



Theses and Dissertations

2019-04-01

Jumping Ahead of the Wait List: Pyramidal Parent Training

Rebecca Marie Barton
Brigham Young University

Follow this and additional works at: <https://scholarsarchive.byu.edu/etd>

BYU ScholarsArchive Citation

Barton, Rebecca Marie, "Jumping Ahead of the Wait List: Pyramidal Parent Training" (2019). *Theses and Dissertations*. 8275.

<https://scholarsarchive.byu.edu/etd/8275>

This Thesis is brought to you for free and open access by BYU ScholarsArchive. It has been accepted for inclusion in Theses and Dissertations by an authorized administrator of BYU ScholarsArchive. For more information, please contact scholarsarchive@byu.edu, ellen_amatangelo@byu.edu.

Jumping Ahead of the Wait List: Pyramidal Parent Training

Rebecca Marie Barton

A thesis submitted to the faculty of
Brigham Young University
in partial fulfillment of the requirements for the degree of
Master of Science

Blake Darrell Hansen, Chair
Terisa P. Gabrielsen
Christian Vance Sabey

Department of Counseling Psychology and Special Education
Brigham Young University

Copyright © 2019 Rebecca Marie Barton

All Rights Reserved

ABSTRACT

Jumping Ahead of the Wait List: Pyramidal Parent Training

Rebecca Marie Barton

Department of Counseling Psychology and Special Education, BYU
Master of Science

Parents of children with an autism spectrum disorder experience many stressors in their lives, including managing problem behaviors of their child. Parent training can effectively teach parents strategies to manage noncompliant behaviors; however, many parents spend months on wait lists before accessing this service. This study investigated the preliminary effects of both an expert-led and parent-led training for wait-listed parents. Thirteen parents of children currently on a waitlist to receive behavioral analytic services participated; most were highly educated, all were white and married. The study used a pyramidal training approach: a professional instructed one group of participants while a participant volunteer instructed the second group. Participants completed a training on several behavior management techniques. Training was conducted in a manner plausible for community clinics to implement. Checklists and direct observations of trainee behavior were taken to observe fidelity of training. Data were also collected using parent self-report measures using Likert-scales to report on their own behavior as well as their child's behavior. Participants from both groups reported decreases in child noncompliant behavior and increases in parent self-efficacy, confidence and consistency in administering behavior management techniques, indicating that both expert-led and parent-led training are effective in decreasing reported noncompliant behavior and increasing parent-reported self-efficacy. Clinics and communities should seek to implement similar programs to address wait-list issues; using a pyramidal parent training module may allow more parents to access information in a more efficient fashion. Further research should be conducted on larger groups and additional levels of pyramidal training.

Keywords: applied behavior analysis, parent training, pyramidal training, noncompliance

ACKNOWLEDGEMENTS

I am first and foremost thankful for my husband, Steve. For the entire time we have known each other, I have been devoting my time to school and my thesis. You have never complained, always supported me, and when needed helped me remember to put the most important things first. Thank you for being patient with me as I started and finished this journey. I will strive to live up to your example as we now switch places.

I am thankful for my committee chair, Dr. Blake Hansen. His patience and time made it possible for me to complete my thesis on time. I would also like to thank the members of my committee, Dr. Terisa Gabrielsen and Dr. Christian Sabey. Your support and feedback were instrumental in my completion of this project.

Thank you to my family! You were (and continue to be) my most staunch supporters. Through the good days and the bad, you have never doubted that I would succeed. I know I can do anything I put my mind to, because that is what you have always told me. I hope I continue to prove you right in my future endeavors.

TABLE OF CONTENTS

ABSTRACT.....	ii
ACKNOWLEDGEMENTS.....	iii
TABLE OF CONTENTS.....	iv
LIST OF TABLES.....	vii
LIST OF FIGURES.....	viii
DESCRIPTION OF THESIS STRUCTURE.....	ix
Introduction.....	1
Statement of the Problem.....	7
Statement of Purpose.....	7
Research Questions.....	7
Method.....	8
Participants.....	8
Group one.....	9
Group two.....	11
Setting.....	11
Measures.....	11
The Early Intervention Parenting Self-Efficacy Scale.....	11
Daily questionnaires.....	12
Direct observations of instructors.....	13
Strategy implementation.....	13
Interobserver agreement.....	13
Procedures.....	13

Baseline.....	14
Parent training intervention.....	14
Post-training.....	16
Research Design.....	16
Data Analysis	16
Results.....	17
Expert-Led and Parent-Led Training.....	17
Daily Rating Scales.....	19
Noncompliance.	19
Effectiveness of strategies.....	19
Consistency.....	22
Confidence	22
Parent Self-Efficacy.....	25
Discussion.....	25
Findings.....	25
Expert-led and parent-led training.	25
Parent self-efficacy	26
Community clinic resources.	27
Child noncompliance	27
Limitations	28
Implications for Future Research.....	28
Implications for Practitioners.....	30
Conclusion	30

References.....	32
APPENDIX A: Review of the Literature	38
Noncompliant Behavior	38
Families and Autism Spectrum Disorders	39
Couple communication..	42
Parent training	43
Wait Lists	45
Examples of handling wait lists	46
Pyramidal parent training.....	47
Conclusion	49
References.....	50
APPENDIX B: Consent Form	58
APPENDIX C: Instruments	60

LIST OF TABLES

Table 1	<i>Participant Demographics</i>	10
Table 2	<i>Tau-U Scores for Group 1, Group 2, and Overall Scores</i>	18

LIST OF FIGURES

<i>Figure 1.</i> Example of pyramidal training.	6
<i>Figure 2.</i> Reported frequency of child noncompliant behavior.....	20
<i>Figure 3.</i> Reported effectiveness of behavior management strategies	21
<i>Figure 4.</i> Reported consistency in implementing behavior management strategies	23
<i>Figure 5.</i> Reported confidence in using the behavior management strategies.	24
<i>Figure 6.</i> Example of pyramidal training	48

DESCRIPTION OF THESIS STRUCTURE

This thesis, *Jumping Ahead of the Waitlist: Pyramidal Parent Training*, is written in a hybrid format. The hybrid format brings together traditional thesis requirements with journal publication formats.

The preliminary pages of this thesis fulfill requirements for submission to Brigham Young University. The thesis report is presented as a journal article and conforms to length and style requirements for submitting research reports to education journals.

The literature review is included in Appendix A. Appendix B contains information regarding the research consent form, followed by Appendix C, which contains the study's instruments.

This thesis format contains two reference lists. The first reference list contains references included in the journal-ready article. The second list includes all citations used in the Appendix entitled "Review of the Literature."

Introduction

Hannah is hitting the wall again, screaming at the top of her lungs. Mom doesn't know what to do. She has tried so many things over the last 2-3 years to get Hannah to do things without throwing huge tantrums. Hannah was just diagnosed with autism last month, but the waiting list to get into treatment is months long. What is she supposed to do until then? Should she never ask Hannah to do anything she doesn't like to do? Or should she just ignore her when she screams and cries?

A little boy down the street has autism too; he has been getting therapy services for about a year now. He used to scream like Hannah does but Mom hasn't seen him do that in a long time. His parents are so lucky! Maybe she should pick up the phone and call his mom -- maybe she would know what to do. But she doesn't want to be annoying. Instead, she'll just wait a few more months until Hannah gets a therapist of her own.

According to the American Psychiatric Association (2013), an autism spectrum disorder (ASD) is characterized by impairments in three key areas: social interaction; restricted, repetitive and stereotyped behaviors and interests; and communication. ASDs affect one in 59 children according to the 2014 data from Centers for Disease Control and Prevention (CDC, 2018). Norton and Drew (1994) stated that “[autism] needs to be treated as a family problem, not just a problem of the individual with autistic behaviors” (p.73). The psychological well-being and attitude of caregivers has a large impact on the behaviors of their children with an ASD (Zaidman-Zait et al., 2014). For this reason, therapy should be made available to all members of the family, especially the parents (Norton & Drew, 1994). Parents of children with an ASD report dealing with various aspects of the ASD diagnosis as a stressor in their lives (Hock, Time, & Ramisch, 2012). They report higher levels of stress, which often lead to higher levels of

depression and other emotional disorders (Meadan, Halle, & Ebata, 2010). Weinfield, Ingerski, and Moreau (2009) found that parents with depression are less likely to respond to needs of their child, which often results in more frequent misbehaviors.

Having a child with an ASD who displays some form of problem behavior also influences family functioning as a whole (Davis & Gavidia-Payne, 2009). Part of these functioning problems may result from more limited employment opportunities for parents (Hall, Bouldin, Andresen, & Ali, 2012). These problem behaviors also seem to correlate with higher rates of problem behavior in siblings (Hastings, 2007). Many of these problem behaviors are aggressive in nature, to both caregivers and others (Kanne & Mazurek, 2011).

Families seeking out community help and resources are successful in coping with the various stressors associated with raising a child with ASD. Families seeking help also tend to heavily rely on extended family for support. Unfortunately, many caregivers are unsure of how to deal with challenging behaviors and stressors, turning to television and other distracters in hopes that the problems will simply dissipate if they are ignored (Twyo, Connolly, & Novak, 2006). These avoidance strategies result in poorer adjustment and outcomes (Ebata & Moos, 1994; Twyo et al., 2006; Hastings et al., 2005).

One of the most common behavioral problems parents face when raising a child with an ASD is compliance--or lack thereof (Ekas, McDonald, Pruitt, & Messinger, 2017; Kopp, 1982). Compliance is the ability to comply with requests from parents, peers, or other adults (Kopp, 1982). Compliance is a vital skill important for any child to master, whether they are typically developing or have a disability. Ekas et al. (2017) found that children with an ASD showed greater noncompliance at 24 months than their typically-developing peers. Even at an early age, children with an ASD start to lag behind in responding to requests. The same children typically

exhibit slower growth in compliance when compared with typically-developing peers as the children age (Arbelle, Sigman, & Kasari, 1994). As is typical with many skills in a child with an ASD, learning and mastery take more time than with typical peers. Parents may see behaviors common in 2-year old's in their child who is much older.

Lemanek, Stone, and Fishel (1993) also found that children with an ASD have the highest rates of noncompliant behavior when compared with typically-developing peers as well as with peers with other disabilities (e.g., Down syndrome, language impairments, intellectual disabilities). There appears to be something unique about an ASD that contributes to higher rates of noncompliance. While the cause of higher rates of noncompliance in children with an ASD is unclear and beyond the scope of this review, the solution is clear. Neither severity of symptoms nor level of IQ have been found to influence the effectiveness of intervention in increasing compliant behavior (Lecavalier et al., 2017). This finding is encouraging as it means interventions can be used to increase compliance no matter the severity of a child's symptoms.

A specific option for dealing with the stressors discussed above (and specifically noncompliance) is parent training. In a meta-analysis conducted by Postorino et al. (2017), parent training was found to be effective in decreasing disruptive behavior in 95% of opportunities. Parent training increases the ability of parents to feel in control of their child's life and be able to make a difference (Dillenburger, Keenan, Gallagher, & McElhinney, 2002). Smith and Iadarola (2015) points out that training parents to administer interventions increases the exposure the child has to the intervention and increases the ability of the child to generalize the intervention.

However, Radley, Jenson, Clark, and O'Neil (2014) found conflicting evidence-some children improved when parent training was implemented, and others did not. This has been

attributed to the lack of quality research to make a certain determination on whether or not parent training is useful (Lang, Machalicek, Rispoli, & Regester, 2009; Smith & Iadarola, 2015). Other studies have found parent training to be effective in some situations, but not in others (Smith & Iadarola, 2015). These contradictory studies to what Postorino et al. (2017) reported in their meta-analysis may be due to the limited range of studies examined by Postorino et al. (2017). All of the studies they evaluated were performed in clinical settings; none were included that were implemented in the home or community environments.

Crone and Mehta (2016) found that parent training in a clinical setting resulted in a decrease in child problem behavior in real-life situations. The majority of studies on parent training have been conducted in clinical settings. This study showed that skills learned in this setting generalized into real-life situations. However, more studies need to be conducted to evaluate the effects of clinical training on behavior outside of the clinic.

Parent training is typically included in Applied Behavior Analytic (ABA) services offered to children with an ASD. However, most clinics across the country have long wait lists. This wait list is due to a number of factors, including an increase in the number of children diagnosed, a lack of providers, and various amounts and types of insurance coverage (Gordon-Lipkin, Foster, & Peacock, 2016). Parents report feeling anxiety, worry and frustration when placed on wait lists (Connolly & Gersch, 2013). Murphy and Tierney (2006) reported that parents desire practical information before, during and after the diagnosis process; the parents specifically pointed to strategies they can use to manage their children's difficult behaviors.

Many clinics across the country have started developing unique ways of addressing the issue of delayed parent training (Gordon-Lipkin et al., 2016). Several studies have also addressed this need using various models. Rivard et al. (2017) provided weekly training

meetings covering a wide variety of topics for parents on waiting lists; in general, families were satisfied but wanted the training to be both more intensive and more frequent. Another study created a three-stage parent support group for parents on waiting lists; the parents first identified their concerns and needs. Following this, four sessions addressing those concerns were taught. Finally, the parents evaluated the process. All parents reported feeling more adept at navigating the system for their child, felt more at peace, and felt more capable of handling difficult behaviors with their child (Connolly & Gersch, 2013).

In addition, some states have started implementing measures to make services more readily available to children and parents. These methods include (but are not exclusive to) telehealth treatment, setting up collaborative team networks of doctors and other professionals, and creating state departments to oversee the diagnosis and provision of service to qualifying children and parents (Gordon-Lipkin et al., 2016).

The current study aims to address the lack of training for parents on a wait list in a specific type of parent training called pyramidal parent training. Pyramidal parent training is a system of distributing information to a larger number of individuals while requiring less time and resources from the primary expert or provider. The expert provides a preliminary training to a person or group of people. A second group is then trained by an individual trained in the first group. The system may continue with a third group being trained by an individual from the second group and so on (see Figure 1).

Adubato, Adams, and Budd (1981) first applied pyramidal training to a familial setting with a woman training her husband in child management techniques. Pyramidal parent training has been shown to be effective in training not only the initial set of parents trained, but also subsequent groups of parents trained by other parents across multiple settings and cultures (e.g.,

Bruder & Bricker, 1985; Hansen et al., 2017; Neef, 1995). Neef (1995) performed a follow-up experiment with a pyramidal approach to parent training. She trained one group of parents on several behavior-teaching skills and also trained parents skills on how to train other parents. The results showed that all parents (three tiers) showed immediate improvement in implementing behavior-change programs and had maintained gains at follow-up.

