number of parent-reported behavior problems than do typically developing children (Baker, Blacher, Crnic, & Edelbrock, 2002). These behavior problems remain stable across the preschool years and kindergarten transition and across mother, father, and teacher informants (Baker et al., 2003; McIntyre, Blacher, & Baker, 2006). Because these young children and their families are experiencing problems at such an early age, there is a need for early systematic, preventive efforts

L.L. McIntyre (✉)

Department of Special Education and Clinical Sciences, 5208 University of Oregon, Eugene, OR 97403-5208, USA
e-mail: lmcinty@uoregon.edu

C.L. Neece

Department of Psychology, Loma Linda University, 11130 Anderson Street, Loma Linda, CA, USA

focused on reducing the risk of future behavioral difficulties and family stress. Left untreated, children with ID are at risk for developing a severe behavior disorder or mental illness, which places significant burden on caregivers and increases the likelihood of out-of-home placement or the need for intensive, costly residential services (Bromley & Blacher, 1991; McIntyre et al., 2002).

Starting at birth, families are children's main socializing agents, and they can influence children's behavior through their actions, attitudes, and behavior (Patterson, 1982). Although care must be taken to not blame families for child problems, positive parenting practices may promote child adjustment and negative or coercive practices may be associated with child problem behavior (Dishion & Stormshak, 2007). Family processes influence the emergence of behavior disorders in young children with and without disabilities (Baumrind, 1989; Bronson, 2000; Floyd et al., 2004; Kumpfer & Alvarado, 2003; Martin, 1981; Russell & Russell, 1996). Patterson and colleagues have suggested that negative, coercive parenting practices place children at risk for behavior problems (Patterson, 1982; Patterson, DeBaryshe, & Ramsey, 1989), and existing behavior problems may be exacerbated by parental stress over time (e.g., Baker et al., 2003; Neece, Green, & Baker, 2012). Furthermore, some evidence suggests that the presence of parental stress influences the emergence and persistence of behavior problems in school-age children with disabilities (Hastings, Daley, Burns, & Beck, 2006). Thus, interventions that address child behavior and parenting stress may be especially important.

Central to the emergence of childhood behavior problems are weak or disorganized family management practices, and coercive parent-child interactions may result. As such, the child's average behaviors increase in intensity and frequency and the parent acquiesces, unwittingly reinforcing problem behaviors (Gardner, 1989; Patterson, 1982; Patterson, Reid, & Dishion, 1992; Shaw & Bell, 1993). In turn, the parent dedicates less time and engagement to socialization processes. As the child's behavior becomes increasingly problematic, the parent may either escalate power

assertion techniques or begin to avoid conflict with the increasingly coercive young child. It is clear that coercive and rejecting parent-child relationships measured at age 2 are associated with child conflict with peers and teachers at age 6 (Ingoldsby, Shaw, & Garcia, 2001), trajectories of persistent conduct problems from ages 2 to 10 (Shaw, Gilliom, Ingoldsby, & Nagin, 2003; Shaw, Lacombe, & Nagin, 2005; Stormshak, Bierman, McMahon, Lengua, & CPRG, 2000), and serious problem behavior between ages 11 and 15 (Stormshak et al., 2000). Children with ID and their families may be particularly at risk for these outcomes because of higher levels of parenting stress, parental depression, and contextual risks associated with ID (Baker et al., 2002; Emerson et al., 2010). A recent study has shown that relative to a comparison group of parents of typically developing preschool-age children, parents of children with ID were more detached, more negative, and less positive (Crnic, Pedersen y Arbona, Baker, & Blacher, 2009). Clearly, supporting parenting skills can reduce the risk of later problem behavior for children with ID and may support family well-being and parent mental health (Baker, Fenning, Crnic, Baker, & Blacher, 2007; Floyd et al., 2004; McIntyre, 2008a, 2008b).

Parent training and education programs are interventions that target parenting skills to enhance behavior and adjustment in children. A robust literature has demonstrated the efficacy of parent training for reducing disruptive behavior in young children (see Kaminski, Valle, Filene, & Boyle, 2008; Lundahl, Risser, & Lovejoy, 2006; Serketic & Dumas, 1996, for reviews). Relevant to families of children with ID, a growing literature supports the efficacy of behavioral parent training programs (McIntyre, 2013) and other strategies for reducing disruptive behavior, such as Mindfulness-Based Stress Reduction (MBSR) approaches (Bazzano et al., 2015; Dykens, Fisher, Taylor, Lambert, & Miodrag, 2014; Minor, Carlson, Mackenzie, Zernicke, & Jones, 2006; Neece, 2014).

In this chapter we describe and review parent training interventions, such as behavioral parent training and mindfulness-based programs, that

are designed to reduce challenging behavior in children and adolescents with ID, and we discuss the research that is illustrative of these approaches. The chapter concludes with a discussion of future research directions and recommendations for practice.

Description of Parent Training Approaches

Behavioral Parent Training

Given the role that parents play in shaping children's development, behavioral parent training programs have adopted procedures from the disruptive behavior disorder treatment literature and applied them to the prevention and treatment of challenging behavior in children with ID (Brookman-Frazee, Stahmer, Baker-Ericzen, & Tsai, 2006). Parent training as an intervention for families with children with behavior disorders stems from social learning theory (Bandura, 1977), principles of operant theory and behavior modification (Holland & Skinner, 1961), and an understanding of developmental psychopathology (Hinshaw, 2002). The rationale behind parent training is that building parents' positive parenting skills and targeting parent-child interactions will have collateral effects on children's behavior problems (Forehand & McMahon, 1981; Patterson, 1982). Parent training with typically developing children with conduct problems has been useful for reducing children's observed aggressive and antisocial behaviors and increasing parental competence and positive parent-child relationships (Eyberg, 1992; Webster-Stratton, 2000; Webster-Stratton & Hammond, 1997). There is a growing evidence base that similar behavior-based parent training programs generate reductions in behavior problems in children with ID (e.g., Hudson et al., 2003; McIntyre, 2008b; RUPP Autism Network, 2007).

Behavioral parent training programs focus on teaching parents to use reinforcement and other consequences to increase positive, prosocial, and adaptive behaviors and decrease problematic behaviors. In these programs, parents are taught

to systematically praise and reward certain behaviors and neutralize other behaviors through the use of time out, ignore strategies, or removal of privileges. Some behavioral parent training programs also incorporate functional analysis or functional behavioral assessment (e.g., McIntyre, 2008a; RUPP Autism Network, 2007).

Mindfulness-Based Approaches

Although behavioral parent training emphasizes the acquisition of parenting skills that are linked to child behavioral outcomes, mindfulness-based strategies directly target stress that may be associated with the presence of child problem behavior (Bazzano et al., 2015; Dykens et al., 2014; Minor et al., 2006; Neece, 2014; Singh, Lancioni, et al., 2006). Given the bidirectional relation between parental stress and child problem behavior (Neece et al., 2012), it is logical to consider interventions that target the reduction of parental stress in terms of their impact on child behavioral outcomes. Surprisingly, although parenting stress has been shown to be an important predictor of several child outcomes, it is rarely directly addressed in interventions that target child behavior problems. This is concerning not only because parental stress has been shown to affect the development of children's emotional and behavior problems over time, but also because parenting stress has been associated with poor outcomes for interventions focused on children with ID and other developmental disabilities. More specifically, high parental stress predicts less beneficial outcomes for children in early intervention programs (Brinker, Scifer, & Sameroff, 1994; Osborne, McHugh, Saunders, & Reed, 2008; Robbins, Dunlap, & Plienis, 1991; Strauss et al., 2012) and fewer gains in parenting skills in behavioral parent training interventions (e.g., Baker, Landen, & Kashima, 1991).

Two types of mindfulness-based interventions have been used primarily with parents of children with ID. First is MBSR, which is an evidence-based stress-reduction intervention program supported by more than two decades of extensive research that has revealed its effectiveness for

reducing stress, anxiety, and depression and for promoting overall well-being (Chiesa & Serretti, 2009); however, only recently has MBSR been used to address parenting stress specifically (Bazzano et al., 2015; Dykens et al., 2014; Minor et al., 2006; Neece, 2014). This approach involves training individuals to use strategies to disengage attention from internal thoughts and feelings that elicit distress and to focus on their present experience directly without appraisals or interpretations (Singh et al., 2014). By focusing on the immediate experience, individuals are able to become more aware of which aspects of the experience are worth responding to, ignoring, or simply observing. It is thought that mindfulness training improves participants' emotion regulation skills through enhancing their attention monitoring abilities and facilitating nonjudgmental awareness of emotions, allowing people to genuinely experience and express their emotions without underengagement (e.g., avoidance) or overengagement (e.g., rumination; Chambers, Gullone, & Allen, 2009). In the MBSR program, parents learn to cope more effectively with both short- and long-term stressful situations. These coping skills are critical for parents of children with ID. MBSR may also help improve one's parenting experience in that mindfulness may help parents slow down, notice impulses before they act, truly listen to their children, and come to a more relaxed and peaceful state of mind, which in turn may have a positive effect on their children with ID.

The second kind of mindfulness-based parenting intervention, mindful parenting, has also been used with parents of children with ID and other developmental disabilities, and initial findings are promising (Singh et al., 2007, 2014; Singh, Lancioni, et al., 2006). These interventions incorporate mindfulness, self-awareness, and intentionality into the parent-child relationship. As a result, parent-child interactions are less reactive and are characterized by more relaxed communication and problem solving, which are ultimately thought to result in the reduction of children's challenging behavior (Singh et al., 2014). Findings indicate that

mindful parenting interventions are effective for reducing children's externalizing behavior and attention problems and for improving children's self-control, compliance, and attainment to others (Bögels, Hoogstad, van Dun, de Schutter, & Restifo, 2008; Singh et al., 2009, 2010). Mindful parenting differs from MBSR in that that the focus of mindful parenting is on using mindfulness specifically in the context of parent-child interactions and identifying interactions that result in relational disconnectedness (Almaier & Maloney, 2007), rather than on applying mindfulness techniques to parental stress more broadly, regardless of the source of stress.

The standard MBSR program includes eight weekly 2.5-h group sessions, a daylong meditation retreat during the sixth week of the program, and daily home practice based on audio CDs, including a minimum of 45 min per day of formal mindfulness practice and 5–15 min of informal practice (J. Kabat-Zinn, 2009; Santorelli, 2014). Formal mindfulness exercises are aimed toward increasing the capacity for mindfulness (i.e., present-moment awareness with a compassionate, nonjudgmental stance) and include a body scan, mindful yoga, and sitting meditation. Participants receive audio recordings of 45-min guided mindfulness exercises (i.e., body scan, yoga, and sitting meditation) that they are instructed to practice daily at home. To facilitate the integration of mindfulness into daily life, parents are also taught to practice mindfulness informally in everyday activities. During classes the formal mindfulness exercises are practiced, and didactic instruction is provided on stress physiology and using mindfulness for coping with stress in daily life.

Mindful parenting interventions may be varied in terms of duration, format, and content. Regardless of specific format, they all focus on integrating mindfulness into one's parenting experience (M. Kabat-Zinn & Kabat-Zinn, 1997). Similar to MBSR, parents are taught formal meditation practices and are assigned homework to promote continued mindfulness practice in between sessions. However, in contrast to MBSR, the specific formal meditation practices vary

across mindful parenting programs and focus on parent-child interactions (e.g., *Being Your Child* meditation in Singh et al., 2007), and homework exercises ask parents to practice mindfulness during interactions with their children.

Parent Training Formats

A multitude of parent training formats, including those that are self-administered, group based, and individually administered, have been investigated in behavioral parent training programs and in mindfulness-based parenting programs. The format of the parent training intervention may be a key clinical consideration in terms of feasibility of delivery, cost, and goodness-of-fit with certain participant subgroups (e.g., those from economically disadvantaged backgrounds); however, parent training format has not received a great deal of empirical attention. Following is a description of advantages and disadvantages associated with three parent training formats: self-administered, group-based, and individually administered.

Self-Administered Programs

Self-administered parent training may offer an accessible intervention format for many families, especially for those who have difficulty participating through traditional means. By providing parents with literature, audio/visual material, or computer-delivered information, this mode of delivery requires little to no contact between the professional and parent. Self-administered intervention has been shown by some to be as effective as therapist-directed programs (Markie-Dadds & Sanders, 2006; Nicholson & Sanders, 1999). Webster-Stratton, Kolpacoff, and Hollingsworth (1988), on the other hand, found this mode of intervention delivery to be less effective in comparison with a group discussion videotape modeling program. In a follow-up study, Webster-Stratton (1999) recognized the importance of giving families access to more cost-effective programs and sought to determine which participant variables were associated with positive outcomes in self-administered programs.

Results of Webster-Stratton's (1999) study suggested that single mother status, maternal depression, and mother's low mental age were significantly correlated with at least two of the four outcome variables at posttreatment. Therefore, although self-administered intervention may be helpful for some families, others may not respond to this form of intervention and may need additional support. Preliminary evidence has also provided initial support for the efficacy of self-directed mindfulness-based interventions. A study by Warnecke and colleagues (2011) found that medical students reported a significant reduction in stress and anxiety following a self-directed mindfulness intervention using an audio CD of guided mindfulness practice. In addition, studies have indicated that mindfulness interventions delivered via a mobile application (Carissoli, Villani, & Riva, 2015) and virtual training (Hudlicka, 2013) may also be effective.

Group-Based Programs

Being involved in a group format enables families to receive more therapist attention than they would receive in a self-administered format. Although group-based programs require more resources to implement, they are still more cost efficient than individually delivered interventions. Several group parent training programs have been designed to promote parent competencies and to address and/or prevent conduct problems (see reviews: Brestan & Eyberg, 1998; Webster-Stratton & Taylor, 2001). Similarly, mindfulness interventions are most commonly delivered in a group-based format, and group-based interventions, such as Mindfulness-Based Stress Reduction (MBSR) and Mindfulness-Based Cognitive Therapy (MBCT), have the most empirical support (Chiesa & Serretti, 2009, 2011; Grossman, Niemann, Schmidt, & Walach, 2004; Piet & Hougaard, 2011). A collateral benefit of group programs is the support and kinship available from other participants, which may increase parental engagement with the intervention and with their child's early education program. Greater parental engagement is an important benefit of group formats, especially for

those who may be socially isolated (e.g., low-income single mothers) with little support and few friendships (Dumas & Wahler, 1983). Although group-based parent training programs have many advantages, not every family benefits from this approach (Webster-Stratton & Hammond, 1997). Individually administered parent training allows participants to receive the most intensive, flexible, and individualized support.

Individually Administered Programs

There are many advantages to providing parents with individually administered programs rather than self-administered or group-based programs. These interventions have been used with both behavioral parent training and mindfulness-based approaches (Singh et al., 2007, 2014; Singh, Lancioni, et al., 2006). Individually administered programs offer increased flexibility in scheduling sessions and tailoring the content. Therapists who provide individualized sessions can give parents feedback specific to their situation and address parents' questions and concerns in a more individualized, tailored fashion. The primary disadvantage of individually administered programs is the cost. Webster-Stratton (1984) argued that group-based programs were more efficient and effective for many families. As previously discussed, individually administered programs also lack the provision of social support provided by group members. On the other hand, parents are more likely to accept and participate in individually based intervention than in group intervention (Chadwick, Momcilovic, Rossiter, Stumbles, & Taylor, 2001). In a meta-analysis examining the variability of treatment effects in terms of participant and treatment characteristics, Lundahl et al. (2006) found individually delivered intervention to be superior to group-delivered intervention for financially disadvantaged groups. That is, families with low socioeconomic status who participated in individually delivered parent programs had larger treatment effects than did those who participated in group-delivered programs, which suggests a greater need for more individualized support for these individuals.

Review of Approach and Research Illustrative of This Approach

Following is a review of key behavioral parent training studies and mindfulness-based intervention studies published in the past decade. Because it is beyond the scope of this chapter to provide an in-depth review of each study, research illustrative of the approach is summarized in Table 17.1, which offers a more detailed description of critical study components. All studies listed in Table 17.1 focused on parent training interventions to reduce challenging behavior in children or adolescents with ID, including autism spectrum disorder (ASD); were published in English between 2005 and 2014; were quantitative, with methods and results related to parent training; and included child challenging behavior as a dependent variable.

The majority of recently published parent training intervention studies targeting challenging behavior in children with ID use behavioral parent training approaches. Twelve of the 16 studies listed in Table 17.1 used behavioral parent training strategies. There is a growing evidence base for using mindfulness-based approaches to reduce both parenting stress and challenging behavior in children and adolescents with ID and other developmental disabilities, such as ASD. Four of the 16 studies are mindfulness-based intervention (see Table 17.1). The following study characteristics are described in Table 17.1: (a) participants; (b) dependent measures; (c) study design; (d) generalization, maintenance, consumer satisfaction, treatment integrity; (e) parent training interventions; and (f) treatment outcomes.

Behavioral Parent Training Programs

A range of behavioral parent training curricula has been evaluated and reported in terms of reducing challenging behavior in children and adolescents with ID. The Incredible Years Parent Training program, Stepping Stones Triple P, Signposts for Better Behavior, RUPP Parent Training, and Parent Child Interaction Therapy are some of the most extensively evaluated programs for this population.

Table 17.1 Behavioral parent training and mindfulness-based studies for child challenging behavior in children with ID 2005–2014

Study	Target group	Sample size	Intervention	Design/approach	Dependent variables	Key outcomes
Aman et al. (2009)	Caregivers and their 4- to 3-year-old children with PDD and elevated behavior problems	<i>N</i> = 124	• Behavioral Parent Training	• Randomized controlled trial	• Parent-reported child compliance	• Relative to MED group, COMB group had: <ul style="list-style-type: none"> • More parent-reported child compliance • Observed improvement on the • Parent-reported maladaptive behavior
Bagner and Eyberg (2007)	Caregivers and their 3- to 6-year-old children with ID and comorbid oppositional defiant disorder	<i>N</i> = 30	• Behavioral Parent Training	• Randomized wait-list control trial	• Parent-reported behavior problems	Relative to WL group, the IT had: <ul style="list-style-type: none"> • Less parent-reported problem behavior • More observed child compliance • Less reported parenting stress • High consumer satisfaction with PCT treatment
		<i>n</i> = 49 MED	• Combined treatment (COMB) of individual parent training plus risperidone	• Blinded evaluation	• Observed improvement on the	• Less parent-reported maladaptive behavior
		<i>n</i> = 75 COMB	• RUPP Parent Training	• ITT analysis	• Observed improvement on the	• More parent-reported child compliance
		<i>n</i> = 49 MED	• Medication alone (MED)	• Treatment integrity reported	• Parent-reported maladaptive behavior	• Less parent-reported maladaptive behavior
		Attention: 24 %	• Treatment integrity reported	• Treatment integrity reported	• No difference on clinical impressions of symptoms	• No difference on clinical impressions of symptoms
		<i>N</i> = 30	• Behavioral Parent Training	• Randomized wait-list control trial	• Parent-reported behavior problems	Relative to WL group, the IT had: <ul style="list-style-type: none"> • Less parent-reported problem behavior • More observed child compliance • Less reported parenting stress • High consumer satisfaction with PCT treatment
		<i>n</i> = 15 Immediate treatment	• Parent-child Interaction Therapy (PCT)	• Intent to treat (ITT) analysis	• Observed parent and child behavior	• Less reported parenting stress
		<i>n</i> = 15 wait-list	• Immediate treatment (IT)	• Reliable change index (RCI) analysis	• Parent-reported parenting stress	• More observed child compliance
		Attention: 47 %	• Wait-list control (WL)	• Treatment integrity reported	• Consumer satisfaction	• More observed parenting
				• 4-month follow-up		• Less reported parenting stress

(continued)

Table 17.1 (continued)

Bagner, Pettit, Lewinsohn, and Seeley (2010)	Caregivers and their 18-to 60-month-old children born premature (<37 weeks gestation) with elevated behavior problems	N=28	• Behavioral Parent Training	• Randomized wait-list control trial	• Parent-reported behavior problems	• Parent-reported behavior problems	Relative to WL group, the IT had:	• Less reported problem behavior	• Observed parent and child behavior	• Intent to treat (ITT) analysis	• Reliable change index (RCI) analysis	• Treatment integrity reported	• 4-month follow-up	• Parent-reported parenting stress	• Less reported parenting stress	• Less reported laxness, overreactivity, and verbosity in parenting styles	Hudson, Cameron, and Mathews (2008)	Parents of 2-to 18-year-old children with ID and challenging behavior	N=2119	• Behavioral Parent Training	• Signposts for Building Better Behaviour program	• 4 levels:	• Self-directed telephone	n=1675 group	n=303 individual	Attrition: 58% pre-post, 87% pre-follow-up	• Telephone	• No treatment integrity reported	• Consumer satisfaction	• Less parenting hassles	• More competence in parenting	• Less stress, depression, and anxiety	• Parent-reported mental health	• Parent-reported competence	• Parent-reported parenting hassles	• 3-month follow-up	• Parent-reported parenting hassles	• More competence in parenting	• Less child problem behavior	• Less reported problem behavior	• Posttreatment parents reported:	• Parent-reported behavior problems	• Parent-reported behavior problems	• Postintervention, parents reported:	• Decreased problem behavior	• Decreased parenting	• Decreases in observed child problem behavior and negative parenting	• Increase in parent-reported positive impact of the child on family	• No significant changes in parent-reported behavior problems, child maternal depression
			• Parent-child Interaction Therapy (PCIT)	• Immediate treatment (IT)	• Wait-list control (WL)	• Treatment integrity reported		• 4-month follow-up	• Parent-reported parenting stress	• Less reported parenting stress	• Less reported laxness, overreactivity, and verbosity in parenting styles	• Parent-child Interaction Therapy (PCIT)	• Intent to treat (ITT) analysis	• Reliable change index (RCI) analysis	• Treatment integrity reported	• 4-month follow-up				• Parent-reported parenting stress	• Less reported parenting stress	• Less reported laxness, overreactivity, and verbosity in parenting styles	• Behavioral Parent Training	• Signposts for Building Better Behaviour program	• 4 levels:	• Self-directed telephone	n=1675 group	n=303 individual	Attrition: 58% pre-post, 87% pre-follow-up	• Telephone	• No treatment integrity reported	• Consumer satisfaction	• Less parenting hassles	• More competence in parenting	• Less stress, depression, and anxiety	• Parent-reported mental health	• Parent-reported competence	• Parent-reported parenting hassles	• 3-month follow-up	• Parent-reported parenting hassles	• More competence in parenting	• Less child problem behavior	• Less reported problem behavior	• Posttreatment parents reported:	• Parent-reported behavior problems	• Parent-reported behavior problems	• Postintervention, parents reported:	• Decreased problem behavior	• Decreased parenting