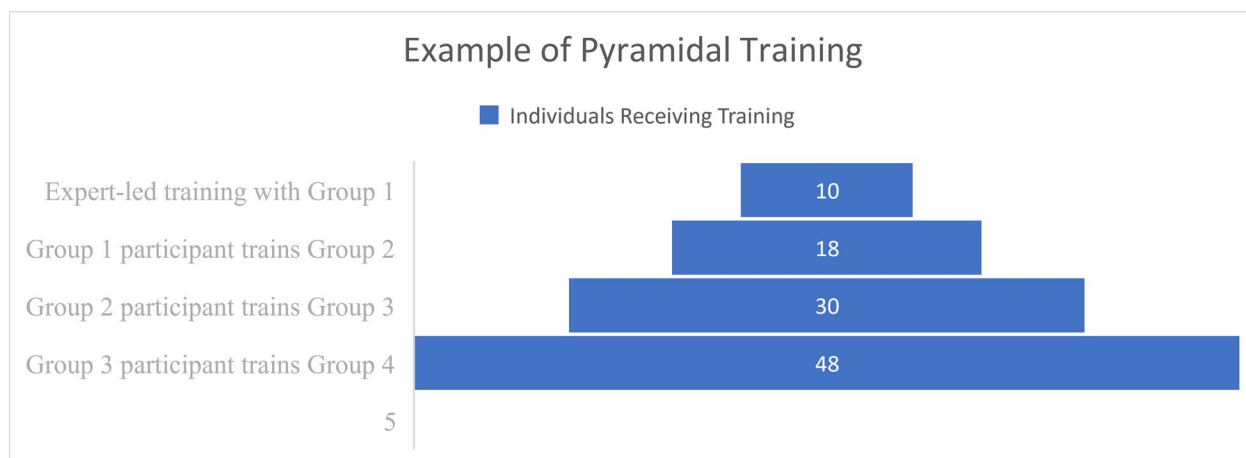


Figure 1. Example of pyramidal training. A small group of individuals is first trained by an expert. Those individuals then continue the pattern by training other groups. The pattern continues until a large number of individuals have been trained.

Kuhn, Lerman, and Vorndran (2003) studied pyramidal training across multiple family members. These family members included fathers, siblings, grandparents and step-fathers (in all cases, the mother was the primary trained parent). The mother was trained on both the needed therapy for her individual child as well as how to effectively train other family members. Only one child's therapy focused on non-compliant behavior. The results were all positive; however, the maintenance of the training is unknown as there was no follow-up data collected.

While the existing evidence is promising, there are gaps in the research that need to be addressed. Only one study has pursued pyramidal training beyond two groups (see Neef, 1995),

and the research on the effectiveness of two groups is not complete. In the studies mentioned above, researchers were always present and may have had an influence on the fidelity with which the parents administered the techniques. Most parents were also typically highly educated. The researchers dedicated large amounts of time and resources to training the parents, something which is difficult for community clinics and local agencies to do on a regular basis. More research is needed without the influence of the researcher in the home, using resources readily available to ABA clinics and with a wider range of participant background.

Statement of the Problem

This study aims to address issues that have not been addressed in the literature thus far. While pyramidal parent training has been shown to be effective with a limited number of behaviors with various groups of parents (i.e., a parent and grandparent, a parent and sibling), there is a lack of evidence showing that these findings apply to other behaviors, such as noncompliance. There is also a lack of evidence showing how effective pyramidal parent training is in a group setting of non-related parents. This study aims to address these issues by providing pyramidal parent training to unrelated parents whose children engage in noncompliant behaviors.

Statement of Purpose

The purpose of this study is to examine the effects of pyramidal parent training on child noncompliant behaviors and parent self-efficacy.

Research Questions

To address the limitations in current research, this study sought to address the following research questions:

1. Are results of expert-led training and parent-led training equally effective?

2. What is the effect of pyramidal parent training on parent self-efficacy?
3. Is parent training implemented with resources available to community ABA clinics effective?
4. To what extent is pyramidal parent training effective at addressing child noncompliant behavior?

Method

The following methods section details the way in which the research was carried out. It describes participants and how they were recruited, the settings in which the research took place, the measures used for analyzing data, the procedures used in the study, and the research design. Approval was obtained from the institutional review board for this project.

Participants

Participants were recruited primarily from wait lists of children diagnosed with an ASD or another developmental disability and who were currently on a waiting list to receive ABA services from qualified providers; the participants were the parents of the children on wait lists. This study did not include the children as participants, although their behavior was monitored by the parents in a self-reported survey format. The children never came into contact with the researchers or any other participants in the study. Participants were recruited through social media invitations, word of mouth, and accessing wait list information from various clinical providers. This was specifically accomplished through Kids on the Move. Kids on the Move is a local company that provides early intervention services, early head start services, autism services, respite care, and child care. The author was employed in the Autism Department as a registered behavior technician (RBT). The author was given permission to contact the entire Autism Department wait list of parents, which consisted of almost 90 children and their

parent(s). Interested parties filled out a survey to collect initial qualification information (i.e., the parent had a child with an ASD, the child was on a wait list for ABA services). Participants were not required to identify how they heard about the study or with which company they were wait listed.

These submissions were reviewed in order to determine if the applicants met the qualifications to participate in the study. These qualifications included the following: (a) the child had been officially diagnosed with an ASD per parent report, (b) the child was on a wait list for ABA services, and (c) the child engaged in non-compliant behavior; these behaviors may have included screaming, yelling, escape-maintained behavior (such as running out of the room), or flopping on the floor. Other criteria that did not disqualify participants from participating were gender of the child or parent, age of the child or parent, race or ethnicity of participants, and marital status of the parents. This information was collected for demographic information only. Thirteen participants began the study; 10 participants completed the study.

Participants filled out a consent form before participating in the study. No consent forms or other surveys included identifying information about the children of the participants as they were not to be observed in this study. Only three pieces of information were collected about children of the participants throughout the study: age, race, and parent-reports of child behavior. All participants were given pseudonyms in order to protect their identities.

Group one. Group 1 participants were randomly assigned from the pool of participants collected as described above. Groups were randomized using a randomization formula in Excel. There were seven participants in the first group. Two were a married couple with the same child (Henry and Juliette). Group 1 participants received training in the first training session conducted by a professional on four skills they could use to decrease occurrences of

Table 1

Participant Demographics

Name	Gender	Age	Race	Education	Household Income	Marital Status	Age of Child	Race of Child
Henry	Male	44	White	Post-Graduate	\$50,000-\$59,999	Married	3	White
Lucy	Female	39	White	4-Year College	\$80,000-\$89,999	Married	7	White
Ana	Female	31	White	4-Year College	\$100,000-\$149,999	Married	4	White
Juliette	Female	47	White	2-Year College	\$50,000-\$59,999	Married	3	White
Faith	Female	41	White	Some College	\$20,000-\$29,999	Married	6	White
Katie	Female	43	White	Post-Graduate	<\$10,000	Married	6	White
Ella	Female	44	White	4-Year College	\$60,000-\$69,999	Married	8	White
Violet	Female	30	White	2-Year College	\$60,000-\$69,999	Married	9	White
Andrew	Male	35	White	Post-Graduate	\$60,000-\$69,999	Married	9	White
Heather	Female	44	White	Post-Graduate	\$100,000-\$149,999	Married	7	White

noncompliant behaviors. One participant from Group 1 volunteered to train the members of Group 2.

Group two. Group 2 participants were randomly assigned from the same pool of participants described above. Due to several factors, only three parents completed the training in Group 2. One parent dropped out due to lack of time, another opted not to participate after she began receiving ABA services before the training, and another was sick on the day of the training and did not respond to attempts to offer the training at a different time. The three remaining participants were trained by the volunteer from Group 1 one week following the Group 1 training. Two participants (Violet and Andrew) were a married couple and the parents of the same child.

Setting

Meeting and training procedures took place at a primary location, Brigham Young University (BYU), with off-site data being collected by individual participants in their own natural settings. An informational meeting was held in the BYU Child and Family Studies Lab a week prior to the first training.

Measures

Four measures were used throughout the study. They primarily focused on parent perception of interventions and parent self-efficacy, although the researcher also took some observational data on fidelity of participant implementation.

The Early Intervention Parenting Self-Efficacy Scale. The Early Intervention Parenting Self-Efficacy Scale (EIPSES) was administered to parents during baseline data collection and one week after the last group had been trained. The EIPSES is a parent self-report measure focusing on items relating to self-efficacy (Guimond, Wilcox, & Lamorey, 2008).

Questions target a parent's perceived ability to help his or her child learn, to access community resources, and to contribute to others who work with his or her child.

Daily questionnaires. Daily questionnaires were completed starting one week before the first group was trained. The data collected in the weeks before the trainings served as a baseline for each individual and group. These questionnaires collected information on the perceived duration and frequency of noncompliant behaviors of the children, participant-reported fidelity to intervention, and which interventions (if any) were used throughout the day.

Noncompliant behaviors. Noncompliant behaviors were defined as any behavior the child engaged in that did not comply with a parental demand after more than 5 seconds. These behaviors could have included ignoring the instruction once having heard it; screaming, crying, yelling or talking back; hitting, kicking, punching or otherwise aggressing towards another person; or running from the room or hiding. Participants were asked to report on how often their child engaged in noncompliant behavior throughout the day using a Likert scale (1=none at all, 5=a great deal).

Parent consistency. Parent fidelity (called *consistency* to help participants understand what was being measured) was defined as the extent to which the participants implemented the interventions taught. This data was collected in a self-report format in a percentage of times participants felt they implemented the strategy throughout the day (0-100%).

Confidence. Confidence was defined as the extent to which a participant felt capable of managing problem behaviors. This was measured in a self-report format in a percentage scale; the format was the same as parent consistency (0-100%).

Effectiveness of interventions. Participants reported on the perceived effectiveness of interventions. This was measured in the same self-report format in a percentage scale (0-100%).

Direct observations of instructors. Instructors (including the author and the parent who instructed her peers) were coded by research assistants for fidelity in implementing the training material using a fidelity checklist. The fidelity checklist consisted of a list of each step taught during the training; each step was coded on a yes/no basis (either taught or not taught).

Strategy implementation. At the beginning of the training meeting, all participants were evaluated on a simulation conducted by research assistants on site. The simulations were conducted by presenting a scenario to the parents in which a child was engaged in noncompliant behavior. The research assistant asked the participants which techniques should be used and (if possible) to demonstrate what should be done. Research assistants took observational data on which techniques the participants used to resolve noncompliant child behavior. Immediately following the training, each participant repeated the exercise and results were once again recorded. This was done to measure the extent to which participants understood the training material and to provide an additional opportunity to engage in a role-play activity.

Interobserver agreement. All interobserver agreement (IOA) data was calculated by the number of agreements divided by the number of agreements plus disagreements multiplied by 100. IOA was calculated in 100% of direct observation of instructor sessions. All trials were coded by at least two research assistants. The IOA for all direct observation of instructor coding was 100%. IOA was also calculated in 23% of the strategy adoption trials. The IOA for all strategy adoption trials was 82% (76%-100%).

Procedures

The study consisted of two main phases: baseline and intervention. Each of the groups participated in these phases at different stages; however, the procedures were the same for each group.

Baseline. After being selected and consenting to participate in the study, each participant collected baseline data using the daily questionnaires in self-report survey format for a minimum of five days (Group 2 collected more baseline data while Group 1 was trained). These surveys were sent to each participant in a daily e-mail or text (depending on participant preference). The e-mail or text contained a link to a Qualtrics survey. Each participant filled out the survey and reported on both their own behavior and child behavior throughout the day.

Initial data were also collected using the EIPSES in order to determine whether or not a change occurred in the perspective of the participants in regards to their ability to effectively manage noncompliant behavior.

Parent training intervention. In the second phase, each group participated in a parent training designed to teach behavior management skills. Group 1 was trained by a professional (the author) and Group 2 was trained by a participant from the Group 1. Both the professional and the parent trainer used the same training modules to conduct the training. The parent trainer received no additional instruction after participating in the professionally-led training; she was given the packet and asked to come back the next week to instruct Group 2. The parent trainer was a teacher by profession and indicated she did not require further instruction.

The training, which was guided by the packet, included an explanation, demonstration, and practice phase. Each skill and step were explained by the professional (or parent trainer) and was then demonstrated. Following the demonstration, the participants were asked to practice the new skill with a partner. No data was collected on whether or not the participants followed these steps. Each group was taught the following four behavior management skills.

Reinforcement. Participants learned to provide reinforcement when their child follows through with a demand or request without engaging in noncompliant behavior. Reinforcement is

anything that happens after a behavior has occurred that will increase the likelihood of occurrence of that behavior in the future. Parents were taught to provide reinforcers (such as small edibles, access to games, praise and attention, etc.) after the child had complied with a demand but not before. Doing this increases the likelihood that the child will comply with demands in the future.

Transition cues. Participants learned to use transition cues before asking their child to engage in a behavior that typically caused noncompliant behavior to occur. These cues can include visual timers, verbal countdowns, picture cards, or written words. Participants were taught to select the method most appropriate for their child. Children with an ASD typically have a difficult time transitioning from activity to activity, especially when transitioning from a preferred activity to a non-preferred activity. Using transition cues can increase the likelihood that children will comply with a demand without engaging in noncompliant behavior.

Functional communication training. Participants learned to use functional communication training with their child. Functional communication training teaches a child to use words (verbal, signed, or visual) to express needs and wants in place of unwanted behaviors. Parents learned to prompt their children to ask for such things as help, more time on a certain activity, to wait several minutes, or to request what they would like as a reward. Using functional communication training can lower the probability of noncompliant behaviors.

Prompting strategies. Parents learned how to prompt their child to complete desired actions. These strategies included verbal prompts (e.g. explaining how to do something or repeating an instruction), model prompts (e.g. showing the child how to complete the action) and physical prompts (e.g. physically helping the child complete the task using hand-over-hand prompts). Fading procedures were also taught to avoid prompt dependency.

Post-training. For those participants who were interested, a post-training by a professional (the author) was offered to ensure that each participant had access to high-quality training, regardless of which group he or she was assigned to. None of the participants chose to participate in the post-training; one parent requested an electronic copy of the training materials. These were sent to her via e-mail.