Klove et al. (2011)	Parents of 2-to 11-year-old children with a range of neurodevelopmental disorders and challenging behavior involved in social services	N=128	• Behavioral Parent Training	• Group design	• Parent-reported behavior problems	• Parent-reported behavior problems	Postintervention, parents reported:	• Decreased problem behavior	• Behavioral Parent Training	• Incredible Years Parent Training	• No control group	• No control group	• Visual analogue scales	• Parent-reported behavior problems	• Parent-reported behavior problems	• Postintervention:	• Decreases in observed child problem behavior and negative parenting	• Increase in parent-reported positive impact of the child on family	• No significant changes in parent-reported behavior problems, child maternal depression
			• Behavioral Parent Training	• Incredible Years Parent Training	• Group-based intervention	• No treatment integrity reported		• Visual analogue scales	• Parent-reported behavior problems	• Parent-reported behavior problems	• Behavioral Parent Training	• Incredible Years Parent Training	• No control group	• No control group	• Visual analogue scales	• Parent-reported behavior problems	• Parent-reported behavior problems	• Postintervention:	• Decreases in observed child problem behavior and negative parenting

(continued)

Table 17.1 (continued)

Author (Year)	Study Design	Intervention	Comparison	Outcomes	Limitations
McIntyre (2008b)	Randomized, controlled trial	Behavioral Parent Training	Blinded evaluation	<ul style="list-style-type: none"> Parent-reported behavior problems Observed parent-child interactions Reductions in observed problem behavior and parent-reported problem behavior Reductions in observed negative parenting No treatment effect on parent-reported impact of the child on family 	<ul style="list-style-type: none"> Attrition: 10% n=25 usual care control
Necce (2014)	Random assignment	Mindfulness-based (Mindfulness-Based Stress Reduction (MBSR))	<ul style="list-style-type: none"> No treatment integrity data reported Parent-reported impact of the child on family Parent-reported depression Parent-reported satisfaction with life Parent-reported child problem behavior Parent-reported on internalizing or externalizing problem behaviors 	<ul style="list-style-type: none"> Reductions in ADHD symptomatology Reduction in parent-reported stress Reductions in parent-reported stress and depression Increase in life satisfaction No treatment effect 	<ul style="list-style-type: none"> n=21 MBSR n=25 wait-list control Attrition: 9%
McIntyre and Phanuyre (2011)	Group design	Behavioral Parent Training	<ul style="list-style-type: none"> Group design No control group Treatment integrity monitored but no data reported 	<ul style="list-style-type: none"> Parent-reported child problem behavior Parental confidence Increase in parent confidence for handling child's challenging behavior Decrease in parent-reported behavior 	<ul style="list-style-type: none"> n=14 Attrition: 0%
Phanuyre and McIntyre (2011)	Single-case design	Behavioral Parent Training	<ul style="list-style-type: none"> Single-case design Used parents' response to intervention to inform treatment Observed child problem behavior Parent-reported child behavior problems Decreased parent-reported child problem behavior 	<ul style="list-style-type: none"> Decreased observed child problem behavior Decreased observed negative parenting behavior 	<ul style="list-style-type: none"> n=8 Attrition: 25% pre-follow-up
Okuno et al. (2011)	Group-based intervention	Parent Training with Smaller Groups and Shorter Schedules (PTSS)	<ul style="list-style-type: none"> Behavioral Parent Training Group-based intervention Self-administered Group-based program (YPT-DD) with video feedback and modeling 	<ul style="list-style-type: none"> Parent-reported child problem behavior Observed observed child problem behavior Observed observed negative parenting behavior 	<ul style="list-style-type: none"> n=14 Attrition: 0% n=25 wait-list control Attrition: 9%

(continued)

Table 17.1 (continued)

Plant and Sanders (2007)	Parents and their preschool-age children (<6 years) with ID, including ASD, and challenging behavior	Parents and children age 14-13 years with ASD and challenging behavior	<ul style="list-style-type: none"> • Behavioral Parent Training • RUPP Parent Training • All children were receiving medication for irritability, tantrums, and self-injury 	<ul style="list-style-type: none"> • Single-subject experimental design • Parent-observed aggression, noncompliance, and self-injury • Subjective units of parenting satisfaction • Reduction in parent-observed child aggression, and self-injury • Increase in parenting satisfaction 	<ul style="list-style-type: none"> • Parent-observed aggression, noncompliance, and self-injury • Subjective units of parenting satisfaction • Reduction in parent-observed child aggression, and self-injury • Increase in parenting satisfaction 	<ul style="list-style-type: none"> • Parent-observed aggression, noncompliance, and self-injury • Subjective units of parenting satisfaction • Reduction in parent-observed child aggression, and self-injury • Increase in parenting satisfaction
Plant and Sanders (2007)	Parents and their preschool-age children (<6 years) with ID, including ASD, and challenging behavior	Parents and children age 14-13 years with ASD and challenging behavior	<ul style="list-style-type: none"> • Behavioral Parent Training • RUPP Parent Training • All children were receiving medication for irritability, tantrums, and self-injury 	<ul style="list-style-type: none"> • Single-subject experimental design • Parent-observed aggression, noncompliance, and self-injury • Subjective units of parenting satisfaction • Reduction in parent-observed child aggression, and self-injury • Increase in parenting satisfaction 	<ul style="list-style-type: none"> • Parent-observed aggression, noncompliance, and self-injury • Subjective units of parenting satisfaction • Reduction in parent-observed child aggression, and self-injury • Increase in parenting satisfaction 	<ul style="list-style-type: none"> • Single-subject experimental design • Parent-observed aggression, noncompliance, and self-injury • Subjective units of parenting satisfaction • Reduction in parent-observed child aggression, and self-injury • Increase in parenting satisfaction
						<ul style="list-style-type: none"> • 1-year follow-up • Parenting competence • Parental depression and anxiety • Marital quality • Consumer satisfaction
						<ul style="list-style-type: none"> • RCI analysis • Caregiving problems
						<ul style="list-style-type: none"> • Treatment integrity data reported • 1-year follow-up
						<ul style="list-style-type: none"> • Group design • No control group • Treatment integrity reported
						<ul style="list-style-type: none"> • Observed improvement on the scale • Adaptive behavior • Basic language and learning
						<ul style="list-style-type: none"> • Parent satisfaction • Parenting stress • Parenting stress questionnaire

RUPP Autism Network (2007)

Singh, Lancioni, et al. (2006)	Mothers and their 4- to 6-year-old children with autism and challenging behavior	Mothers and their 4- to 6-year-old children with ID and challenging behavior	<ul style="list-style-type: none"> • Mindfulness training • Individual sessions 	<ul style="list-style-type: none"> • Single-subject experimental design • Parent-observed aggression, noncompliance, and self-injury • Subjective units of parenting satisfaction • Reduction in parent-observed child aggression, and self-injury • Increase in parenting satisfaction 	<ul style="list-style-type: none"> • Parent-observed aggression, noncompliance, and self-injury • Subjective units of parenting satisfaction • Reduction in parent-observed child aggression, and self-injury • Increase in parenting satisfaction 	<ul style="list-style-type: none"> • Parent-observed aggression, noncompliance, and self-injury • Subjective units of parenting satisfaction • Reduction in parent-observed child aggression, and self-injury • Increase in parenting satisfaction
Singh et al. (2007)	Mothers and their 4- to 6-year-old children with ID and challenging behavior	Mothers and their 4- to 6-year-old children with ID and challenging behavior	<ul style="list-style-type: none"> • Mindfulness training • Individual sessions 	<ul style="list-style-type: none"> • Single-subject experimental design • Parent-observed aggression, noncompliance, and self-injury • Subjective units of parenting satisfaction • Reduction in parent-observed child aggression, and self-injury • Increase in parenting satisfaction 	<ul style="list-style-type: none"> • Parent-observed aggression, noncompliance, and self-injury • Subjective units of parenting satisfaction • Reduction in parent-observed child aggression, and self-injury • Increase in parenting satisfaction 	<ul style="list-style-type: none"> • Parent-observed aggression, noncompliance, and self-injury • Subjective units of parenting satisfaction • Reduction in parent-observed child aggression, and self-injury • Increase in parenting satisfaction
				<ul style="list-style-type: none"> • 12-month follow-up • Subjective units of parenting satisfaction 		
				<ul style="list-style-type: none"> • Multiple baseline across mother-child dyads • Parent-observed aggression, noncompliance, and self-injury • Subjective units of parenting satisfaction 		
				<ul style="list-style-type: none"> • Multiple baseline across mother-child dyads • Parent-observed aggression, noncompliance, and self-injury • Subjective units of parenting satisfaction • Reduction in parent-observed child aggression, and self-injury • Increase in parenting satisfaction 		