Research Design

Training was introduced in a staggered format with one group reporting more baseline and intervention data than the other. This design is similar to the multiple baseline design, with the exception that data trends were not analyzed systematically prior to introducing the training as in standard single case designs (Baer, Wolf, & Risley, 1968). Baseline data were collected for all participants. Once baseline data collection was completed for Group 1, the training session took place. The parent trainer returned one week later to train the Group 2.

Data Analysis

Data were analyzed visually based on the level, trend, and variability of the data consistent with applied behavior analytic practices. This type of analysis was used on an individual basis—each participant’s data were visually analyzed to detect changes resulting from the intervention. Visual analysis was also used for each group’s data.

Tau-U analysis was also used, complementary to visual analysis. Tau-U is a quantitative analysis of single-subject research designs that offers significance testing. Tau-U is typically used with small data sets, typically found in single-subject research designs. Tau-U can be used to correct for baseline trends, evaluate positive trends in the treatment phase, and corrects for over- and underestimation of overlapping data points (Lee & Cherney, 2018; See Vannest,

Parker, & Gonen, 2011; and Parker, Vannest, Davis, & Sauber, 2011, for a full description of the calculation.)

Standard Mean Difference (SMD) was calculated for data gathered from the EIPSES. The EIPSES consist of 16 questions which are answered on a seven-point Likert scale (1=strongly disagree, 7=strongly agree). Mean scores for each item typically range from 4.96 to 6.7 (79 to 107 total score). Pre- and post-scores were compared to determine whether or not the intervention changed parent self-efficacy.

Results

The results section is organized as follows. First, data on both expert-led and parent-led training are presented. Second, individual and group data are presented from the daily rating scales. Third, data on the EIPSES is presented.

Expert-Led and Parent-Led Training

The results of all participants are presented below, as well as data for each group (See Table 2). The first four rows are the overall data for both Groups 1 and 2 combined for all four items on the daily rating surveys (effectiveness, noncompliance, consistency, and confidence). The data are then shown for each group separately.

Data show that all self-reported measurements changed significantly for Group 1; all self-reported measures for Group 2 changed significantly except for self-reported noncompliant child behavior. When combining all data to measure overall changes, all measurements reported significant changes.

Table 2

Tau-U Scores for Group 1, Group 2, and Overall Scores

Daily Rating	Tau	p	CI 90%
Overall Effectiveness	0.547	0.001**	0.361<>0.733
Overall Noncompliance	-0.439	0.001**	-0.624<>-0.253
Overall Consistency	0.749	0.001**	0.563<>0.935
Overall Confidence	0.662	0.001**	0.476<>0.848
Effectiveness Group 1	0.525	0.001**	0.300<>0.749
Effectiveness Group 2	0.596	0.01*	0.264<>0.927
Noncompliance Group 1	-0.523	0.001**	-0.747<>-0.299
Noncompliance Group 2	-0.255	NS	-0.587<>0.077
Consistency Group 1	0.840	0.001**	0.616<>1
Consistency Group 2	0.550	0.001**	0.218<>0.882
Confidence Group 1	0.732	0.001**	0.508<>0.956
Confidence Group 2	0.509	0.01*	0.177<>0.841

*p<.01 **p<.001

CI=Confidence Interval

Daily Rating Scales

Data from the daily rating scales are broken down into four categories: noncompliance, effectiveness of strategies, consistency, and confidence.

Noncompliance. In the expert-led training, Ana, Juliette, Katie, and Ella reported decreases in the level of child noncompliant behavior. Henry, Lucy and Faith did not report a decrease in noncompliance levels. In the parent-led training, Heather reported decreases while Andrew and Violet reported similar levels of noncompliant child behavior (see Figure 2).

Effectiveness of strategies. Participants in the expert-led training group reported an increase in effectiveness in strategies used to manage noncompliant behavior. Henry, Lucy, Juliette, Faith and Katie all reported an increase in the perceived effectiveness of strategies taught in the training. Ella did not report any difference in effectiveness. In the parent-led training group, one participant (Heather) reported lower levels of effectiveness after the training. Violet reported similar levels while Andrew reported slight increases in effectiveness (see Figure 3).

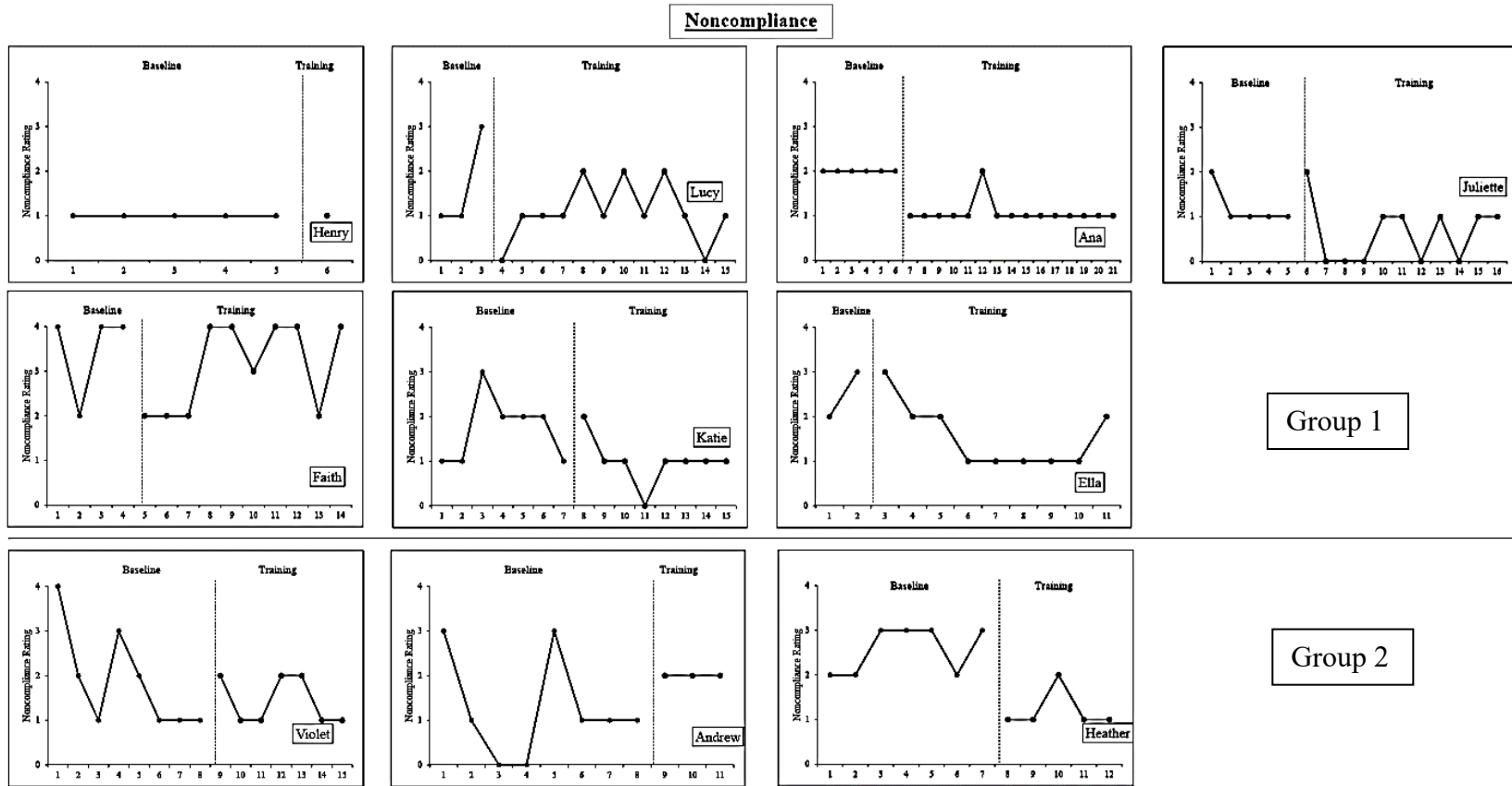


Figure 2. Reported frequency of child noncompliant behavior (0 = none at all, 4 = a great deal). Both baseline and post-training data are included. Data were collected via parent-report on a Likert scale.

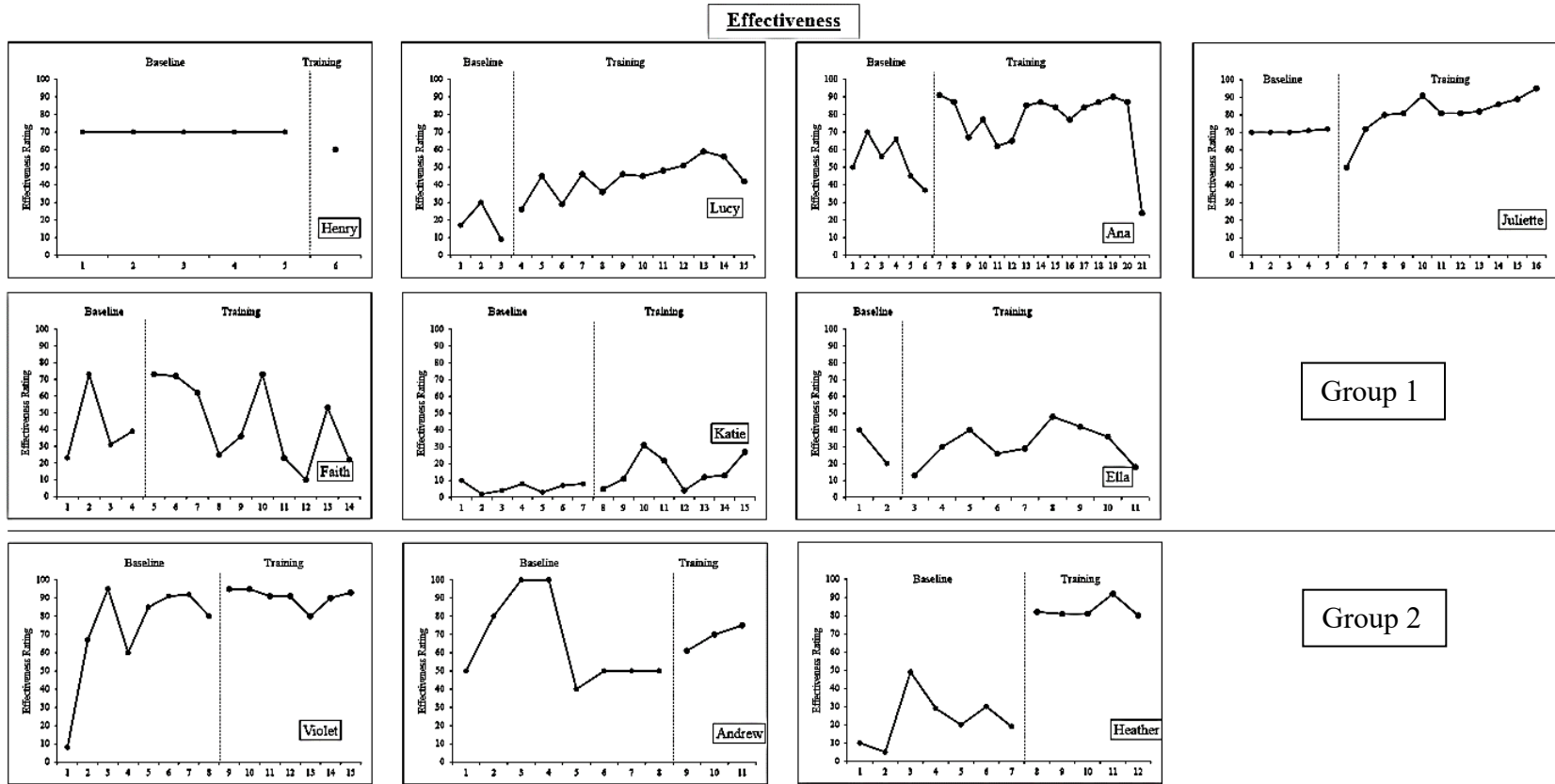


Figure 3. Reported effectiveness of behavior management strategies. (0% = never effective, 100% = always effective). Both baseline and post-training data are included. Data were collected via parent-reported in percentage format on a daily basis

Consistency. The majority participants in the expert-led training group reported increased levels of consistency. Lucy, Ana, Juliette, Katie and Ella reported increased consistency in using behavior management strategies. Henry and Faith did not report increases in consistency. In the parent-led training group, Heather reported an increase in consistency while Violet and Andrew maintained the same levels of consistency throughout the study (see Figure 4).

Confidence. In the expert-led training group, Lucy, Ana, Juliette, Faith, Katie and Ella all reported increased levels of confidence in administering the behavior management techniques. Henry did not report an increase in confidence. In the parent-led training group, Heather reported a large increase in confidence. Violet and Andrew reported steady levels of confidence throughout the study (see Figure 5).

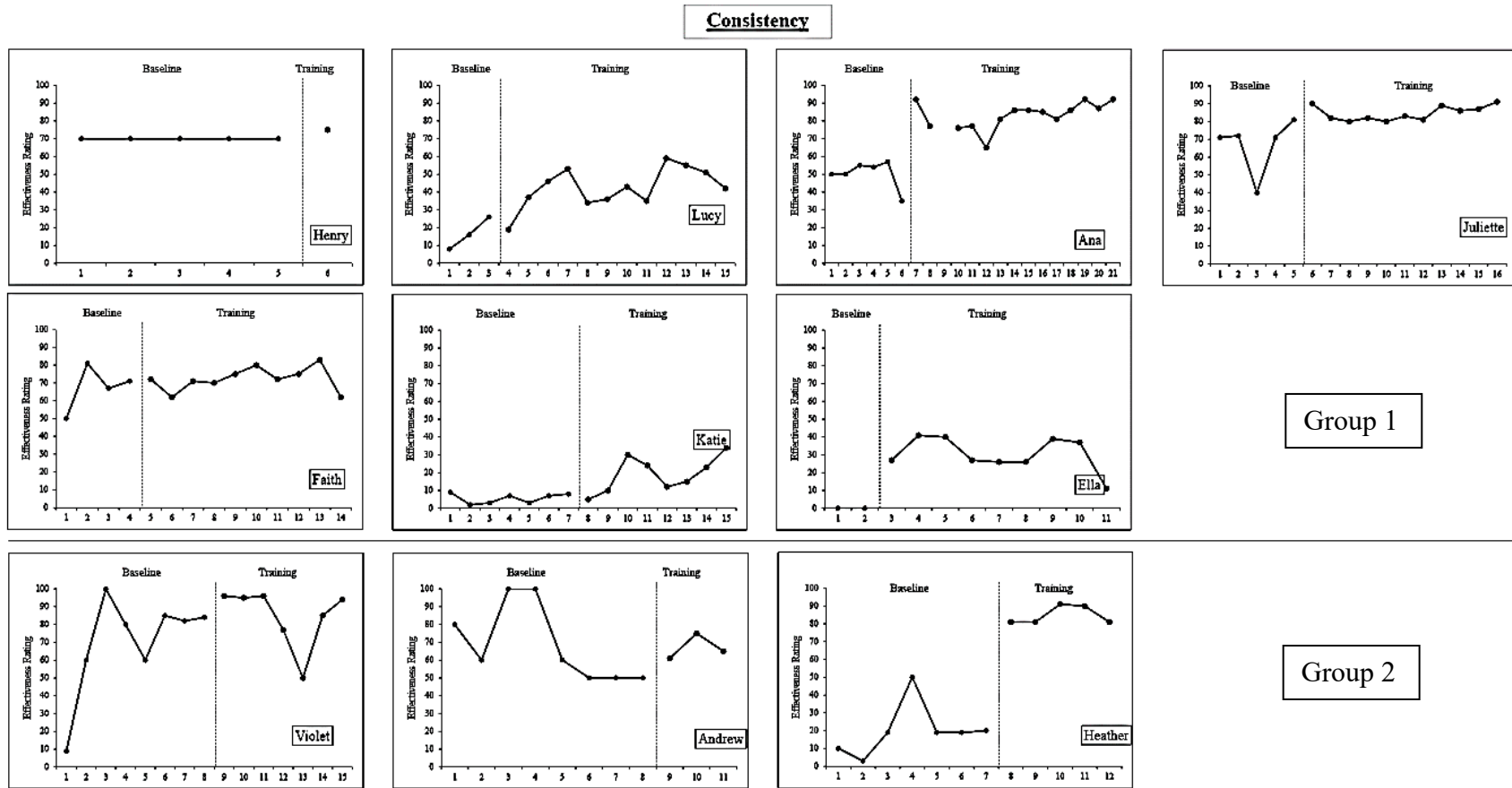


Figure 4. Reported consistency in implementing behavior management strategies. (0% = never effective, 100% = always effective).

Both baseline and post-training data are included. Data were collected via parent-reported in percentage format on a daily basis.

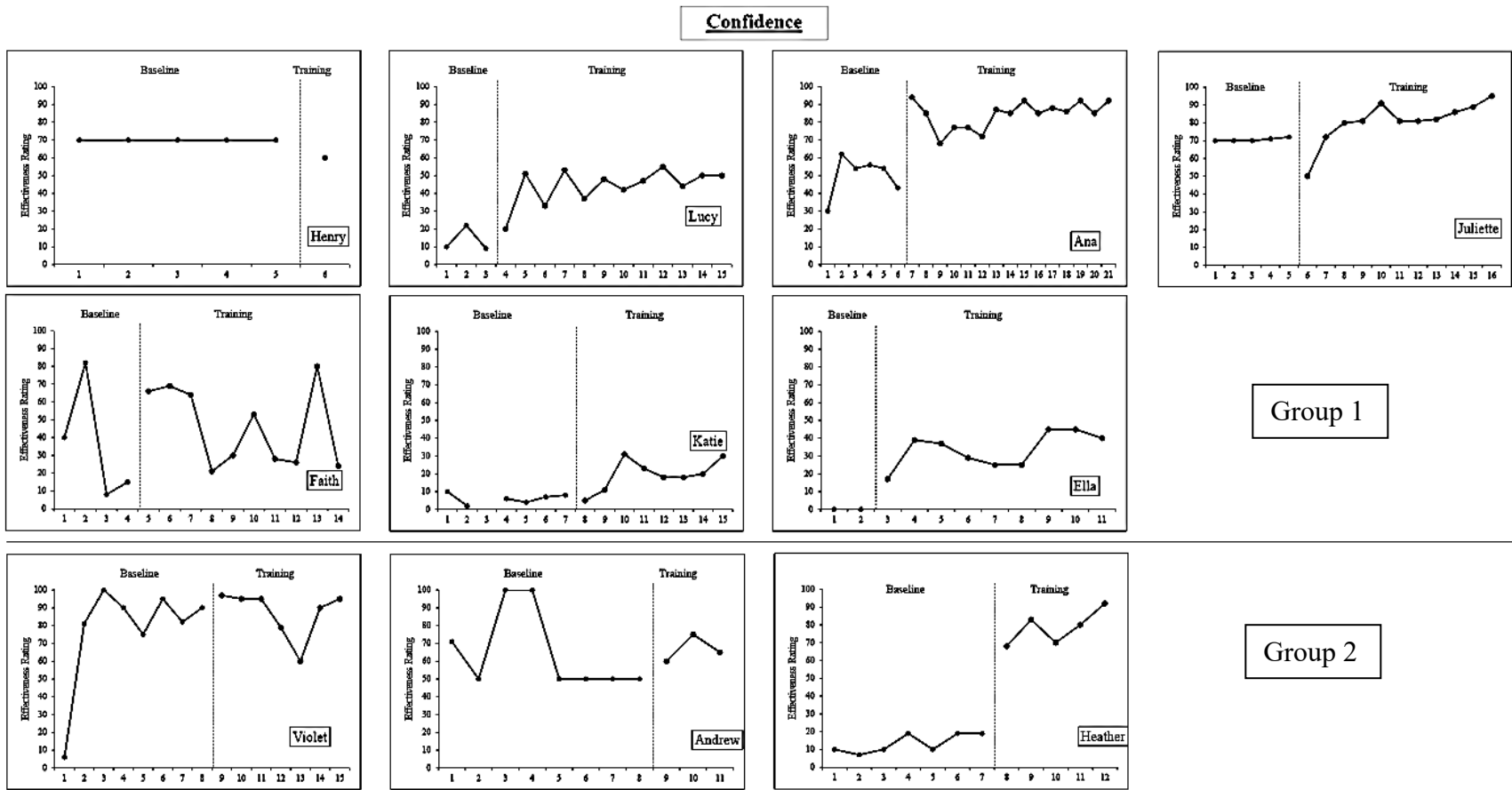


Figure 5. Reported confidence in using behavior management strategies. (0% = never effective, 100% = always effective). Both baseline and post-training data are included. Data were collected via parent-reported in percentage format on a daily basis.

Parent Self-Efficacy

Participants completed the EIPSES two times during the study. EIPSES data were calculated before and after the parent training. At pretest, the participants showed an average of 67.0 (SD = 2.94). At post-test, the parents showed an average of 69.1 (SD = 2.91). These results were not significantly different. Results were also summarized using SMD; results showed an SMD of 0.73. This indicates a medium effect size.

Results were not calculated for Group 1 and Group 2 individually. The individual groups did not have enough participants to accurately calculate an SMD.

Discussion

This study examined the effect of both expert-led and parent-led training, parent self-efficacy, the effect of using resources available to a community clinic and child noncompliant behavior. The results indicate changes in parent-perceived measures; however, this design used an A-B format. Causal relations could not be determined from this data. The remainder of the paper will discuss the findings obtained from participant-reported measures and how limitations may be addressed in the future.

Findings

The findings of the study are organized into four sections corresponding to the main research questions of this study. Expert-led and parent-led training are discussed first followed by parent self-efficacy, the ability of clinics to implement this training and child noncompliant behavior.

Expert-led and parent-led training. Both the expert-led and the parent-led training groups showed similar results across the data (all daily rating measures and EIPSES). This indicates that parent training is effective in changing parent-perceived measures whether the

training is led by an expert or a parent, provided the training is given with fidelity. The parent who directed the parent-led training did so with 100% fidelity; the researcher led the training with 94% fidelity.

This study provides preliminary findings indicating that clinics and agencies can disperse training materials by using parents as instructors. Once the parents have been trained, they have the ability to pass that information on to other parents. This may have been aided by providing detailed training materials. While no data was collected on actual behavioral changes, parent perception is an important domain to consider when addressing wait lists. As parents feel more positive about the skills they possess and the ability they have to make a change, some of the stressors and challenges associated raising a child with an ASD and noncompliant behavior may be alleviated.

Another possible explanation of the similar data is that the groups were not truly randomized, making it difficult to accurately compare data. Participants were allowed to request which group to be in based on availability. In addition, the second group contained only three participants due to circumstances beyond the researcher's control (three participants were not able to come to the training or arrange a time to make it up). This limits the ability to truly compare group results.

Parent self-efficacy. All parents reported feeling more confident in using behavior management strategies following the trainings according to self-reported measures (Henry and Violet were the only participants who did not report an increase of confidence; Henry did not provide enough post-training data on any measures to accurately portray any changes he experienced). The change in self-reported confidence could alleviate some of the stressors associated with parenting a child with an ASD as discussed above. However, results of the

EIPSES did not show a significant change from pre- to post-test. The SMD indicated a medium effect. These differing reports could point to the discrepancy between parent-reported measures and actual changes-these limitations will be discussed in the Limitations section.

Community clinic resources. The results of this preliminary study indicate that parent training can be effectively implemented with the resources available to a community clinic. Unlike other studies which have been done with extensive resources and time commitments, this study was done with resources a community clinic could give (e.g., one hour of training, simple training packet). These results are encouraging for clinics and parents; training can be provided in an efficient manner without diluting the perceived effectiveness of the trainings.

Child noncompliance. Child noncompliant behaviors decreased for both groups of participants according to self-reported data, although no tests of significance were performed. This again indicates that training is effective in changing a parent's perception of behavior when led by either an expert or a parent who has been previously trained. However, the results did not show as large a change as other self-report measures used in this study. This could be due to the short duration of data collection and lack of follow-up data. Extinction bursts may have also played a role, especially for those participants who saw an increase in noncompliant behavior after the training; data was not collected for a sufficient amount of time to determine if noncompliant levels would continue to drop. Another factor could be the level of training offered. In order to provide information to groups rather than to individuals, more basic strategies were taught. It may take parents longer than data was collected to make individual adjustments that work on an individual basis.

Limitations

This study is limited in its scope due to several factors; these factors include a homogenous sample, fidelity of parent-reported measures, cooperation of the sample and equivalency of groups. The sample recruited was not representative of the population receiving ABA services in the environment. The sample did not represent diversity of race, ethnicity, educational background, or marital status. The city where this study was performed has a higher rate of white married adults than many cities in the United States; results of the study may be applicable in similar settings. While the findings of this study can be applied to similar individuals, the results may not be the same for those of different backgrounds. In addition, the two groups were not equal. The statistical power of analysis for group designs requires larger numbers of participants. It is recommended that a larger-scale study be conducted in order to provide more power for analyses.

No data were collected to determine whether or not participants were accurately portraying data in their self-reported measures. IOA was not measured for parent-reported behaviors. This study focused for the most part on parent self-efficacy and perceived changes; however, more rigorous methods would be necessary for measuring child noncompliant behaviors directly. The cooperation of participants is another limitation to consider. These parents volunteered to participate in daily surveys and to spend several hours on a weekend in training sessions. The results may differ for parents who are less motivated to give of their time.

Implications for Future Research

Future research should focus on the following areas. First, a larger and more diverse sample size should be used in order to show more definitively that pyramidal training is an appropriate model for disseminating information to parents on wait lists. Sample sizes should be

representative of the population receiving services. A larger sample size will enable the use of more powerful group statistical measures to be used. A larger sample size will also provide enough statistical power to identify whether or not training provided with limited resources that a community clinic would have is as effective as more intense training as has been used in previous studies.

Second, a more rigorous study should be performed with more emphasis on IOA to determine if parent report was consistent with observed behaviors. While the results of this study show that the perception of parents changed in regards to self-efficacy and behavior, no data was collected on whether or not those changes actually occurred. Although parent perception is a powerful tool and motivator, this study cannot say that the intervention caused actual changes in behaviors of either the children or participants.

Third, an extended pyramidal structure should be studied. This study used only one tier of the pyramidal training structure. The study confirmed previous findings that two-tier pyramidal training structures are effective. Future research should determine how many levels of pyramidal training can be used while still maintaining similar outcomes.

Fourth, the parent training modules used constituted four different behavior practices for managing noncompliant behavior. It was not within the scope of this study to determine which of the practices were effective for which set of participants. The children of participants ranged in age from toddlers to pre-teens. More attention should be given to the type of practice best suited for certain groups of parents on waitlists. However, doing this may make training more difficult for clinics to implement. Future research should proceed with caution and remember to keep trainings feasible for those implementing the trainings.

Implications for Practitioners

Agencies with wait lists can apply the method outlined in this study to provide services earlier and to a broader range of individuals. We recommend that agencies organize training groups to disseminate behavioral analytic training. This study showed that clinics can offer services that will change parents' perceptions of their own skills and the behaviors of their children. While agencies are typically pressed for time and resources, these findings indicate that even simple trainings can be effective in helping parents feel more confident and in control of their children's behaviors. Agencies can train one group of parents and have those parents, in turn, train others. While this would require an initial resource of time and organization, once the training modules have been created and a system developed, the time and resources would be minimal. This would alleviate resources for clinics and enable more people to receive ABA services in a more efficient manner.

We also recommend that parents of children with an ASD or other diagnoses reach out to those they know in similar circumstances. This study has shown that parents can effectively share their knowledge in a meaningful and effective way with each other. This approach to disseminating information is less structured and would not necessarily result in the same outcomes if parents do not maintain high levels of fidelity when sharing information. Further study should be done to determine the effect of informal sharing of information to validate this practice.

Conclusion

The present study was an evaluation of a pyramidal parent training model for parents on wait lists for ABA therapy. Results demonstrated that participants reported the same acquisition of skills and reported the same changes in efficacy regardless of whether they were trained by a

professional or another parent. Using a simplified training model that a community clinic could follow also proved to be effective according to participant-reported measures. Participant-reported child noncompliant behavior decreased; however, child noncompliant behavior did not change to the same extent of other measures focusing on parent self-efficacy. These results indicate that the wait list epidemic may be addressed by using pyramidal parent training to disseminate ABA practices.