Incredible Years

Webster-Stratton and colleagues have developed a parent training program, the Incredible Years Parent Training series, that has been demonstrated to be more effective than control treatments in six randomized trials and in five independent replication studies (Webster-Stratton, 1984, 1994, 2000) for reducing children's maladaptive behavior and increasing parents' adaptive parenting skills in families of children with or at risk for behavior problems (without ID). Webster-Stratton's parent training series uses videotape modeling, role-playing, rehearsal, and weekly homework activities in small groups of 8-14 parents (see Webster-Stratton, 2000, for a review). In addition to targeting clinical samples of children with conduct problems, Webster-Stratton and colleagues have used Incredible Years Parent Training with families who have children at risk for adverse academic/socio/behavioral outcomes attributable in part to their poverty status (Gross et al., 2003; Webster-Stratton, Reid, & Hammond, 2001). Webster-Stratton has also added teacher and child skill-building components to her training series, which makes the model not only an efficacious treatment for children with conduct problems, but also a useful prevention technique for high-risk children and families. The Division 12 (clinical psychology) task force of the American Psychological Association deemed Webster-Stratton's Incredible Years series to be one of two well-established psychosocial treatments for childhood conduct problems (Brestan & Eyberg, 1998) on the basis of effect sizes, sampling, methodology, treatment integrity, and a host of other criteria (Lonigan, Elbert, & Johnson, 1998). Four studies (Kleve et al., 2011; McIntyre, 2008a, 2008b; Phaneuf & McIntyre, 2011) investigated the effects of Webster-Stratton's Incredible Years Parent Training program (IYPT; Webster-Stratton, 2001) on challenging behavior in children with ID. McIntyre (2008a, 2008b; Phaneuf & McIntyre, 2011) used an adapted version of the Incredible Years for use with parents of children with developmental disabilities (IYPT-DD; McIntyre, 2008a). IYPT is an evidence-based parent training program based

on principles of operant and social learning theories (Webster-Stratton, 2000). IYPT is designed to be delivered in approximately 12 weekly sessions. Group leaders use discussion, video modeling, role-playing, and didactics to cover topics in five main areas: play, praise, rewards, limit setting, and handling challenging behavior. Challenging behavior is reduced through altering negative and coercive parent-child interactions (Webster-Stratton, 2001). DD modifications implemented by McIntyre (IYPT-DD) included discussing the unique challenges and blessings associated with raising a child with developmental delays, understanding children's developmental levels and support needs, conducting descriptive functional behavioral assessments, and developing behavior support plans based on the hypothesized function of the child's challenging behavior (McIntyre, 2008a). Kleve et al. (2011) and McIntyre (2008a, 2008b) used the Incredible Years group program. Phaneuf and McIntyre (2011) incorporated a three-tiered model of intervention that increased the intensity of support, depending on parents' responsiveness to intervention. The three tiers of intervention evaluated by Phaneuf and McIntyre included self-administered reading materials (based on the Incredible Years: A Troubled Shooting Guide for Parents of Children Aged 2-8 Years; Webster-Stratton, 2005), group-based parenting training based on the Incredible Years with DD modifications (IYPT-DD), and individualized video feedback based on the behavioral skills training literature (e.g., Himle, Miltenberger, Gatheridge, & Flessner, 2004) with content covering the IYPT-DD (see also Phaneuf & McIntyre, 2007).

Kleve et al. (2011) and McIntyre (2008a) used a single group pretest-posttest design to evaluate the effects of the Incredible Years program on the parent-reported behavior problems of their children. In addition, McIntyre (2008a) included direct observations of parent-child interactions to gauge intervention effects on parenting behavior/skills and child problem behavior. Kleve et al. reported significant reductions in parent-reported behavior problems and McIntyre (2008a) reported significant reductions in observed child

Table 17.1 (continued)

<ul style="list-style-type: none"> • Reduction in parent-observed aggression, disruptive behavior, and compliance • Increase in parent-observed adolescent compliance • Decrease in parent-reported stress 	<ul style="list-style-type: none"> • Parent-observed aggression, disruptive behavior, and compliance • Parent-perceived stress scale 	<ul style="list-style-type: none"> • Single-subject design • Multiple baseline across mother-adolescent dyads • 12 month follow-up • Treatment integrity reported 	<ul style="list-style-type: none"> • Mindfulness training with support • Individual sessions 	<ul style="list-style-type: none"> • Behavioral Parent Training • Stepping Stones Triple P (SSTP) • Partial-group and individual sessions) 	<ul style="list-style-type: none"> • N=59 • n=29 SSTP • n=30 wait-list • Attrition: 11% 	<p>Singh et al. (2014)</p> <p>Mothers of adolescents with ASD and challenging behavior</p> <p>Whittingham, Sofronoff, Sheffield, and Sanders (2009)</p> <p>Parents of 2-to 9-year-old children with ASD and challenging behavior</p>
<ul style="list-style-type: none"> • Decrease in parent-reported stress 	<ul style="list-style-type: none"> • Parent-reported child behavior problems • Parent-reported parenting styles • Parent-observed dysfunctional parenting • Decreased reported parent-reported behaviors 	<ul style="list-style-type: none"> • Parent-reported child behavior problems • Parent-reported parenting styles • Parent-observed dysfunctional parenting • Decreased reported parent-reported behaviors 	<ul style="list-style-type: none"> • Parent-reported child behavior problems • Parent-reported parenting styles • Parent-observed dysfunctional parenting • Decreased reported parent-reported behaviors 	<ul style="list-style-type: none"> • Parent-reported child behavior problems • Parent-reported parenting styles • Parent-observed dysfunctional parenting • Decreased reported parent-reported behaviors 	<ul style="list-style-type: none"> • Parent-reported child behavior problems • Parent-reported parenting styles • Parent-observed dysfunctional parenting • Decreased reported parent-reported behaviors 	<ul style="list-style-type: none"> • Parent-reported child behavior problems • Parent-reported parenting styles • Parent-observed dysfunctional parenting • Decreased reported parent-reported behaviors

behavior problems and negative parenting behaviors following the Incredible Years intervention. McIntyre (2008b) used a randomized controlled trial to investigate the effects of the modified Incredible Years (IYPT-DD) on parent-reported behavior problems of their preschool children and direct observations of parent-child interactions. Relative to a control group, the intervention condition demonstrated statistically significant reductions in parent-reported problem behavior, observed child problem behavior, and observed negative parenting behaviors. Although this is the most rigorous evaluation of the Incredible Years published to date with children with ID, the sample size was small ($N=49$) and therefore offers limited evidence on the efficacy of the Incredible Years approach with families of children with ID. Phaneuf and McIntyre (2011) used a single case design to evaluate a three-tier model of interventions based on the Incredible Years. Findings suggest that all families benefited from the intervention package; however, some required more intensive support (i.e., tier 3 individualized services) to show decreases in observed child problem behavior and negative parenting behavior.

Stepping Stones Triple P

Two studies (Plant & Sanders, 2007; Whittingham et al., 2009) reported on the effects of Stepping Stones Triple P (SSTP) in families of children with ID or ASD. Stepping Stones is a variant of the evidence-based Triple P Positive Parenting Program (Sanders, 1999) and was developed especially for use with caregivers of children with disabilities. Triple P is grounded in operant and social learning theories and draws on principles guided by applied behavior analysis and coercion theory for reducing child problem behavior through altering parent-child interactions (Sanders, 1999). SSTP includes many components of the original Triple P program (e.g., reinforcement-based approaches for increasing positive behavior, differential reinforcement for decreasing challenging behavior, consideration of the function of the problem behavior) but also includes teaching strategies from the special education literature (e.g., skill acquisition, functional

communication training). Plant and Sanders compared SSTP with an enhanced version of SSTP. The enhanced intervention consisted of SSTP with additional content focused on stress and coping, strengthening social support, and partnering with professionals. In Whittingham et al. (2009) the SSTP focused on parents of children with ASD and included generic SSTP plus strategies on using Comic Strip Conversations and Social Stories (Gray, 1998) developed to promote social awareness, understanding, and problem solving.

Findings from Plant and Sanders (2007) suggest that, relative to a wait-list control group, both the standard and enhanced versions of SSTP were associated with reductions of observed child problem behavior in children with ID. Whittingham et al. (2009) reported similarly strong effects of SSTP with children with autism spectrum disorder (ASD), although relied on parent-reported problem behavior rather than direct observations of parent-child interactions. Taken together, findings from these two studies suggest growing evidence supporting the efficacy of SSTP for the treatment of challenging behavior in children with ID and ASD.

Signposts for Building Better Behavior

Hudson et al. (2008) reported on the effects of the Signposts for Building Better Behaviour program (see also Hudson, Cameron, & Matthews, 2003). Signposts is a multilevel program designed to be a preventive intervention of challenging behavior in 3- to 16-year-old children with ID. Signposts is designed to teach parents strategies for reducing challenging behavior before the behaviors escalate and warrant costly and time-consuming specialized interventions. Signposts is based on operant and social learning theories and uses behavioral parent training approaches to reduce challenging behavior and promote positive child and family adjustment (Hudson et al., 2003). In Hudson et al. (2003), three modes of intervention delivery were evaluated, including self-directed intervention using guidebooks and DVDs, telephone-delivered support, and group-delivery intervention. Hudson et al. (2008) expanded on this initial efficacy trial and reported on a

wide-scale implementation trial of the Signposts program. In this large implementation trial ($N=2119$), a fourth level of intervention (i.e., individual parent training sessions) was added and evaluated for effectiveness.

Findings from Hudson et al. (2008) suggest that the intervention can be scaled up and delivered via multiple formats. As would be expected in an implementation trial, a control group was not included in the design. Data from posttreatment and follow-up assessments suggest reductions in parent-reported child problem behavior; however, caution should be used when interpreting the findings given the extremely high levels of attrition (58% attrition from pre-post and 87% attrition from pre-follow-up).

RUPP Parent Training

Two studies (Aman et al., 2009; RUPP Autism Network, 2007) reported outcomes for the Research Units in Pediatric Psychopharmacology (RUPP) Autism Network medication trial that involved comparing the effects of psychotropic medication with a combined treatment of medication and parent training in children with pervasive developmental disorders (PDD). The RUPP Parent Training (RUPP PT) program is a manualized, individually delivered treatment based on principles of applied behavior analysis, operant theory, and behavioral skill training (Johnson et al., 2007). The goal of RUPP PT is to increase compliance and decrease problem behavior in children with PDD. RUPP PT consists of 11 core treatment sessions, three optional sessions, and as many as three booster sessions. Core sessions include topics such as basic behavioral techniques used to decrease problem behavior and increase adaptive behavior, functional communication training, skill building, and promoting generalization and maintenance (Johnson et al., 2007). As many as 17 sessions are individually delivered to parents during a 24-week period (Aman et al., 2009; RUPP Autism Network, 2007).

A single group pre-post design was used to demonstrate feasibility and preliminary evidence of efficacy of the RUPP PT intervention on parent-reported rates of noncompliance and child

irritability in children with ASD (RUPP Autism Network, 2007). Findings from the small feasibility study suggest positive effects associated with RUPP PT intervention (RUPP Autism Network, 2007). Aman et al. (2009) used a randomized controlled trial to evaluate the effects of RUPP PT plus medication in comparison to a medication only control group. Findings from Aman et al. (2009) suggest that relative to the medication only control group, children in the combined medication and RUPP PT intervention group demonstrated increased parent-reported child compliance and decreased parent-reported maladaptive behavior. Given the size and rigor of this study, findings suggest compelling evidence in support of the additive effects of a behavioral parent training intervention to medication management for children with ASD and elevated behavior problems.

Parent-Child Interaction Therapy

Two studies reported on the use of Parent-Child Interaction Therapy (PCIT) for children with developmental delays. Bagner et al. (2010) focused on a sample of children born prematurely who developed externalizing behavior problems and Bagner and Eyberg (2007) focused on children with ID and comorbid oppositional defiant disorder. PCIT is an evidence-based parent training intervention grounded in attachment and social learning theories (Eyberg, Boggs, & Algina, 1995) and is designed to reduce children's disruptive behavior through strengthening positive parent-child interactions. This individually delivered intervention is paced according to the parent's responsiveness to intervention and consists of two treatment phases: a child-directed intervention (CDI) phase and a parent-directed intervention (PDI) phase. The parent must master aspects of CDI before moving on to the PDI portion of treatment. CDI focuses on increasing positive interactions between the parent and child through play and praise. PDI focuses on increasing the child's compliance and decreasing their aggression through limit setting and the use of effective commands (Eyberg et al., 1995).