References

- Adubato, S. A., Adams, M. K., & Budd, K. S. (1981). Teaching a parent to train a spouse in child management techniques. *Journal of Applied Behavior Analysis, 14*(2), 193-205. doi: 10.1901/jaba.1981.14-193
- American Psychiatric Association, DSM-5 Task Force. (2013). *Diagnostic and statistical manual of mental disorders: DSM-5* (5th ed.). Arlington, VA: American Psychiatric Publishing, Inc.. doi: 10.1176/appi.books.9780890425596
- Arbelle, S. A., Sigman, M. D., & Kasari, C. (1994). Compliance with parental prohibition in autistic children. *Journal of Autism and Developmental Disorders, 24*(6), 693-702. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/7844094>
- Baer, D. M., Wolf, M.W., & Risley, T.R. (1968). Some current dimensions of applied behavior analysis. *Journal of Applied Behavior Analysis, 1*(1), 91-97. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1310980/pdf/jaba00083-0089.pdf>
- Bruder, M. B., & Bricker, D. (1985). Parents as teachers of their children and other parents. *Journal of the Division for Early Childhood, 9*(2), 136-150. doi: 10.1177/105381518500900205
- Centers for Disease Control and Prevention (2018). *Data and statistics on Autism Spectrum Disorder*. Retrieved from <https://www.cdc.gov/ncbddd/autism/data.html>
- Connolly, M., & Gersch, I. (2013). A support group for parents of children on a waiting list for an assessment for autism spectrum disorder. *Educational Psychology in Practice, 29*(3), 293-308. doi: 10.1080/02667363.2013.841128

- Crone, R. M., & Mehta, S. S. (2016). Parent training on generalized use of behavior analytic strategies for decreasing the problem behavior of children with autism spectrum disorder: A data-based case study. *Education and Treatment of Children, 39*(1), 64-94. Retrieved from <https://eric.ed.gov/?id=EJ1092632>
- Davis, K., & Gavidia-Payne, S. (2009). The impact of child, family and professional support characteristics on the quality of life in families of young children with disabilities. *Journal of Intellectual and Developmental Disability, 34*(2), 152-162. doi: 10.1080/13668250902874608
- Dillenburger, K., Keenan, M., Gallagher, S., & McElhinney, M. (2002). Autism: Intervention and parental empowerment. *Child Care in Practice, 8*(3), 216-219. doi: 10.1080/135752702200004042
- Ebata, A. T., & Moos, R. H. (1994). Personal, situational, and contextual correlates of coping in adolescence. *Journal of Research on Adolescence, 4*(1), 99-125. doi: 10.1207/s15327795jra0401_6
- Ekas, N. V., McDonald, N. M., Pruitt, M. M., & Messinger, D. S. (2017). Brief report: The development of compliance in toddlers at risk for autism spectrum disorder. *Journal of Autism and Developmental Disorders, 47*(4), 1239-1248. doi: 10.1007/s10803-016-2984-1
- Gordon-Lipkin, E., Foster, J., & Peacock, G. (2016). Whittling down the wait time: Exploring models to minimize the delay from initial concern to diagnosis and treatment of autism spectrum disorder. *Pediatric Clinics of North America, 63*(5), 851-859. doi: 10.1016/j.pcl.2016.06.007

- Guimond, A. B., Wilcox, M. J., & Lamorey, S. G. (2008). The early intervention parenting self efficacy scale (EIPSES): Scale construction and initial psychometric evidence. *Journal of Early Intervention, 30*(4), 295-320. doi: 10.1177/1053815108320814
- Hall, A. G., Bouldin, E. D., Andresen, E. M., & Ali, A. K. (2012). Maintaining employment among caregivers of individuals on a Medicaid waitlist for services. *Journal of Disability Policy Studies, 23*(2), 121-128. doi: 10.1177/1044207311420567
- Hansen, B. D., Orton, E. L., Adams, C., Knecht, L., Rindlisbaker, S., Juratoski, F., & Trajkovski, V. (2017). A pilot study of a behavioral parent training in the Republic of Macedonia. *Journal of Autism and Developmental Disorders, 47*(6), 1878-1889. doi: 10.1007/s10803-017-3112-6
- Hastings, R. P., Kovshoff, H., Brown, T., Ward, N. J., Espinosa, F. D., & Remington, B. (2005). Coping strategies in mothers and fathers of preschool and school-age children with autism. *Autism, 9*(4), 377-291. doi: 10.1177/1362361305056078
- Hastings, R. P. (2007). Longitudinal relationships between sibling behavioral adjustment and behavior problems of children with developmental disabilities. *Journal of Autism and Developmental Disorders, 37*(8), 1485-1492. doi: 10.1007/s10803-006-0230-y
- Hock, R. B., Timm, T. M., & Ramisch, J. L. (2012). Parenting children with autism spectrum disorders: A crucible for couple relationships. *Child and Family Social Work, 17*(4), 406-415. doi: 10.1111/j.1365-2206.2011.00794.x
- Kanne, S. M., & Mazurek, M. O. (2011). Aggression in children and adolescents with ASD: Prevalence and risk factors. *Journal of Autism and Developmental Disorders, 41*(7), 926-937. doi: 10.1007/s10803-010-1118-4

- Kopp, C. B. (1982). Antecedents of self-regulation: A developmental perspective. *Developmental Psychology, 18*(2), 199-214. doi: 10.1037/0012-1649.18.2.199
- Kuhn, S. A. C., Lerman, D. C., & Vorndran, C. M. (2003). Pyramidal training for families of children with problem behavior. *Journal of Applied Behavior Analysis, 36*(1), 77-88. doi: 10.1901/jaba.2003.36-77
- Lang, R., Machalicek, W., Rispoli, M., & Regeher, A. (2009). Training parents to implement communication interventions for children with autism spectrum disorders (ASD): A systematic review. *Evidence-based Communication Assessment and Intervention, 3*(3), 174-190. doi: 10.1080/17489530903338861
- Lecavalier, L., Smith, T., Johnson, C., Bearss, K., Swiezy, N., Aman, M. G., ...Scahill, L. (2017). Moderators of parent training for disruptive behaviors in young children with autism spectrum disorder. *Journal of Abnormal Child Psychology, 45*(6), 1235-1245. doi: 10.1007/s10802-016-0233-x
- Lee, J. B., & Cherney, L. R. (2018). Tau-U: A quantitative approach for analysis of single-case experimental data in aphasia. *American Journal of Speech-Language Pathology, 27*(1S), 495-503. doi: 10.1044/2017_AJSLP-16-0197
- Lemanek, K. L., Stone, W. L., & Fishel, P. T. (1993). Parent-child interactions in handicapped preschoolers: The relation between parent behaviors and compliance. *Journal of Clinical Child Psychology, 22*(1), 68-77. doi: 10.1207/s15374424jccp2201_7
- Meadan, H., Halle, J. W., & Ebata, A. T. (2010). Families with children who have autism spectrum disorders: Stress and support. *Exceptional Children, 77*(1), 7-36. doi: 10.1177/001440291007700101

- Murphy, T., & Tierney, K. (2006). *Parents of children with Autistic Spectrum Disorders (ASD): A survey of information needs*. Report to the National Council for Special Education (NCSE), Special Education Research Initiative, Dublin: NCSE.
- Neef, N. A (1995). Pyramidal parent training by peers. *Journal of Applied Behavior Analysis*, 28(3), 333-337. doi: 10.1901/jaba.1995.28-333
- Norton, P., & Drew, C. (1994). Autism and potential family stressors. *The American Journal of Family Therapy*, 22(1), 67-76. doi: 10.1080/01926189408251298
- Parker, R. I., Vannest, K. J., & Davis, J. L. (2011). Effect size in single-case research: A review of nine nonoverlap techniques. *Behavior Modification*, 35(4), 303-322. doi: 10.1177/0145445511399147
- Postorino, V., Sharp, W. G., McCracken, C. E., Bearss, K., Burrell, T. L., Evans, A. N., & Scahill, L. (2017). A systematic review and meta-analysis of parent training for disruptive behavior in children with Autism Spectrum Disorder. *Clinical Child and Family Psychology Review*, 20(4), 391-402. doi: 10.1007/s10567-017-0237-2
- Radley, K. C., Jenson, W. R., Clark, E., & O'Neil, R. E. (2014). The feasibility and effects of a parent-facilitated social skills training program on social engagement of children with autism spectrum disorders. *Psychology in the Schools*, 51(3), 241-255. doi: 10.1002/pits.21749
- Rivard, M., Morin, M., Mercier, C., Terrous, A., Mello, C., & Lepine, A. (2017). Social validity of a training and coaching program for parents of children with autism spectrum disorder on a waiting list for early behavioral intervention. *Journal of Child and Family Studies*, 26(3), 877-887. doi: 10.1007/s10826-016-0604-5

- Smith, T., & Iadarola, S. (2015). Evidence base update for autism spectrum disorders. *Journal of Clinical Child & Adolescent Psychology, 44*(6), 897-922. doi: 10.1080/15374416.2015.1077448
- Twoy, R., Connolly, P. M., & Novak, J. M. (2006). Coping strategies used by parents of children with autism. *Journal of the American Academy of Nurse Practitioners, 19*(5), 251-260. doi: 10.1111/j.1745-7599.2007.00222.x
- Vannest, K. J., Parker, R. I., & Gonen, O. (2011). *Single case research: Web based calculators for SCR analysis (version 1.0)*. Retrieved from <http://www.singlecaseresearch.org>
- Weinfield, N. S., Ingerski, L., & Moreau, S. C. (2009). Maternal and paternal depressive symptoms as predictors of toddler adjustment. *Journal of Child and Family Studies, 18*(1), 39-47. doi: 10.1007/s10826-008-9205-2
- Zaidman-Zait, A., Mirenda, P., Duku, E., Szatmari, P., Georgiades, S., Volden, J., ...Thompson, A. (2014). Examination of bidirectional relationships between parent stress and two types of problem behavior in children with autism spectrum disorder. *Journal of Autism Development Disorder, 44*(8), 1908-1918. doi: 10.1007/s10803-014-2064-3

APPENDIX A

APPENDIX A: Review of the Literature

According to the American Psychiatric Association (2013), an autism spectrum disorder (ASD) is characterized by impairments in three key areas: social interaction; restricted, repetitive and stereotyped behaviors and interests; and communication. ASDs affect one in 59 children according to the 2014 data from Centers for Disease Control and Prevention (CDC, 2018). Families of children with an autism spectrum disorder (ASD) are influenced in many ways. Parent training can be an effective method for alleviating some of the stress and other results parents deal with; however, many parents do not have access to parent training. This review will discuss one possible solution to providing services to families with a child with an autism spectrum disorder (ASD) on wait lists.

Noncompliant Behavior

Compliance is the ability to comply with requests from parents, peers, or other adults (Kopp, 1982). Compliance is a vital skill important for any child, either typically developing or with a disability, to master. A common difficulty reported by parents of raising a child with an ASD is noncompliant behavior (Ekas, McDonald, Pruitt, & Messinger, 2017). Ekas et al. (2017) found that children with ASD showed greater noncompliance at 24 months than their typically-developing peers. Even at an early age, children with an ASD start to lag behind in responding to requests. The same children typically exhibit slower growth in compliance when compared with typically-developing peers as the children age (Arbelle, Sigman, & Kasari, 1994). As is typical with many skills in a child with an ASD, learning and mastery take more time than with typical peers. Parents may see behaviors common for 2-year old's in their child who is much older. It has been hypothesized that noncompliance in children with an ASD results from a lack

of language comprehension; however, parents of children with an ASD typically use more gestures and other physical signs to communicate with their children (Lemanek, Stone, & Fishel, 1993). Thus, a lack of understanding may not be the only factor contributing to the elevated rates of noncompliance. Beyond teaching communication, other skills must be taught in order to achieve compliance with these children.

Lemanek et al. (1993) also found that children with an ASD have the highest rates of noncompliant behavior when compared with typically-developing peers as well as with peers with other disabilities and handicaps (e.g. Down syndrome, language impairments, intellectual disabilities, etc.). There appears to be something unique about an ASD that contributes to higher rates of noncompliance. While the cause of higher rates of noncompliance in children with an ASD is unclear and beyond the scope of this review, the solution is clear. Neither severity of symptoms nor level of IQ have been found to influence the effectiveness of intervention in increasing compliant behavior (Lecavalier et al., 2017). This finding is encouraging as it means interventions can be used to increase compliance no matter the severity of a child's symptoms with an ASD.

Families and Autism Spectrum Disorders

One important way to teach a child compliance is to involve parents in the process of training and maintaining compliant behavior. Parent involvement in any intervention is key to generalization and maintenance of the desired behavior. Norton and Drew (1994) stated that “[autism] needs to be treated as a family problem, not just a problem of the individual with autistic behaviors” (p. 73). The psychological well-being and attitude of caregivers has a large impact on the behaviors of their children with autism spectrum disorders (ASD) (Zaidman-Zait et al., 2014). When parents feel in control and confident, their child is more likely to benefit

from interventions. For this reason, therapy should be made available to all members of the family, especially the parents (Norton & Drew, 1994).

There are many aspects of having a child with an ASD that are stressful to parents: increased expenses, less time for social relationships, stricter schedules, less access to other resources, feelings of isolation, and increased parenting demands. Parents of children with an ASD report dealing with these and other aspects of the ASD diagnosis as a stressor in their lives (Hock, Timm, & Ramisch, 2012). They report higher levels of stress than parents of typically developing children, which often leads to higher levels of depression and other emotional disorders (Meadan, Halle, & Ebata, 2010). However, Hartley, Papp, Blumenstock, Floyd, and Goetz (2016) found that most parents do not feel negatively towards dealing with behaviors of their child with ASD; instead, they feel more challenged in the underlying areas (e.g., communication, commitment, personality differences, resources). In other words, having a child with an ASD in and of itself does not increase difficulties, but it does bring to the forefront some of the common factors leading to familial stress. These stressors include knowledge of how to handle behaviors, communication, bonding, difficulties in changing routine, finances, and unpredictable behavior (Norton & Drew, 1994).

Mothers of children with disabilities, in addition to these stressors, also suffer higher levels of depression (Singer, 2006), and they also generally assume a larger responsibility for caring for a child with ASD (Meadan et al., 2010). Weinfield, Ingerski, and Moreau (2009) found that parents with depression are less-likely to respond to needs of their child, which often results in more frequent misbehaviors. As parents of children with an ASD develop higher levels of depression, they become less able to appropriately respond to the needs of their child. This creates a cycle which is difficult to break without help, either from family or other resources.

Reports are mixed on the impact having a child with ASD has on a marital relationship (Hartley, Barker, Barker, Mailick, & Greenberg, 2012; Meadan et al., 2010; Norton & Drew, 1994). Hayes and Watson (2013) conducted a meta-analysis in which studies showed that families with a child with autism had higher overall levels of parenting stress. Hartley et al. (2010) found that risk of divorce increased by 10% in parents of children with a child with a disability. However, Tway, Connolly, and Novak (2006) found that when parents of a child with an ASD seek familial, social and agency helps they have similar levels of adjustment as parents of typically-developing children. These results indicate that while raising a child with an ASD can create more stress than raising a typically-developing child, reaching out to others (both personally and professionally) can help alleviate the additional stress. These findings make it clear that resources need to be provided as effectively as possible to families of a child with an ASD.

Having a child with an ASD who displays some form of problem behavior also influences family functioning as a whole (Davis & Gavidia-Payne, 2009). Part of these functioning problems may result from more limited employment opportunities for parents (Hall, Bouldin, Andresen, & Ali, 2012). This creates stress in areas of finance, family time, ability to create and maintain social relationships, and others. Problem behavior in a child with an ASD also seem to correlate with higher rates of problem behavior in siblings (Hastings, 2007). Not only are the parents influenced, the siblings often are as well. The siblings of a child with an ASD may experience higher levels of depression, anxiety, problems with social competence and stressful sibling relationships (Cebula, 2012). Many of these problem behaviors associated with children with an ASD are aggressive in nature, to both caregivers and others (Kanne & Mazurek, 2011). Horner, Carr, Strain, Todd, and Reed (2002) noted that the most common problem

behaviors of children with an ASD included tantrums (76% of children with an ASD), aggression (56%), stereotypy (14%), and self-injury (11%). Many of these behaviors stem from an unwillingness to comply with requests.

As mentioned above, families seeking out community help and resources are successful in coping with the various stressors associated with raising a child with an ASD. Families who were diligent in seeking community help were also found to heavily rely on extended family for support (Troy et al., 2006). Unfortunately, many caregivers are unsure of how to deal with challenging behaviors and stressors, turning to television and other distracters in hopes that the problems will simply dissipate if they are ignored (Troy et al., 2006). These avoidance strategies result in poorer adjustment and outcomes (Ebata & Moos, 1994; Troy et al., 2006; Hastings et al., 2005). It is when parent and families turn to as many resources as are available that more positive outcomes are achieved.

There are many strategies and resources that families of a child with an ASD can access in order to alleviate stress identified in the current research literature. Some of the most well-researched are identified and discussed below. As will be explained, not all of these resources are readily available to families when they are needed most.

Couple communication. Norton and Drew (1994) recommend making therapy available for not only the child with an ASD, but to the caregivers as well (and possibly extending to siblings). They argue that raising a child with an ASD is a family problem, not an individual problem. One way in which this is acutely manifest is in communication. Couples raising a child with an ASD experience higher rates of communication difficulty, which is a leading risk factor in marital distress (Stanley, Markamn, St. Peters, & Leber, 1995). Communication has been identified as relieving stress in couples with a child with an ASD.

Wymbs (2011) discovered that when one caregiver believes the other is not effectively managing a challenging behavior of the child with ASD, negativity in communication increases and the behaviors of the child also increased. Gottman (1993) labels this kind of behavior as hostile behavior. He found that couples engaging in hostile behaviors are more likely to have marital instability. Fortunately, most couples, after experiencing a turbulent marriage following the diagnosis of a child with ASD, relearned to communicate with each other and returned to a stable relationship. They specifically identified communication as a key factor in this ability to handle the ASD diagnosis and following challenges (Hock et al., 2012). Couples who communicate more effectively with each other are more likely to have higher marital quality, especially when raising a child with an ASD (Ramisch, Onaga, & Min, 2014). There are some recent findings indicating that raising a child with an ASD can increase positive communication in a couple (Hartley et al., 2016) compared with couples raising typically developing children.

Parent training. Another option for dealing with the stressors discussed above is parent training. In a meta-analysis conducted by Postorino et al. (2017), parent training was found to be effective in decreasing disruptive behavior in 95% of opportunities. By decreasing disruptive behaviors in a child with an ASD, parental stress levels go down as well. Parent training increases the ability of parents to feel in control of their child's life and be able to make a difference (Dillenburger, Keenan, Gallagher, & McElhinney, 2002). Duca (2015) found that interventions typically resulted in lower marital stress as well as increased family resilience. Bearss et al. (2015) compared parent training against parent education; their findings showed that parent training was superior in outcomes (although both showed significant decreases in behaviors). Parent training involved a more interactive approach where parents were held more responsible for implementing the techniques they learned. Smith and Iadarola (2015) pointed out

that training parents to administer interventions increases the exposure the child has to the intervention and increases the ability of the child to generalize the intervention.

However, Radley, Jenson, Clark, and O'Neil (2014) found conflicting evidence-some children improved when parent training was implemented, and others did not. This has been attributed to the lack of quality research to make a certain determination on whether or not parent training is useful (Lang, Machalicek, Rispoli, & Regester, 2009; Smith & Iadarola, 2015). Other studies have found parent training to be effective in some situations, but not in others (Smith & Iadarola, 2015). These contradictory studies to what Postorino et al. (2017) reported in their meta-analysis may be due to the limited range of studies examined. All of the studies they evaluated were performed in clinical settings; none were included that were implemented in the home or community environments.

Crone and Mehta (2016) found that parent training in a clinical setting resulted in a decrease in child problem behavior in real-life situations. The majority of studies on parent training have been conducted in clinical settings. This study showed that skills learned in this setting generalized into real-life situations. However, more studies need to be conducted to evaluate the effects of clinical training on behavior outside of the clinic.

Few parent training studies have focused specifically on managing disruptive behaviors. Most studies focus on teaching parents skill-based interventions, such as increasing eye contact and play skills (see Aldred, Green, & Adams, 2004; Kasari, Gulsrud, Wong, Kwon, & Locke, 2010; Oosterling et al., 2010). Several studies have found positive outcomes when parent training is applied to disruptive behaviors (e.g. Bearss, Johnson, Handen, Smith, & Scahill, 2013). However, the studies which have been done on preventing and responding to disruptive behavior have not been conducted in multiple settings, nor with larger groups of participants.

The studies have also been conducted with resources and time unavailable to regular clinics (Bearss et al., 2013).

A resulting issue with the current literature on parent training is the lack of the ability for providers to implement the trainings. Most studies on parent trainings devote large amounts of time and personnel to the trainings (see Bears et al., 2013; Crone & Mehta, 2016; Kasari et al., 2010). While this has been shown in many cases to be effective, clinics across the country are not capable of devoting so many resources to parent training. These clinics are already typically overloaded and do not have the resources to invest in large parent training initiatives.

Wait Lists

Parent training is typically included in ABA services offered to children with an ASD. However, most clinics across the country have long wait lists. These wait lists are due to a number of factors, including an increase in the number of children diagnosed, a lack of providers, and various amounts and types of insurance coverage (Gordon-Lipkin, Foster, & Peacock, 2016). Parents report feeling anxiety, worry and frustration when placed on wait lists (Connolly & Gersch, 2013). Murphy and Tierney (2006) reported that parents desire practical information before, during and after the diagnosis process; parents specifically pointed to strategies they can use to manage their children's difficult behaviors. The current system in place for gaining access to ABA services typically requires parents waiting at least several months after a diagnosis before having access to the desired information. Unfortunately, some parents have were found to have more negative views of therapy once received if they had spent time on a wait list (Call, Reavis, McCrackenm, Gillespie, & Scheithauer, 2015).

Many clinics across the country have started developing unique ways of addressing the issue of delayed parent training (Gordon-Lipkin et al., 2016). Several studies have also

addressed this need using various models. Rivard et al. (2017) provided weekly training meetings covering a wide variety of topics for parents on waiting lists; in general, families were satisfied but wanted the training to be both more intensive and more frequent. Another study created a 3-stage parent support group for parents on waiting lists; the parents first identified their concerns and needs. Following this, four sessions addressing those concerns were taught. Finally, the parents evaluated the process. All parents reported feeling more adept at navigating the system for their child, felt more at peace, and felt more capable of handling difficult behaviors with their child (Connolly & Gersch, 2013). While the progress is encouraging, more work is needed as wait lists continue to grow.

In addition, some states have started implementing measures to make services more readily available to children and parents. These methods include (but are not exclusive to) telehealth treatment, setting up collaborative team networks of doctors and other professionals, and creating state departments to oversee the diagnosis and provision of service to qualifying children and parents (Gordon-Lipkin et al., 2016).

Examples of handling wait lists. Several models already exist for addressing a population in need of services with limited resources. In the medical field, “the allocation of scarce resources” is referred to as *rationing* (Scheunemann & White, 2011). One way rationing has been administered is through wait lists (Light, 1997; Scheunemann & White, 2011). However, Light (1997) argues that wait lists are not necessary. He argues that an adjustment is needed at a higher level (e.g., political, governmental, financial) and that changes at these levels could eliminate the need for wait lists in the medical field. He further argues that many processes patients go through are unnecessary and add to the wait list epidemic (e.g., follow-up visits, over-testing, and uneven distribution of responsibility between doctors and their staff).

Scheunemann and White (2011) describe several other approaches to rationing that have both positive impacts and limitations. First, less expensive options should be chosen as interventions when they are equally as effective as more expensive options. Second, an increasingly common way to ration services is to use a measure called Quality-Adjusted Life Years (QALY); QALY is a measurement system used to compare very different services and treatments for disease. Services and treatments are then distributed to those most in need according to this measure. There are several downfalls to this measure, including the fact that people with similar conditions (e.g., being wheel-chair bound) may view their quality of life very differently. Third, a lottery system is sometimes used to randomize who gets treatment and who does not. Fourth, prioritizing patient needs has been used to justify who receives treatment and who does not. For example, a youth in need of a heart transplant will often receive priority over an elderly individual also in need of a heart transplant.

Wait lists and priority are the most commonly used of these methods in ABA fields. Other methods discussed above have not been applied to an ABA setting, and it would be difficult to do so. However, wait lists and prioritization have limitations as well. The author suggests that there is another option to providing services to ABA clientele that has not been fully utilized or adequately studied thus far in the literature.

Pyramidal parent training. The current study aims to address this discrepancy in a specific type of parent training called pyramidal parent training. Pyramidal parent training is a system of distributing information to a larger number of individuals while requiring less time and resources from the primary expert or provider. The expert provides a preliminary training to a person or group of people. A second group is then trained by an individual trained in the first

group. The system may continue with a third group being trained by an individual from the second group and so on (see Figure 6).

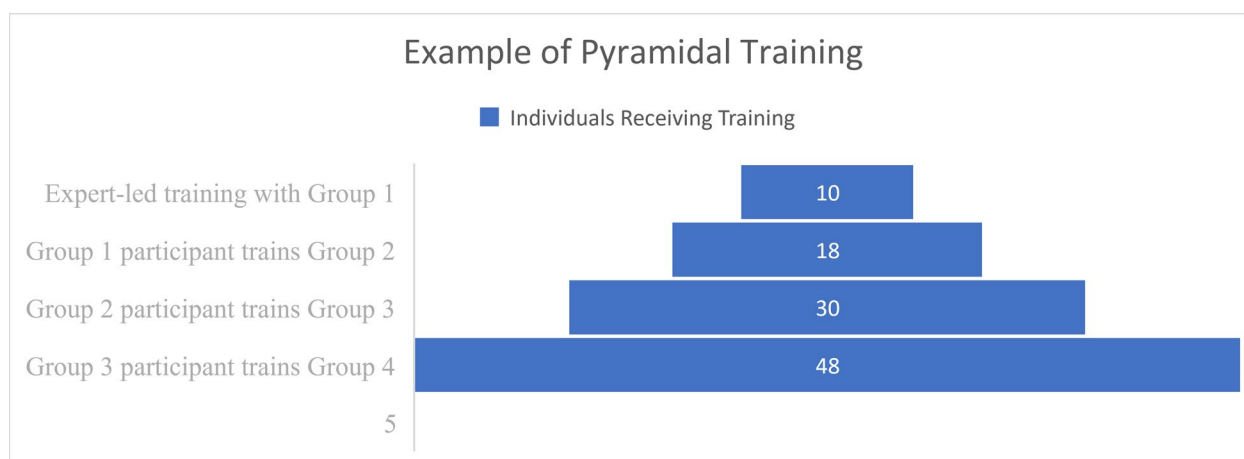


Figure 6. Example of pyramidal training. A small group of individuals is first trained by an expert. Those individuals then continue the pattern by training other groups. The pattern continues until a large number of individuals have been trained.

Adubato, Adams, and Budd (1981) first applied pyramidal training to a familial setting with a woman training her husband in child management techniques. Only the mother was trained by a professional in techniques to address their child's difficult behaviors. The mother then trained the father in the same techniques without professional support. They found that the father also adopted the techniques and both parents effectively applied the techniques to novel situations not addressed in training procedures.

Pyramidal parent training has been shown to be effective in training not only the initial set of parents trained, but also subsequent groups of parents trained by other parents across multiple settings and cultures (e.g. Bruder & Bricker, 1985; Hansen et al., 2017). Neef (1995) preformed a follow-up experiment with a pyramidal approach to parent training. She trained one group of parents on several behavior-teaching skills, and also trained parents skills on how to

train other parents. The results showed that all parents (three tiers) showed immediate improvement in implementing behavior-change programs and had maintained higher levels at follow-up.

Kuhn, Lerman, and Vorndran (2003) studied pyramidal training across multiple family members. These family members included fathers, siblings, grandparents and step-fathers (in all cases, the mother was the primary trained parent). The mother was trained on both the needed therapy for her individual child as well as how to effectively train other family members. Only one child's therapy focused on non-compliant behavior. The results were all positive; however, the maintenance of the training is unknown as there was no follow-up data collected.

Conclusion

While the existing evidence is promising, there are gaps in the research that need to be addressed. Only one study has pursued pyramidal training beyond two groups (see Neef, 1995), and the research on the effectiveness of two groups is not complete. In the studies mentioned above, researchers were always present and may have had an influence on the fidelity with which the parents administered the techniques. Most parents were also typically highly educated. The researchers also dedicated large amounts of time and resources to training the parents, something which is difficult for clinics and agencies to do on a regular basis. More research is needed without the influence of the researcher in the home, using resources readily available to ABA clinics and with a wider range of parent education background.