Both Bagner and Eyberg (2007) and Bagner et al. (2010) found that relative to a waitlist

control group, caregivers in the PCIT immediate treatment group reported fewer problem behaviors for their children. Further, children in the immediate PCIT treatment group had significantly higher rates of observed compliance with maternal commands than children in the waitlist control group. Parents in the PCIT immediate treatment group were observed to interact with their children significantly more positively than parents in the waitlist control group. Taken together, findings from these studies are promising and provide support for the use of PCIT with parents of young children with developmental disabilities and behavior problems.

Mindfulness Training

Four studies reported about the effects of mindfulness training to decrease challenging behavior in children with autism and developmental disabilities (Neece, 2014; Singh et al., 2007, 2014; Singh, Lancioni, et al., 2006). Singh and colleagues' mindfulness training focused on teaching parents to "have a clear, calm mind that is focused on the present moment in a nonjudgmental way" (Singh et al., 2007, p. 752). Mindfulness training was individually provided to parents in 12 two-hour sessions. The book *Everyday Blessings: The Inner Work of Mindful Parenting* (M. Kabat-Zinn & Kabat-Zinn, 1997) supplemented weekly topics covered in sessions. The 12 weekly topics included a general introduction to mindful parenting, knowing your mind, focused attention, focused attention on arousal states, being present in the moment, beginner's mind, being with your child, nonjudgmental acceptance, letting go, loving kindness, problem solving, and using mindfulness in daily interactions (Singh et al., 2007). Neece (2014) evaluated the efficacy of MBSR for reducing parental stress and subsequent behavior problems. Results found MBSR to be efficacious for reducing overall parenting stress in parents of children with developmental delays in that parents who participated in this study reported significantly less stress and depression and greater life satisfaction than did waitlist-control parents. Children whose parents participated in MBSR were reported to have fewer behavior problems following the

intervention, specifically in the areas of attention problems and ADHD symptomatology. These findings demonstrate that treatments focused on parent stress alone may have an indirect "spillover effect" on the child.

Singh, Lancioni, and colleagues (2006) used a multiple baseline across mother-child dyads to examine the effects of a 12-week mindful parenting intervention on the challenging behavior of three preschool children with ASD. Mothers were trained in the mindful parenting intervention as well as the data collection procedure. Mothers used a mobile, hand-held device to collect data on their children's aggression, non-compliance, and self-injury during their child's waking hours. Following intervention, mothers observed fewer aggressive and self-injurious behaviors and less noncompliance in their preschool children with ASD. Mothers reported an increase in their parenting satisfaction and satisfaction with interactions with their children. Singh et al. (2007) replicated these findings with four parent-child dyads. Participants in Singh et al. (2007) included four mothers and their preschool children with developmental disabilities. Findings suggest that mothers trained in mindful parenting observed fewer aggressive behaviors. Further, children were observed to engage in more social behavior with their typically developing siblings following mindful parenting intervention delivery.

Singh and colleagues (2014) examined the benefits of a mindfulness-based positive behavior support (MBPBS) intervention for three parents of adolescents with ASD. In this intervention parents learned mindfulness-based practices, which were then paired with positive behavior support. When a single-subject multiple baseline approach was used, results indicated that MBPBS led to reductions in mothers' reports of stress and decreases in adolescents' challenging behaviors and increases in compliance behaviors. These findings suggest that mindfulness strategies may help parents effectively manage their child's behavior through positive behavior support without the increased parental stress that may accompany these interventions (Hastings, 2002; Singh, Lancioni, Winton, & Singh, 2011).

Future Research Directions

Although still in its infancy, research examining mindfulness-based interventions for parents of children with intellectual and developmental disabilities is growing rapidly. During the past decade the feasibility and preliminary efficacy of mindfulness-based interventions have been tested in pilot studies (Bazzano et al., 2015; Minor et al., 2006; Roberts & Neece, 2015) and in larger, well-controlled studies that consisted of methodologically rigorous, single-case designs (Singh et al., 2007, 2014; Singh, Lancioni, et al., 2006); waitlist-control randomized trials (Neece, 2014); and large-scale randomized, controlled trials with an active comparison group (Dykens et al., 2014). Currently, the majority of the literature about mindfulness interventions for parents in general consists of studies of parents with children who have developmental disabilities, which underscores the compelling need for stress-reduction and parenting interventions among this population.

It behooves future researchers investigating mindfulness interventions for parents and children with ID to use common intervention protocols and measures in order to compare and perhaps collapse findings across studies. Broadly speaking, one of the most significant problems in mindfulness intervention research is that nearly every study uses a different mindfulness intervention and a different set of outcome measures, making it difficult for the reader to synthesize this literature and identify what intervention works best and for whom. When researchers choose to apply mindfulness interventions to a new population, it would be advantageous to first determine if standard manualized intervention protocols (e.g., MBSR, MBCT) are effective before making adaptations for the group; if adaptations are made before the standard protocol is tested, one cannot determine if the observed effects are a result of the mindfulness intervention or the adaptations made. In addition, the literature base for mindfulness interventions with parents of children with ID would greatly benefit from systematic dismantling of studies to identify which aspects of the intervention are related

to the observed benefits. Standard mindfulness interventions are quite intensive, requiring several hours of intervention each week and daily homework for several weeks. Preliminary data indicate that adaptations to these interventions that are less time intensive may be worthwhile for people seeking to reduce psychological distress (Carmody & Baer, 2009). Studies to systematically examine each of these individual concerns identified above are needed.

Examination of the possible benefits of integrating behavioral parent training and mindfulness-based interventions is a key area for future research on interventions for parents of children with ID. For example, there is small but growing literature supporting the use of adding a mindfulness component to interventions or approaches (e.g., Kazdin & Whitley, 2003; Singh et al., 2014; Singh, Singh, Sabaawi, Myers, & Wahler, 2006). Future investigation is needed to determine whether adding a parental stress reduction module that uses mindfulness-based techniques to existing evidence-based treatments for child behavioral issues (Bagner & Eyberg, 2007; McIntyre, 2008b) maximizes the efficacy of parent training and behavior interventions that target challenging behavior among children with ID. Given that elevated parental stress has been associated with decreased efficacy of behavioral interventions for children (Baker et al., 1991; Brinker et al., 1994; Osborne et al., 2008; Robbins et al., 1991; Strauss et al., 2012), one would expect that addressing parental stress would improve the impact of interventions commonly used with children with ID. The challenge lies in identifying what aspects of mindfulness-based interventions for parents are most effective for reducing stress and the intensity of the intervention so the desired outcome is achieved, which further underscores the critical need for identifying the "active ingredients" of the interventions. Kazdin and Whitley (2003) examined the effect of adding a parent stress-reduction component to augment the effects of evidence-based parent management training for children with aggressive and antisocial behavior problems. The component consisted of five additional individual sessions during which parents developed

problem-solving skills and used these skills to address stressors in their everyday life. Findings indicated that the additional stress-reduction treatment component resulted in enhanced therapeutic change for both the children and their parents and reduced the barriers parents perceived during the treatment (Kazdin & Whitley, 2003). These results emphasize the potential benefit of directly addressing parental stress in interventions designed to reduce child problem behavior.

Practice Recommendations

We offer several recommendations for practice. These recommendations are organized under the general categories of: (a) evidence-based approaches; (b) prevention and early intervention; (c) comorbidities; (d) family participation and engagement; and (e) logistics.

Evidence-Based Approaches

There is a robust literature supporting the use of behavioral parent training approaches and a growing literature supporting the use of mindfulness-based parent training interventions to reduce challenging behavior of children with ID. Thus, we suggest that clinicians select interventions that are based on the extant literature rather than developing idiosyncratic, "home grown" approaches. Although there are still gaps in our understanding of basic mechanisms of these interventions and intervention moderators (e.g., under what circumstances and for whom do the interventions work most effectively?), we have important foundational knowledge to inform the selection of interventions. Thus, we suggest that clinicians should select parent training interventions that are either behavioral in nature or based on mindfulness principles when targeting the reduction of challenging behavior in children with ID or ASD. We suggest that valuable resources be used to implement interventions with a track record of effectiveness.

financial burden (e.g., Anderson, Dumont, Jacobs, & Azzaria, 2007). Clinicians should attend to both risk and resilience in families they serve.

Family Participation and Engagement

Most would agree that it is important to involve fathers in parenting interventions; however, few studies have focused directly on involving fathers. In our review, we only found one study that focused on the effects of fathers in parent training interventions for children with ID (Bagner, 2013). Bagner (2013) summarized results from two PGIT treatment studies (Bagner et al., 2010; Bagner & Eyberg, 2007) and concluded that in families where a father participated in treatment for their child with ID, parents reported lower levels of child problem behavior than when fathers did not participate in parent training intervention. Further, Bagner (2013) reported that children from father involved families had significantly higher rates of compliance during clean-up tasks posttreatment than children from single-mother households. Although much more research is needed in this area, we recommend that clinicians consider ways to make parenting interventions relevant and accessible to both mothers and fathers. For example, clinicians can specifically reach out to fathers and invite their involvement, target father identified goals and priorities during sessions, and provide supports (e.g., childcare) to families so that both parents can attend sessions.

Logistics

Our final recommendations focus on important logistical considerations for carrying out successful parent training interventions. These recommendations are based on our collective experience conducting parent training interventions for parents of children with developmental delays and disabilities. Clinicians may wish to consider a variety of locations for parent training interventions including family homes, schools, clinics, and community venues (e.g., churches, community centers). University-based clinics are not always easy for

families to access given issues with parking and other barriers. Furthermore, some families may be intimidated by coming to a university campus with their child with a disability. Thus, we suggest that having a strong community presence may allow families to more readily attend sessions. Providing childcare, food, and assistance with transportation may also enhance family participation in parent training interventions. If group sessions are being held, clinicians may wish to consider whether families can "make up" sessions if they are unable to attend a session. Such make-up sessions can potentially enhance rapport and provide families with missed content and overall support. Such allowances may allow families to stay engaged with the intervention and minimize the risk of attrition. Ultimately, no matter the theoretical orientation of the intervention, parent training involves interventionists working directly with families in an effort to support their use of strategies to improve their lives and the lives of their children. Building and maintaining strong relationships with parents is a critical piece of the intervention foundation.

In summary, parent training interventions based on behavioral principles or mindfulness-based strategies may be effective approaches for the reduction of problem behavior in children or adolescents with ID or ASD. Additional studies are needed in order to more fully understand mechanisms, moderators, and additive effects of combining aspects of mindfulness training with behavioral approaches. Further, little research has targeted fathers. Thus, the inclusion of fathers in research studies and the focus of fathers in clinical practice is sorely needed. Finally, we outline suggestions for integrating mindfulness and behavioral approaches in the treatment of problem behavior in children with ID.

Acknowledgment Preparation of this chapter was supported in part by grant R01HD059838 from the National Institute of Child Health and Human Development awarded to the first author.