References

- Aduvato, S. A., Adams, M. K., & Budd, K. S. (1981). Teaching a parent to train a spouse in child management techniques. *Journal of Applied Behavior Analysis, 14*(2), 193-205. doi: 10.1901/jaba.1981.14-193
- Aldred, C., Green, J., & Adams, C. (2004). A new social communication intervention for children with autism: Pilot randomized controlled treatment study suggesting effectiveness. *Journal of Child Psychology and Psychiatry, 45*(8), 1420-1430. doi: 10.1111/j.1469-7610.2004.00338.x
- American Psychiatric Association, DSM-5 Task Force. (2013). *Diagnostic and statistical manual of mental disorders: DSM-5* (5th ed.). Arlington, VA: American Psychiatric Publishing, Inc.. doi: 10.1176/appi.books.9780890425596
- Arbelle, S. A., Sigman, M. D., & Kasari, C. (1994). Compliance with parental prohibition in autistic children. *Journal of Autism and Developmental Disorders, 24*(6), 693-702. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/7844094>
- Bearss, K., Johnson, C., Handen, B., Smith, T., & Scahill, L. (2013). A pilot study of parent training in young children with Autism Spectrum Disorders and disruptive behaviors. *Journal of Autism and Developmental Disorders, 43*(4), 829-840. doi: 10.1007/s10803-012-1624-7
- Bearss, K., Johnson, C., Smith, T., Lecavalier, L., Swiezy, N., Aman, M., ... Scahill, L. (2015). Effect of parent training vs parent education on behavioral problems in children with autism spectrum disorder: A randomized clinical trial. *Journal of the American Medical Association, 313*(15), 1524-1533. doi: 10.1001/jama.2015.3150

- Bruder, M. B., & Bricker, D. (1985). Parents as teachers of their children and other parents. *Journal of the Division for Early Childhood, 9*(2), 136-150. doi: 10.1177/105381518500900205
- Call, N. A., Reavis, A. R., McCrackenm, C. E., Gillespie, S .E., & Scheithauer, M. C. (2015). The impact of delays on parents' perceptions of treatments for problem behavior. *Journal of Autism and Developmental Disorders, 45*(4), 1013-1025. doi: 10.1007/s10803-014-2257-9
- Cebula, K. R. (2012). Applied behavior analysis programs for autism: Sibling psychosocial adjustment during and following intervention use. *Journal of Autism and Developmental Disorders, 42*(5), 847-862. doi: 10.1007/s10803-011-1322-x
- Centers for Disease Control and Prevention (2018). *Data and statistics on Autism Spectrum Disorder*. Retrieved from <https://www.cdc.gov/ncbddd/autism/data.html>
- Connolly, M., & Gersch, I. (2013). A support group for parents of children on a waiting list for an assessment for autism spectrum disorder. *Educational Psychology in Practice, 29*(3), 293-308. doi: 10.1080/02667363.2013.841128
- Crone, R. M., & Mehta, S.S. (2016). Parent training on generalized use of behavior analytic strategies for decreasing the problem behavior of children with autism spectrum disorder: A data-based case study. *Education and Treatment of Children, 39*(1), 64-94. Retrieved from <https://eric.ed.gov/?id=EJ1092632>
- Davis, K., & Gavidia-Payne, S. (2009). The impact of child, family and professional support characteristics on the quality of life in families of young children with disabilities. *Journal of Intellectual and Developmental Disability, 34*(2), 152-162. doi: 10.1080/13668250902874608

- Dillenburger, K., Keenan, M., Gallagher, S., & McElhinney, M. (2002). Autism: Intervention and parental empowerment. *Child Care in Practice, 8*(3), 216-219. doi: 10.1080/135752702200004042
- Duca, D.S. (2015). Family resilience and parental stress: The effects on marital relationship in the context of a child diagnosed with an autism spectrum disorder. *Annals of the Al. I. Cuza University, Psychology Series, 24*(1), 71-90. Retrieved from <https://www.ceeol.com/search/article-detail?id=283072>
- Ebata, A. T., & Moos, R. H. (1994). Personal, situational, and contextual correlates of coping in adolescence. *Journal of Research on Adolescence, 4*(1), 99-125. doi: 10.1207/s15327795jra0401_6
- Ekas, N. V., McDonald, N. M., Pruitt, M. M., & Messinger, D. S. (2017). Brief report: The development of compliance in toddlers at risk for autism spectrum disorder. *Journal of Autism and Developmental Disorders, 47*(4), 1239-1248. doi: 10.1007/s10803-016-2984-1
- Gordon-Lipkin, E., Foster, J., & Peacock, G. (2016). Whittling down the wait time: Exploring models to minimize the delay from initial concern to diagnosis and treatment of autism spectrum disorder. *Pediatric Clinics of North America, 63*(5), 851-859. doi: 10.1016/j.pcl.2016.06.007
- Gottman, J. M. (1993). The roles of conflict engagement, escalation, and avoidance in marital interaction: A longitudinal view of five types of couples. *Journal of Consulting and Clinical Psychology, 61*(1), 6-15. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/8450108>

- Hall, A. G., Bouldin, E. D., Andresen, E. M., & Ali, A. K. (2012). Maintaining employment among caregivers of individuals on a Medicaid waitlist for services. *Journal of Disability Policy Studies, 23*(2), 121-128. doi: 10.1177/1044207311420567
- Hansen, B. D., Orton, E. L., Adams, C., Knecht, L., Rindlisbaker, S., Jurtoski, F., & Trajkovski, V. (2017). A pilot study of a behavioral parent training in the Republic of Macedonia. *Journal of Autism and Developmental Disorders, 47*(6), 1878-1889. doi: 10.1007/s10803-017-3112-6
- Hartley, S. L., Barker, E. T., Seltzer, M. M., Floyd, F., Greenberg, J., & Orsmond, G. (2010). The relative risk and timing of divorce in families of children with an autism spectrum disorder. *Journal of Family Psychology, 24*(4), 449-457. doi: 10.1037/a0019847
- Hartley, S. L., Barker, E. T., Baker, J. K., Mailick, M. R., & Greenberg, J. S. (2012). Marital satisfaction and life circumstances of grown children with autism across 7 years. *Journal of Family Psychology, 26*(5), 688-697. doi: 10.1037/a0029354
- Hartley, S. L., Papp, L. M., Blumenstock, S. M., Floyd, F., & Goetz, G. L. (2016). The effect of daily challenges in children with autism on parents' couple problem-solving interactions. *Journal of Family Psychology, 30*(6), 732-742. doi: 10.1037/fam0000219
- Hastings, R. P., Kovshoff, H., Brown, T., Ward, N. J., Espinosa, F. D., & Remington, B. (2005). Coping strategies in mothers and fathers of preschool and school-age children with autism. *Autism, 9*(4), 377-291. doi: 10.1177/1362361305056078
- Hastings, R. P. (2007). Longitudinal relationships between sibling behavioral adjustment and behavior problems of children with developmental disabilities. *Journal of Autism and Developmental Disorders, 37*(8), 1485-1492. doi: 10.1007/s10803-006-0230-y

- Hayes, S. A., & Watson, S. L. (2013). The impact of parenting stress: A meta-analysis of studies comparing the experience of parenting stress in parents of children with and without autism spectrum disorder. *Journal of Autism and Developmental Disabilities, 43*(3), 629-642. doi: 10.1007/s10803-012-1604-y
- Hock, R. B., Timm, T. M., & Ramisch, J. L. (2012). Parenting children with autism spectrum disorders: A crucible for couple relationships. *Child and Family Social Work, 17*(4), 406-415. doi: 10.1111/j.1365-2206.2011.00794.x
- Horner, R. H., Carr, E. G., Strain, P. S., Todd, A. W., & Reed, H. K. (2002). Problem behavior interventions for young children with autism: A research synthesis. *Journal of Autism and Developmental Disorders, 32*(5), 423-446. doi: 10.1023/A:1020593922901
- Kanne, S. M., & Mazurek, M. O. (2011). Aggression in children and adolescents with ASD: Prevalence and risk factors. *Journal of Autism and Developmental Disorders, 41*(7), 926-937. doi: 10.1007/s10803-010-1118-4
- Kasari, C., Gulsrud, A. C., Wong, C., Kwon, S., & Locke, J. (2010). Randomized controlled caregiver mediated joint engagement intervention for toddlers with autism. *Journal of Autism and Developmental Disorders, 40*(9), 1045-1056. doi: 10.1007/s10803-010-0955-5
- Kopp, C. B. (1982). Antecedents of self-regulation: A developmental perspective. *Developmental Psychology, 18*(2), 199-214. doi: 10.1037/0012-1649.18.2.199
- Kuhn, S. A. C., Lerman, D. C., & Vorndran, C. M. (2003). Pyramidal training for families of children with problem behavior. *Journal of Applied Behavior Analysis, 36*(1), 77-88. doi: 10.1901/jaba.2003.36-77

- Lang, R., Machalicek, W., Rispoli, M., & Regeher, A. (2009). Training parents to implement communication interventions for children with autism spectrum disorders (ASD): A systematic review. *Evidence-based Communication Assessment and Intervention, 3*(3), 174-190. doi: 10.1080/17489530903338861
- Lecavalier, L., Smith, T., Johnson, C., Bearss, K., Swiezy, N., Aman, M. G., ...Scahill, L. (2017). Moderators of parent training for disruptive behaviors in young children with autism spectrum disorder. *Journal of Abnormal Child Psychology, 45*(6), 1235-1245. doi: 10.1007/s10802-016-0233-x
- Lemanek, K. L., Stone, W. L., & Fishel, P. T. (1993). Parent-child interactions in handicapped preschoolers: The relation between parent behaviors and compliance. *Journal of Clinical Child Psychology, 22*(1), 68-77. doi: 10.1207/s15374424jccp2201_7
- Light, D. W. (1997). The real ethics of rationing. *British Medical Journal, 315*(7100), 112-115. doi: 10.1136/bmj.315.7100.112
- Meadan, H., Halle, J. W., & Ebata, A. T. (2010). Families with children who have autism spectrum disorders: Stress and support. *Exceptional Children, 77*(1), 7-36. doi: 10.1177/001440291007700101
- Murphy, T., & Tierney, K. (2006). *Parents of children with Autistic Spectrum Disorders (ASD): A survey of information needs*, Report to the National Council for Special Education (NCSE), Special Education Research Initiative, Dublin: NCSE.
- Neef, N. A (1995). Pyramidal parent training by peers. *Journal of Applied Behavior Analysis, 28*(3), 333-337. doi: 10.1901/jaba.1995.28-333
- Norton, P., & Drew, C. (1994). Autism and potential family stressors. *The American Journal of Family Therapy, 22*(1), 67-76. doi: 10.1080/01926189408251298

- Oosterling, I., Visser, J., Swinkels, S., Rommelse, N., Donders, R., Woudenberg, T., ... Buitelaar, J. (2010). Randomized controlled trial of the Focus Parent Training for Toddlers with Autism: 1-Year outcome. *Journal of Autism and Developmental Disorders, 40*(12), 1447-1458. doi: 10.1007/s10803-010-1004-0
- Postorino, V., Sharp, W. G., McCracken, C. E., Bearss, K., Burrell, T. L., Evans, A. N., & Scahill, L. (2017). A systematic review and meta-analysis of parent training for disruptive behavior in children with Autism Spectrum Disorder. *Clinical Child and Family Psychology Review, 20*(4), 391-402. doi: 10.1007/s10567-017-0237-2
- Radley, K. C., Jenson, W. R., Clark, E., & O'Neil, R. E. (2014). The feasibility and effects of a parent-facilitated social skills training program on social engagement of children with autism spectrum disorders. *Psychology in the Schools, 51*(3), 241-255. doi: 10.1002/pits.21749
- Ramisch, J. L., Onaga, E., & Min Oh, S. (2014). Keeping a sound marriage: How couples with children with autism spectrum disorders maintain their marriages. *Journal of Child and Family Studies, 23*(6), 975-988. doi: 10.1007/s10826-013-9753-y
- Rivard, M., Morin, M., Mercier, C., Terrous, A., Mello, C., & Lepine, A. (2017). Social validity of a training and coaching program for parents of children with autism spectrum disorder on a waiting list for early behavioral intervention. *Journal of Child and Family Studies, 26*(3), 877-887. doi: 10.1007/s10826-016-0604-5
- Scheunemann, L. P., & White, D. B. (2011). The ethics and reality of rationing in medicine. *American College of Chest Physicians, 140*(6), 1625-1632. doi: 10.1378/chest.11-0622

- Singer, G. H. S. (2006). Meta-analysis of comparative studies of depression in mothers of children with and without developmental disabilities. *American Journal on Mental Retardation, 111*(3), 155-169. doi: 10.1352/0895-8017(2006)111[155:MOCSOD]2.0.CO;2
- Smith, T., & Iadarola, S. (2015). Evidence base update for autism spectrum disorders. *Journal of Clinical Child & Adolescent Psychology, 44*(6), 897-922. doi: 10.1080/15374416.2015.1077448
- Stanley, S. M., Markman, H. J., St. Peters, M., & Leber, B. D. (1995). Strengthening marriages and preventing divorce: New directions in prevention research. *Family Relations, 44*(4), 392-401. doi: 10.2307/584995
- Twoy, R., Connolly, P. M., & Novak, J. M. (2006). Coping strategies used by parents of children with autism. *Journal of the American Academy of Nurse Practitioners, 19*(5), 251-260. doi: 10.1111/j.1745-7599.2007.00222.x
- Weinfield, N. S., Ingerski, L., & Moreau, S. C. (2009). Maternal and paternal depressive symptoms as predictors of toddler adjustment. *Journal of Child and Family Studies, 18*(1), 39-47. doi: 10.1007/s10826-008-9205-2
- Wymbs, B. T. (2011). Mechanisms underlying the influence of disruptive child behavior on interparental communication. *Journal of Family Psychology, 25*(6), 873-884). doi: 10.1037/a0025372
- Zaidman-Zait, A., Mirenda, P., Duku, E., Szatmari, P., Georgiades, S., Volden, J., ...Thompson, A. (2014). Examination of bidirectional relationships between parent stress and two types of problem behavior in children with autism spectrum disorder. *Journal of Autism Development Disorder, 44*(8), 1908-1918. doi: 10.1007/s10803-014-2064-3

APPENDIX B

Consent Form

Consent to be a Research Subject

Introduction

This research study is being conducted by Blake Hansen, PhD and Rebecca Waite, BS at Brigham Young University to determine the effectiveness of parent training groups. You were invited to participate because you are currently on a waiting list to receive applied behavior analysis (ABA) services.