References

- Altmajer, E., & Maloney, R. (2007). An initial evaluation of a mindful parenting program. *Journal of Clinical Psychology, 63*, 1231-1238.

- Aman, M. G., McDougle, C. J., Scabill, L., Handen, B., Arnold, L. E., Johnson, C., ... Wagner, A. (2009). Medication and parent training in children with pervasive developmental disorders and serious behavior problems: Results from a randomized clinical trial. *Journal of the American Academy of Child and Adolescent Psychiatry*, 48, 1143-1154.
- Anderson, D., Dumont, S., Jacobs, P., & Azzaria, L. (2007). The personal costs of caring for a child with a disability: A review of the literature. *Public Health Reports*, 122, 3-16.
- Bagner, D. M. (2013). Father's role in parent training for children with developmental delay. *Journal of Family Psychology*, 27, 650-657.
- Bagner, D. M., & Eyberg, S. M. (2007). Parent-child interaction therapy for disruptive behavior in children with mental retardation: A randomized controlled trial. *Journal of Clinical Child and Adolescent Psychology*, 36(3), 418-429.
- Bagner, D. M., Pettit, J. W., Lewinsohn, P. M., & Seeley, J. R. (2010). Effect of maternal depression on child behavior: A sensitive period? *Journal of the American Academy of Child & Adolescent Psychiatry*, 49(7), 699-707. doi:10.1097/00004583-201007000-00010.
- Baker, B. L., Blacher, J., Cmic, K., & Edelbrock, C. (2002). Behavior problems and parenting stress in families of three-year old children with and without developmental delays. *American Journal on Mental Retardation*, 107(6), 433-444. doi:10.1352/0895-8017(2002)107<0433:BPAPSI>2.0.CO;2.
- Baker, J. K., Fenning, R. M., Cmic, K. A., Baker, B. L., & Blacher, J. (2007). Prediction of social skills in 6-year-old children with and without developmental delays: Contributions of early regulation and maternal scaffolding. *American Journal on Mental Retardation*, 112, 375-391. doi:10.1352/0895-8017(2007)112[0375:POSSIIY]2.0.CO;2.
- Baker, B. L., Landen, S. J., & Kashima, K. J. (1991). Effects of parent training on families of children with mental retardation: Increased burden or generalized benefit? *American Journal on Mental Retardation*, 96(2), 127-136.
- Baker, B. L., McIntyre, L. L., Blacher, J., Cmic, K., Edelbrock, C., & Low, C. (2003). Preschool children with and without developmental delay: Behavior problems and parenting stress over time. *Journal of Intellectual Disability Research*, 47(4/5), 217-230. doi:10.1046/j.1365-2788.2003.00484.x.
- Baker, B. L., Neece, C. L., Fenning, R. M., Cmic, K., & Blacher, J. (2010). Mental disorders in five year old children with or without intellectual disability: Focus on ADHD. *Journal of Clinical Child and Adolescent Psychology*, 39(4), 492-505. doi:10.1080/15374416.2010.486321.
- Bandura, A. (1977). *Social learning theory*. Oxford, UK: Prentice Hall.
- Batshaw, M. L., Shapiro, B., & Farber, M. L. Z. (2007). Developmental delay and intellectual disability. In M. L. Batshaw, L. Pellegrino, & N. J. Roizen (Eds.), *Children with disabilities* (6th ed., pp. 245-261). Baltimore, MD: Paul H Brookes Publishing.
- Baumrind, D. (1989). Rearing competent children. In W. Damon (Ed.), *Child development today and tomorrow* (pp. 349-378). San Francisco, CA: Jossey-Bass.
- Bazzano, A., Wolfe, C., Zylowska, L., Wang, S., Schuster, E., Barrett, C., & Lehrer, D. (2015). Mindfulness Based Stress Reduction (MBSR) for parents and caregivers of individuals with developmental disabilities: A community-based approach. *Journal of Child and Family Studies*, 24, 298-308.
- Blacher, J., Shapiro, J., Lopez, S., & Diaz, L. (1997). Depression in Latina mothers with children with mental retardation: A neglected concern. *American Journal on Mental Retardation*, 101(5), 483-496.
- Bögels, S., Hoogstad, B., van Dun, L., de Schutter, S., & Restifo, K. (2008). Mindfulness training for adolescents with externalizing disorders and their parents. *Behavioural and Cognitive Psychotherapy*, 36, 193-209.
- Borthwick-Duffy, S. A., & Eymann, R. K. (1990). Who are the dually diagnosed? *American Journal on Mental Retardation*, 94(6), 585-595.
- Brestan, E. V., & Eyberg, S. M. (1998). Effective psychosocial treatments of conduct-disordered children and adolescents: 29 years, 82 studies, and 5,272 kids. *Journal of Clinical Child Psychology*, 27(2), 180-189. doi:10.1207/s15374424jccp2702_5.
- Brinker, R. P., Seifer, R., & Sameroff, A. J. (1994). Relations among maternal stress, cognitive development, and early intervention in middle- and low-SES infants with developmental disabilities. *American Journal on Mental Retardation*, 98(4), 463-480.
- Bromley, B. E., & Blacher, J. (1991). Parental reasons for out-of-home placement of children with severe handicaps. *Mental Retardation*, 29(5), 275-280.
- Bronson, M. B. (2000). *Self-regulation in early childhood: Nature and nurture*. New York, NY: The Guilford Press.
- Brookman-Frazee, L., Stahmer, A., Baker-Ericzen, M. J., & Tsai, K. (2006). Parenting interventions for children with autism spectrum and disruptive behavior disorders: Opportunities for cross-fertilization. *Clinical Child and Family Psychology Review*, 9, 181-200. doi:10.1007/s10567-006-0010-4.
- Carissoli, C., Villani, D., & Riva, G. (2015). Does a meditation protocol supported by a mobile application help people reduce stress? Suggestions from a controlled pragmatic trial. *Cyberpsychology, Behavior and Social Networking*, 18, 46-53. doi:10.1089/cyber.2014.0062.
- Carmody, J., & Baer, R. A. (2009). How long does a mindfulness-based stress reduction program need to be? A review of class contact hours and effect sizes for psychological distress. *Journal of Clinical Psychology*, 65, 627-638. doi:10.1002/jclp.20555.
- Chadwick, O., Momcilovic, N., Rossiter, R., Stumbles, E., & Taylor, E. (2001). A randomized trial of brief individual versus group parent training for behaviour problems in children with severe learning disabilities. *Behavioural and Cognitive Psychotherapy*, 29, 151-167. doi:10.1017/S135246580100203X.
- Chambers, R., Gullone, E., & Allen, N. B. (2009). Mindful emotion regulation: An integrative review. *Clinical Psychology Review*, 29(6), 560-572. doi:10.1016/j.cpr.2009.06.005.
- Chiesa, A., & Serretti, A. (2009). Mindfulness-based stress reduction for stress management in healthy people: A review and meta-analysis. *The Journal of Alternative and Complementary Medicine*, 15, 593-600. doi:10.1089/acm.2008.0495.
- Chiesa, A., & Serretti, A. (2011). Mindfulness based cognitive therapy for psychiatric disorders: A systematic review and meta-analysis. *Psychiatry Research*, 187, 441-453. doi:10.1016/j.psychres.2010.08.011.
- Cmic, K. A., Baker, B. L., Blacher, J., & Gerstein, E. D. (under review). *Developmental risk and emerging behavior disorder in young children: Exploring the mediating mechanisms of family process and child dysregulation*.
- Cmic, K. A., Pedersen y Arbona, A., Baker, B. L., & Blacher, J. (2009). Mothers and fathers together: Contrast in parenting across preschool to early school age in children with developmental delays. *International Review of Research in Mental Retardation*, 37, 3-30. doi:10.1016/S0074-7750(09)37001-9.
- Dishion, T. J., & Stormshak, E. (2007). *Intervening in children's lives: An ecological, family-centered approach to mental health care*. Washington, DC: American Psychological Association.
- Dosen, A., & Day, K. (2001). Epidemiology, etiology, and presentation of mental illness and behavior disorders in persons with mental retardation. In A. Dosen & K. Day (Eds.), *Treating mental illness and behavior disorders in children and adults with mental retardation* (pp. 3-24). Washington, DC: American Psychiatric Association.
- Dumas, J., & Wahler, R. G. (1983). Predictors of treatment outcome in parent training: Mother insularity and socioeconomic disadvantage. *Behavioral Assessment*, 5, 301-313.
- Dykens, E. M., Fisher, M. H., Taylor, J. L., Lambert, W., & Miodrag, N. (2014). Reducing distress in mothers of children with autism and other disabilities: A randomized trial. *Pediatrics*, 134, 454-463. doi:10.1542/peds.2013-3164.
- Emerson, E. (2003). Prevalence of psychiatric disorders in children and adolescents with and without intellectual disability. *Journal of Intellectual Disability Research*, 47(1), 51-58. doi:10.1046/j.1365-2788.2003.00464.x.
- Emerson, E., McCulloch, A., Graham, H., Blacher, J., Liwelyn, G. M., & Hatton, C. (2010). Socioeconomic circumstances and risk of common psychiatric disorders among parents of young children with and without early cognitive delay. *American Journal on Intellectual and Developmental Disabilities*, 115(1), 30-42. doi:10.1352/1944-7558-115.1.30.
- Eyberg, N. (1992). Assessing therapy outcome with preschool children: Progress and problems. *Journal of Clinical Child Psychology*, 21, 306-311. doi:10.1207/s15374424jccp2103_10.
- Eyberg, S. M., Boggs, S., & Algina, J. (1995). Parent-child interaction therapy: A psychosocial model for the treatment of young children with conduct problem behavior and their families. *Psychopharmacology Bulletin*, 31, 83-91.
- Federal Interagency Forum on Child and Family Statistics. (2009). *America's children: Key national indicators of well-being*. Washington, DC: US Government Printing Office.
- Floyd, F. J., Harter, K. S. M., Costigan, C. L., & MacLean, W. E., Jr. (2004). Family problem-solving with children who have mental retardation. *American Journal on Mental Retardation*, 109, 507-524. doi:10.1352/0895-8017(2004)109<507:FPWCWH>2.0.CO;2.
- Forehand, R., & McMahon, R. J. (1981). *Helping the non-compliant child: A clinician's guide to parent training*. New York, NY: Guilford.
- Gardner, F. (1989). Inconsistent parenting: Is there evidence for a link with children's conduct problems? *Journal of Abnormal Child Psychology*, 17, 223-233. doi:10.1007/BF00913796.
- Gray, C. A. (1998). Social stories and comic strip conversations with students with Asperger syndrome and high-functioning autism. In E. Schopler, G. B. Mesibov, & L. J. Kuncze (Eds.), *Asperger syndrome or high-functioning autism? Current issues in autism* (pp. 167-198). New York, NY: Plenum Press.
- Gross, D., Fogg, L., Webster-Stratton, C., Garvey, C., Julion, W., & Grady, J. (2003). Parent training of toddlers in day care in low-income urban communities. *Journal of Consulting & Clinical Psychology*, 71(2), 261-278. doi:10.1037/0022-006X.71.2.261.
- Grossman, P., Niemann, L., Schmidt, S., & Walach, H. (2004). Mindfulness-based stress reduction and health benefits: A meta-analysis. *Journal of Psychosomatic Research*, 57(1), 35-43.
- Hastings, R. P. (2002). Parental stress and behaviour problems of children with developmental disability. *Journal of Intellectual and Developmental Disability*, 27, 149-160. doi:10.1080/136682502100008657.
- Hastings, R. P., Daley, D., Burns, C., & Beck, A. (2006). Maternal distress and expressed emotion: Cross-sectional and longitudinal relationships with behavior problems of children with intellectual disabilities. *American Journal on Mental Retardation*, 111, 48-61. doi:10.1352/0895-8017(2006)111[48:MDAEEC]2.0.CO;2.
- Herring, S., Gray, K., Taffe, J., Tonge, B., Sweeney, D., & Einfeld, S. (2006). Behaviour and emotional problems in toddler with pervasive developmental disorders and developmental delay: Associations with parental mental health and family functioning. *Journal of Intellectual Disability Research*, 50, 874-882.
- Himle, M., Miltenberger, R., Gatheridge, B., & Flessner, C. (2004). An evaluation of two procedures for training skills to prevent gun play in children. *Pediatrics*, 113, 70-77.
- Hinshaw, S. P. (2002). Process, mechanism, and explanation related to externalizing behavior in developmental psychopathology. *Journal of Abnormal Child Psychology*, 30(5), 431-446. doi:10.1023/A:1019808712868.
- Holland, J. G., & Skinner, B. F. (1961). *The analysis of behavior*. New York, NY: McGraw-Hill.

- Hudlicka, E. (2013). Virtual training and coaching of health behavior: Example from mindfulness meditation training. *Patient Education and Counseling*, 92, 160–166. doi:10.1016/j.pec.2013.05.007.
- Hudson, A., Cameron, C., & Matthews, J. (2008). The wide-scale implementation of a support program for parents of children with an intellectual disability and difficult behavior. *Journal of Intellectual & Developmental Disability*, 33, 117–126.
- Hudson, A. M., Matthews, J. M., Gavidia-Payne, S. T., Cameron, C. A., Mildon, R. L., Radler, G. A., & Nankervis, K. L. (2003). Evaluation of an intervention system for parents of children with intellectual disability and challenging behavior. *Journal of Intellectual Disability Research*, 47(4/5), 238–249. doi:10.1046/j.1365-2788.2003.00486.x.
- Ingoldsby, E., Shaw, D. S., & Garcia, M. (2001). Intra-familial conflict in relation to boys' adjustment at school. *Development and Psychopathology*, 13, 35–52. doi:10.1017/S0954579401001031.
- Johnson, C. R., Handen, B. L., Butter, E., Wagner, A., Muleck, J., Sukhodolsky, D. G., et al. (2007). Development of a parent training program for children with pervasive developmental disorders. *Behavioral Interventions*, 22, 201–221.
- Kabat-Zinn, J. (2009). *Full catastrophe living: Using the wisdom of your body and mind to face stress, pain, and illness*. New York, NY: Delta.
- Kabat-Zinn, M., & Kabat-Zinn, J. (1997). *Everyday blessings: The inner work of mindful parenting*. New York, NY: Hyperion.
- Kaminski, J. W., Valle, L. A., Fileene, J. H., & Boyle, C. L. (2008). A meta-analytic review of components associated with parent training program effectiveness. *Journal of Abnormal Child Psychology*, 36(4), 567–589. doi:10.1007/s10802-007-9201-9.
- Kazdin, A. E., & Whitley, M. K. (2003). Treatment of parental stress to enhance therapeutic change among children referred for aggressive and antisocial behavior. *Journal of Consulting and Clinical Psychology*, 71, 504–515. doi:10.1037/0022-006X.71.3.504.
- Kleve, L., Crimlisk, S., Shoebridge, P., Greenwood, R., Baker, B., & Mead, B. (2011). Is the Incredible Years programme effective for children with neurodevelopmental disorders and for families with social services involvement in the "real world" of community CAMHS? *Clinical Child Psychology and Psychiatry*, 16(2), 253–264. doi:10.1111/j.1359-1045.10366280.
- Kumpfer, K. L., & Alvarado, R. (2003). Family-strengthening approaches for the prevention of youth problem behaviors. *American Psychologist*, 58(6/7), 457–465. doi:10.1037/0003-066X.58.6.7.457.
- Lonigan, C. J., Elbert, J. C., & Johnson, S. B. (1998). Empirically supported psychosocial interventions for children: An overview. *Journal of Clinical Child Psychology*, 27(2), 138–145. doi:10.1207/s15374424jccp2702_1.
- Lundahl, B., Risser, H. J., & Lovejoy, M. C. (2006). A meta-analysis of parent training: Moderators and follow-up effects. *Clinical Psychology Review*, 26, 86–104. doi:10.1016/j.cpr.2005.07.004.
- Markie-Dadds, C., & Sanders, M. R. (2006). Self-directed Triple P (Positive Parenting Program) for mothers with children at-risk of developing conduct problems. *Behavioural and Cognitive Psychotherapy*, 34(3), 259–275. doi:10.1017/S1352465806002797.
- Martin, J. (1981). A longitudinal study of the consequences of early mother-infant interaction: A micro-analytic approach. *Monographs of the Society for Research in Child Development*, 46(3), 59. doi:10.2307/1166014.
- McIntyre, L. L. (2008a). Adapting Webster-Stratton's Incredible Years Parent Training for children with developmental delay: Findings from a treatment group only study. *Journal of Intellectual Disability Research*, 52, 1176–1192. doi:10.1111/j.1365-2788.2008.01108.x.
- McIntyre, L. L. (2008b). Parent training in young children with developmental disabilities: A randomized controlled trial. *American Journal on Mental Retardation*, 113, 356–368.
- McIntyre, L. L. (2013). Parent training to reduce challenging behavior in children and adults with developmental disabilities. In R. P. Hastings & J. Rojahn (Eds.), *International review of research in developmental disabilities: Challenging behavior* (pp. 245–280). San Diego, CA: Academic Press/Elsevier.
- McIntyre, L. L., Blacher, J., & Baker, B. L. (2002). Behavioural/mental health problems in young adults with intellectual disability: The impact on families. *Journal of Intellectual Disability Research*, 46(3), 239–249. doi:10.1046/j.1365-2788.2002.00371.x.
- McIntyre, L. L., Blacher, J., & Baker, B. L. (2006). The transition to school: Adaptation in young children with and without developmental delays. *Journal of Intellectual Disability Research*, 50, 349–361.
- Minor, H. G., Carlson, L. E., Mackenzie, M. J., Zernicke, K., & Jones, L. (2006). Evaluation of a Mindfulness-Based Stress Reduction (MBSR) program for caregivers of children with chronic conditions. *Social Work in Health Care*, 43, 91–109. doi:10.1300/J010v43n01_06.
- Murphy, N. A., Christian, B., Caplin, D. A., & Young, P. C. (2007). The health of caregivers for children with disabilities: Caregiver perspectives. *Child: Care, Health and Development*, 33, 180–187. doi:10.1111/j.1365-2214.2006.00644.x.
- Neece, C. L. (2014). Mindfulness-based stress reduction for parents of young children with developmental delays: Implications for parental mental health and child behavior problems. *Journal of Applied Research on Intellectual Disabilities*, 27(2), 174–186. doi:10.1111/jar.12064.
- Neece, C. L., Green, S. A., & Baker, B. L. (2012). Parenting stress and child behavior problems: A transactional relationship across time. *American Journal on Intellectual and Developmental Disabilities*, 117(1), 48–66. doi:10.1352/1944-7558-117.1.48.
- Nezu, C. M., Nezu, A. M., & Gill-Weiss, M. J. (1992). *Psychopathology in persons with mental retardation*. Champaign, IL: Research Press.
- Nicholson, J. M., & Sanders, M. R. (1999). Randomized controlled trial of child behavioral problems in stepfamilies. *Journal of Divorce and Remarriage*, 30(3–4), 1–23. doi:10.1300/J087v30n03_01.
- Olchowski, A. E., Foster, E. M., & Webster-Stratton, C. H. (2007). Implementing behavioral intervention components in a cost-effective manner: Analysis of the Incredible Years program. *Journal of Early and Intensive Behavioral Intervention*, 4, 284–304. doi:10.1037/h0100345.
- Okuno, H., Nagai, T., Sakai, S., Mohri, I., Yamamoto, T., Yoshizaki, A., et al. (2011). Effectiveness of modified parent training for mothers of children with pervasive developmental disorder on parental confidence and children's behavior. *Brain & Development*, 33, 152–160.
- Olsson, M. B., & Hwang, C. P. (2001). Depression in mothers and fathers of children with intellectual disability. *Journal of Intellectual Disability Research*, 45, 535–543. doi:10.1046/j.1365-2788.2001.00372.x.
- Osborne, L. A., McHugh, L., Saunders, J., & Reed, P. (2008). Parenting stress reduces the effectiveness of early teaching interventions for autistic spectrum disorders. *Journal of Autism and Developmental Disorders*, 38(6), 1092–1103. doi:10.1007/s10803-007-0497-7.
- Patterson, G. R. (1982). *Coercive family process* (Vol. 3): *A social learning approach*. Eugene, OR: Castalia Press.
- Patterson, G. R., DeBaryshe, B. D., & Ramsey, E. (1989). A developmental perspective on antisocial behavior. *American Psychologist*, 44, 329–335. doi:10.1037/0003-066X.44.2.329.
- Patterson, G. R., Reid, J. B., & Dishion, T. J. (1992). *Antisocial boys*. Eugene, OR: Castalia.
- Phaneuf, L., & McIntyre, L. L. (2007). Effects of individualized video feedback combined with group parent training on maternal inappropriate behavior. *Journal of Applied Behavior Analysis*, 40(4), 737–741. doi:10.1901/jaba.2007.737-741.
- Phaneuf, L., & McIntyre, L. L. (2011). The application of a three-tier model of intervention to parent training. *Journal of Positive Behavior Interventions*, 13(4), 198–207. doi:10.1177/1098300711405337.
- Piet, J., & Hougard, E. (2011). The effect of mindfulness-based cognitive therapy for prevention of relapse in recurrent major depressive disorder: A systematic review and meta-analysis. *Clinical Psychology Review*, 31, 1032–1040. doi:10.1016/j.cpr.2011.05.002.
- Plant, K. M., & Sanders, M. R. (2007). Reducing problem behavior during care-giving in families of preschool-aged children with developmental disabilities. *Research in Developmental Disabilities*, 28, 362–385. doi:10.1016/j.ridd.2006.02.009.
- Reiss, S. (1994). *Handbook of challenging behavior: Mental health aspects of mental retardation*. Worthington, OH: IDS Publishing.
- Research Units on Pediatric Psychopharmacology [RUPP] Autism Network. (2007). Parent training for children with pervasive developmental disorders: A multi-site feasibility trial. *Behavioral Interventions*, 22, 179–199. doi:10.1002/bin.236.
- Robbins, F. R., Dunlap, G., & Plienis, A. J. (1991). Family characteristics, family training, and the progress of young children with autism. *Journal of Early Intervention*, 15(2), 173–184. doi:10.1177/105381519101500206.
- Roberts, L., & Neece, C. L. (2015). Feasibility of Mindfulness-Based Stress Reduction intervention for parents of children with developmental delays. *Issues in Mental Health Nursing*, 36, 592.
- Russell, A., & Russell, G. (1996). Positive parenting and boys' and girls' misbehavior during a home observation. *International Journal of Behavioral Development*, 19, 291–307. doi:10.1080/016502596385794.
- Sanders, M. R. (1999). Triple P-Positive Parenting Program: Toward an empirically validated multilevel parenting and family support strategy for the prevention of behavior and emotional problems in children. *Clinical Child and Family Psychology Review*, 2, 71–90. doi:10.1023/A:1021843613840.
- Santorelli, S. (2014). Mindfulness-Based Stress Reduction (MBSR): Standards of practice. Retrieved April 3, 2015, from University of Massachusetts Medical School <http://www.umassmed.edu/cfm/index.aspx>
- Serketich, W. J., & Dumas, J. E. (1996). The effectiveness of behavioral parent training to modify antisocial behavior in children: A meta-analysis. *Behavior Therapy*, 27(2), 171–186. doi:10.1016/S0005-7894(96)80013-X.
- Shaw, D. S., & Bell, R. Q. (1993). Developmental theories of parental contributors to antisocial behavior. *Journal of Abnormal Child Psychology*, 21, 493–518. doi:10.1007/BF00916316.
- Shaw, D. S., Gilliom, M., Ingoldsby, E. M., & Nagin, D. (2003). Trajectories leading to school-age conduct problems. *Developmental Psychology*, 39, 189–200. doi:10.1037/0012-1649.39.2.189.
- Shaw, D. S., Lacombe, E., & Nagin, D. S. (2005). Developmental trajectories of conduct problems and hyperactivity from ages 2 to 10. *Journal of Child Psychology and Psychiatry*, 46(9), 931–942. doi:10.1111/j.1469-7610.2004.00390.x.
- Singh, N. N., Lancioni, G. E., Manikam, R., Winton, A. S. W., Singh, A. N. A., Singh, J., & Singh, A. D. A. (2009). A mindfulness-based strategy for self-management of aggressive behavior in adolescents with autism. *Research in Autism Spectrum Disorders*, 5, 1153–1158. doi:10.1016/j.rasd.2010.12.012.
- Singh, N. N., Lancioni, G. E., Winton, A. S., Fisher, B. C., Wahler, R. G., McKeavey, K., ... Sabaawi, M. (2006). Mindful parenting decreases aggression, noncompliance, and self-injury in children with autism. *Journal of Emotional and Behavioral Disorders*, 14, 169–177. doi:10.1177/10634266060140030401
- Singh, N. N., Lancioni, G. E., Winton, A. S. W., Karazisa, B. T., Myers, R. E., Latham, L. L., & Singh, J. (2014).

- Mindfulness-based positive behavior support (MBPBS) for mothers of adolescents with autism spectrum disorder: Effects on adolescents' behavior and parental stress. *Mindfulness*, 5(6), 646-657. doi:10.1007/s12671-014-0321-3.
- Singh, N. N., Lancioni, G. E., Winton, A. S. W., Singh, J., Curtis, J. W., Wahler, R. G., & McAleavey, K. M. (2007). Mindful parenting decreases aggression and increases social behavior in children with profound developmental disabilities. *Behavior Modification*, 31, 749-771. doi: 10.1177/0145445507300924.
- Singh, N. N., Lancioni, G. E., Winton, A. S., & Singh, J. (2011). Aggression, tantrums, and other externally driven challenging behaviors. In J. Matson & P. Sturmey (Eds.), *International handbook of autism and pervasive developmental disorders* (pp. 413-435). New York, NY: Springer.
- Singh, N. N., Singh, A. N., Lancioni, G. E., Singh, J., Winton, A. S. W., & Adkins, A. D. (2010). Mindfulness training for parents and their children with ADHD increases the children's compliance. *Journal of Child and Family Studies*, 19, 157-174. doi:10.1007/s10826-009-9272-z.
- Singh, N. N., Singh, S. D., Sabaawi, M., Myers, R. E., & Wahler, R. G. (2006). Enhancing treatment team process through mindfulness-based mentoring in an inpatient psychiatric hospital. *Behavior Modification*, 30(4), 423-441. doi:10.1177/0145445504272971.
- Stormshak, E. A., Bierman, K. L., McMahon, R. J., Lengua, L., & Conduct Problems Prevention Research Group. (2000). Parenting practices and child disruptive behavior problems in early elementary school. *Journal of Clinical Child Psychology*, 29, 17-29. doi:10.1207/S15374424jccp2901_3.
- Strauss, K., Vicari, S., Valeri, G., D'Elia, L., Arima, S., & Fava, L. (2012). Parent inclusion in early intensive behavioral intervention: The influence of parental stress, parent treatment fidelity and parent-mediated generalization of behavior targets on child outcomes. *Research in Developmental Disabilities*, 33(2), 688-703. doi:10.1016/j.ridd.2011.11.008.
- US Public Health Service. (2000). *Report of the Surgeon General's Conference on Children's Mental Health: A national action agenda*. Retrieved April 20, 2015, from <http://www.surgeongeneral.gov/topics/cmhb/childreport.htm>
- VanDerHeyden, A. M., & Snyder, P. (2006). Integrating frameworks from early childhood intervention and school psychology to accelerate growth for all young children. *School Psychology Review*, 35, 519-534.
- Warnecke, E., Quinn, S., Ogden, K., Towle, N., & Nelson, M. R. (2011). A randomised controlled trial of the effects of mindfulness practice on medical student stress levels. *Medical Education*, 45(4), A381-A388. doi:10.1111/j.1365-2923.2010.03877.x.

- Webster-Stratton, C. (1984). Randomized trial of two parent-training programs for families with conduct-disordered children. *Journal of Consulting and Clinical Psychology*, 52(4), 666-678. doi:10.1037/0022-006X.52.4.666.
- Webster-Stratton, C. (1994). Advancing videotape parent training: A comparison study. *Journal of Consulting and Clinical Psychology*, 62(3), 583-593. doi:10.1037/0022-006X.62.3.583.
- Webster-Stratton, C. (1999). *How to promote children's social and emotional competence*. London, UK: Sage.
- Webster-Stratton, C. (2000). The Incredible Years training series. In *Office of Juvenile Justice and Delinquency Prevention Bulletin Review* (pp. 1-24). Seattle, WA: Author.
- Webster-Stratton, C. (2001). *The Incredible Years: Parents, teachers, and children training series. Leader's guide*. Seattle, WA: Author.
- Webster-Stratton, C. (2005). *The incredible years: A trouble-shooting guide for parents of children aged 2-8 years*. Seattle, WA: Incredible Years.
- Webster-Stratton, C., & Hammond, M. (1997). Treating children with early-onset conduct problems: A comparison of child and parent training interventions. *Journal of Consulting and Clinical Psychology*, 65(1), 93-109. doi:10.1037/0022-006X.65.1.93.
- Webster-Stratton, C., Kolpacoff, M., & Hollingsworth, T. (1988). Self-administered videotape therapy for families with conduct-problem children: Comparison with two cost-effective treatments and a control group. *Journal of Consulting and Clinical Psychology*, 56, 558-566. doi:10.1037/0022-006X.56.4.558.
- Webster-Stratton, C., Reid, M. J., & Hammond, M. (2001). Social skills and problem solving training for children with early-onset conduct problems. Who benefits? *Journal of Child Psychology and Psychiatry*, 42, 943-952. doi:10.1111/1469-7610.00790.
- Webster-Stratton, C., & Taylor, T. (2001). Nipping early risk factors in the bud: Preventing substance abuse, delinquency, and violence in adolescence through interventions targeted at young children (0 to 8 years). *Prevention Science*, 2(3), 165-192. doi:10.1023/A:1011510923900.
- Whittingham, K., Sofronoff, K., Sheffield, J., & Sanders, M. R. (2009). Stepping stones Triple P: An RCT of a parenting program with parents of a child diagnosed with an autism spectrum disorder. *Journal of Abnormal Child Psychology*, 37, 469-480. doi:10.1007/s10802-008-9285-x.
- Woodman, A. C., Mawdsley, H. P., & Hauser-Cram, P. (2015). Parenting stress and child behavior problems within families of children with developmental disabilities: Transactional relations across 15 years. *Research in Developmental Disabilities*, 36, 264-276. doi:10.1016/j.ridd.2014.10.011.

Social Skills

Laci Watkins, Michelle Kuhn, Mark F. O'Reilly, Russell Lang, Jeff Sigafoos, and Giulio E. Lancioni

Introduction

Appropriate social skills allow us the ability to interact with those around us and provide opportunities to engage in new environments, learn from others, and function independently. Although these skills are seemingly a natural component of everyday life, social skills are complex. A person is perceived to be socially competent if he or she is able to interact socially with others in an effective manner, generalize interaction styles across multiple social situations, and maintain such interactions over time (Kennedy, 2004). Social interactions that contribute to a person's overall social competence and success often require an intricate, nuanced, and dynamic set of skills.

Social skills can be defined as all those behaviors, both verbal and nonverbal, that are necessary for successful social exchange and interpersonal communication. Social skills can sometimes mean very specific behaviors such as greetings, initiating interaction, or responding to initiations made by others. Social skills can also involve more complicated cognitive and behavioral

phenomena such as accurately interpreting a social context, behaving according to contextually and culturally appropriate mores, and ongoing evaluation and adjustment of one's own behavior in light of the responses.

These critical social skills may be especially challenging for individuals with intellectual and developmental disability as a result of the social deficits and difficulties with social interaction that are central to the diagnostic definition of the disorder. Adaptive functioning deficits in the social domain exhibited by individuals with intellectual disability, as described in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5-TR), include deficits in social judgment, interpersonal communication skills, social problem solving, making and maintaining friendships, and interpreting and demonstrating emotional and social empathy. These social deficits in children have been linked to a variety of unfavorable outcomes including loneliness, social anxiety, peer rejection, and poor academic performance. Social difficulties continue to persist as an individual reaches adolescence and adulthood and can lead to withdrawal, isolation, and social rejection,

L. Watkins • M. Kuhn • M.F. O'Reilly (✉)
Department of Special Education, The University of Texas at Austin, Austin, TX, USA
e-mail: markoreilly@austin.utexas.edu

R. Lang
Department of Curriculum and Instruction,
Texas State University, San Marcos, TX, USA

J. Sigafoos
School of Educational Psychology, Victoria
University of Wellington, Wellington, New Zealand
G.E. Lancioni
Department of Neuroscience and Sense Organs,
University of Bari, Bari, Italy