Procedures

If you agree to participate in this research study, the following will occur:

- You will fill out an information questionnaire (background, history of child's problem behavior)
- You will submit verification that your child has been diagnosed with an ASD
- You will complete a short survey every day (no more than 5 minutes) for up to 2 months
- You will attend a 1-hour training session at Brigham Young University, taught by a researcher. In this session, you will learn 4 strategies for managing difficult behaviors.
- One parent from each of the three (3) groups will volunteer to train another parent group (you may refuse if asked)
- Your child's behavior will be monitored throughout the study
- Your total time commitment will be no more than 10 total hours over a 2-month period

Risks/Discomforts

The risks in the study to you are minimal. Potential risks may include the time commitment required to participate in the study, loss of privacy, embarrassment during intervention when asked to roll play or interact with other participants, and stress of teaching skills to another group of parents.

The researchers have taken care to reduce these risks. All documents and surveys will be coded- your name will not be associated with the documents. Although you may be recognized by other participants, we stress the importance of not sharing information outside of the treatment facility. The researcher will provide various opportunities to ask questions and provide examples before asking any participants to practice using the skills taught. They will also provide training to any parents selected to train another group of parents.

Benefits

You will benefit in receiving new research-based techniques to help you manage problem behavior while still on a waiting list to receive ABA therapy.

In addition, your participation may expand scientific knowledge on how to more effectively distribute knowledge about how to handle difficult child behavior. It is hoped that your participation will result in decrease wait times for parents in the future to receive ABA therapy.

Confidentiality

The research data will be kept in a secure location at BYU on a password-protected computer and only the researchers will have access to the data. At the conclusion of the study, all identifying information will be removed and the data will be kept in the researcher's locked office. If the study is published, all participants will remain anonymous.

Compensation

You will not receive any compensation for participating in this study.

Participation

Participation in this research study is voluntary. You have the right to withdraw at any time or refuse to participate entirely without jeopardizing your place on the wait list or the quality of ABA services you will receive.

Questions about the Research

If you have questions regarding this study, you may contact Rebecca Barton at reb.mw90@gmail.com.

Questions about Your Rights as Research Participants

If you have questions regarding your rights as a research participant contact IRB Administrator at (801) 422-1461; A-285 ASB, Brigham Young University, Provo, UT 84602; irb@byu.edu.

Statement of Consent

I have read, understood, and received a copy of the above consent and desire of my own free will to participate in this study.

Name (Printed): _____ Signature _____ Date:

APPENDIX C

Instruments

Participant Recruitment

Q15 Thank you for your interest in participating in our parent training research study. This study will be conducted by a professor and graduate student at Brigham Young University. The following questions will help us determine if you qualify to participate. This survey will take about 5 minutes to complete. Filling out this questionnaire does not obligate you to participate, even if you qualify. You will be contacted after filling out this questionnaire by the researcher.

Q1 Please enter your first name and last name in the form below.

First Name _____

Last Name _____

Q2 What is your gender?

Male

Female

Q3 What is your year of birth?

Year of Birth _____

Q7 Do you have a child diagnosed with an ASD? (autism, Asperger's, autism spectrum disorder)

Yes

No

Q8 Is your child diagnosed with an ASD currently on a waiting list to receive ABA services?

- Yes _____
 - No
-

Q18 What other services does your child currently receive?

Q21 How close do you live to the Brigham Young University Campus? (Provo, UT)

- Within 1 hour
 - 1-2 hours
 - More than 2 hours
-

Q9 What is your email address?

- Email Address _____
-

Q12 What is the best daytime telephone number to reach you at?

- Daytime Telephone Number _____
-

Q13 What is the best evening telephone number to reach you at?

- Evening Telephone Number _____
-

Q16 What is your preferred method of contact?

- Phone Call
 - E-mail
 - Text
-

Q22 If an informational meeting were held on the BYU campus on one of the following dates, which would you be available to attend? Select all that you would be able to attend.

- Friday, February 8, 4:30 pm
 - Friday, February 8, 6:00 pm
 - Saturday, February 9, 10:00 am
 - Wednesday, February 13, 7:00 pm
 - Friday, February 15, 4:30 pm
 - Friday, February 15, 6:00 pm
 - Saturday, February 16, 10:00 am
-

Q11 Please leave any additional information that you would like us to know in the space provided below.



Demographic Survey

Q15 Thank you for taking this demographic survey. This survey will take you approximately 5 minutes. We will collect demographic information about you and your child (your child will not be identified in any way). If you do not wish to answer any of the questions, you may leave them blank. Thank you!

Q1 Please enter your first name and last name in the form below.

First Name _____

Last Name _____

Q2 What is your gender?

Male

Female

Q3 What is your year of birth?

Year of Birth _____

Q4 Are you Spanish, Hispanic, or Latino or none of these (select all that apply).

Spanish

Hispanic

Latino

None of these

Q5 Choose one or more races that you consider yourself to be:

- White
 - Black or African American
 - American Indian or Alaska Native
 - Asian
 - Native Hawaiian or Pacific Islander
 - Other (specify) _____
-

Q6 What is the highest grade or level of school that you have completed?

- Middle School (Grades 6-8)
 - Freshman (Grade 9)
 - Sophomore (Grade 10)
 - Junior (Grade 11)
 - Senior (Grade 12)
 - High School Graduate
 - Some College
 - Graduated 2-year College
 - Graduated 4-year College
 - Post Graduate
 - Prefer not to answer
-

Q16 What is your level of income?

- Less than \$10,000
 - \$10,000 - \$19,999
 - \$20,000 - \$29,999
 - \$30,000 - \$39,999
 - \$40,000 - \$49,999
 - \$50,000 - \$59,999
 - \$60,000 - \$69,999
 - \$70,000 - \$79,999
 - \$80,000 - \$89,999
 - \$90,000 - \$99,999
 - \$100,000 - \$149,999
 - More than \$150,000
-

Q17 What is your current marital status?

- Married
 - Widowed
 - Divorced
 - Separated
 - Never married
-

Q7 Choose one or more races that you consider your child with an ASD to be:

- White
- Black or African American
- American Indian or Alaska Native
- Asian
- Native Hawaiian or Pacific Islander
- Other

Q20 How old is your child with an ASD?

Q11 Please leave any additional information that you would like us to know in the space provided below.

EIPSES

Q17 Please consider whether you agree or disagree with each statement and mark the answer you think best describes you and your child. When you see the words "early interventionist," this means the person who provides services to your child such as a speech therapist, occupational therapist, or parent educator, and who is a part of this research project.

Q19 Please enter your name (first and last).

Q1 If my child is having problems, I would be able to think of some ways to help my child.

- Strongly Disagree
 - Disagree
 - Somewhat disagree
 - Neither agree nor disagree
 - Somewhat agree
 - Agree
 - Strongly agree
-

Q2 When my child shows improvement, it is because I am able to make a difference in my child's development.

- Strongly Disagree
 - Disagree
 - Somewhat disagree
 - Neither agree nor disagree
 - Somewhat agree
 - Agree
 - Strongly agree
-

Q3 When it comes right down to it, parents really can't do much because most of a child's development depends on their early interventionists.

- Strongly Disagree
 - Disagree
 - Somewhat disagree
 - Neither agree nor disagree
 - Somewhat agree
 - Agree
 - Strongly agree
-

Q4 If one of my child's early interventionists has difficulty with my child, I would be able to offer some suggestions.

- Strongly Disagree
 - Disagree
 - Somewhat disagree
 - Neither agree nor disagree
 - Somewhat agree
 - Agree
 - Strongly agree
-

Q5 Children will make the most progress if their early interventionists work with them rather than if the parents work with the children.

- Strongly Disagree
 - Disagree
 - Somewhat disagree
 - Neither agree nor disagree
 - Somewhat agree
 - Agree
 - Strongly agree
-

Q6 Even a good parent may not have much impact on whether children feel good about themselves.

- Strongly disagree
 - Disagree
 - Somewhat disagree
 - Neither agree nor disagree
 - Somewhat agree
 - Agree
 - Strongly agree
-

Q7 I feel that I can work well with my child's early interventionist as part of my child's team.

- Strongly disagree
 - Disagree
 - Somewhat disagree
 - Neither agree nor disagree
 - Somewhat agree
 - Agree
 - Strongly agree
-

Q8 Because there is so little help from the community, I am often sad or angry about how few services I can find for my child and the rest of my family.

- Strongly disagree
 - Disagree
 - Somewhat disagree
 - Neither agree nor disagree
 - Somewhat agree
 - Agree
 - Strongly agree
-

Q9 If my child learns something quickly, it would probably be because I know how to help my child learn new things.

- Strongly disagree
 - Disagree
 - Somewhat disagree
 - Neither agree nor disagree
 - Somewhat agree
 - Agree
 - Strongly agree
-

Q10 The amount that a young child will learn is mostly due to family background, the neighborhood, and the early interventionists rather than his/her parent.

- Strongly disagree
 - Disagree
 - Somewhat disagree
 - Neither agree nor disagree
 - Somewhat agree
 - Agree
 - Strongly agree
-

Q11 On most days, I can handle most of the ups and downs of being a parent.

- Strongly disagree
 - Disagree
 - Somewhat disagree
 - Neither agree nor disagree
 - Somewhat agree
 - Agree
 - Strongly agree
-

Q12 I worry that I am not a good enough parent due to outside demands placed upon my time and energy.

- Strongly disagree
 - Disagree
 - Somewhat disagree
 - Neither agree nor disagree
 - Somewhat agree
 - Agree
 - Strongly agree
-

Q13 When my child is ill, I feel that there is nothing I can do to help my child or other members of my family.

- Strongly disagree
 - Disagree
 - Somewhat disagree
 - Neither agree nor disagree
 - Somewhat agree
 - Agree
 - Strongly agree
-

Q14 Over the past year, I can see the progress that I have made in becoming a better parent.

- Strongly disagree
 - Disagree
 - Somewhat disagree
 - Neither agree nor disagree
 - Somewhat agree
 - Agree
 - Strongly agree
-

Q15 No matter how hard I try, it seems that I just cannot find a way to get the services that my child and my family need.

- Strongly disagree
 - Disagree
 - Somewhat disagree
 - Neither agree nor disagree
 - Somewhat agree
 - Agree
 - Strongly agree
-

Q16 The traits that a child has before he or she is born are more important than anything that the child's parents can do for the child.

- Strongly disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Agree
- Strongly agree

Daily Rating Scale-Parents

Q1 Think about your child's behavior throughout the day. You do not need to remember exact numbers, but be as accurate as you can be.

Q7 Please enter your name (first and last).

Q3 Which strategies did you use today? (Select all that apply.) If you are unsure what category your behavior management fits under, select "Other."

- Reinforcement
- Functional Communication
- Transition Cues
- Prompting
- Other

Q2 How often did you feel the strategies you used were effective today?

0 10 20 30 40 50 60 70 80 90 100

0=not at all effective, 100=always effective



Q6 How often did your child engage in non-compliant behavior today? (Remember, non-compliant behavior can be anything from ignoring your instructions in any situation, screaming, running away, doing something else instead, etc.)

- A great deal
 - A lot
 - A moderate amount
 - A little
 - None at all
-

Q5 How consistent were you in using the strategies today?

0 10 20 30 40 50 60 70 80 90 100



Q4 How often did you feel confident using the strategies today?

0 10 20 30 40 50 60 70 80 90 100



Strategy Adoption Checklist (1)

Present the following scenario to the participant.

Scenario: Your child is watching TV. You need to go to the grocery store and your child needs to come with you. You ask your child to turn off the TV and get ready to go. Your child screams, grabs the remote and hides behind the couch out of your reach. Your child continues to watch TV.

Ask the participant what he or she would do to get the child to comply with the demand (to turn off the TV and get ready to go to the store). Mark any of the strategies that he or she mentions.

Reinforcement	
Functional Communication Training	
Transition Cues	
Prompting	

Ask the participant to demonstrate any of the above strategies he or she mentioned. Mark any of the strategies that he or she demonstrates.

Reinforcement	
Functional Communication Training	
Transition Cues	
Prompting	

Strategy Adoption Checklist (2)

Present the following scenario to the participant.

Scenario: You're catching up on e-mails on your laptop. Your child comes up to you and tries to grab the mouse from out of your hand. You tell her to wait a minute and then you'll come play. She then grabs your phone from the table and runs a few feet away with it. You ask her to bring it back and she does nothing.

Ask the participant what he or she would do to get the child to comply with the demand (wait a few minutes for attention). Mark any of the strategies that he or she mentions.

Reinforcement	
Functional Communication Training	
Transition Cues	
Prompting	

Ask the participant to demonstrate any of the above strategies he or she mentioned. Mark any of the strategies that he or she demonstrates.

Reinforcement	
Functional Communication Training	
Transition Cues	
Prompting	

Fidelity Checklist

Please pay close attention to the group instructor. As the instructor goes through each step in each of the 4 modules, please mark either a “yes” or “no” on this paper. Mark “yes” if the step was covered and “no” if it was not.

Reinforcement

Step 1-Find your child’s reinforcers	Yes	No
Step 2-Save some reinforcers for special occasions	Yes	No
Step 3-Deliver the reinforcer during compliant behavior	Yes	No
Step 4-Be Consistent	Yes	No

Functional Communication Training

Step 1-Identify difficult transitions	Yes	No
Step 2-Identify phrases your child can use	Yes	No
Step 3-Teach your child to use functional language	Yes	No
Step 4-Be Consistent	Yes	No

Transition Cues

Step 1-Identify difficult transitions	Yes	No
Step 2-Identify types of cues your child understands	Yes	No
Step 3-Identify a realistic goal	Yes	No
Step 4-Provide the Cue	Yes	No
Step 5-Be Consistent	Yes	No

Prompting

Step 1-Ask your child to complete a task	Yes	No
Step 2-Identify which kind of prompt is appropriate and implement	Yes	No
Step 3-Praise your child	Yes	No
Step 4-Fade over time	Yes	No

Parent Training Modules

General Principles

There are several overarching principles that will help with all of the following strategies. Remember to practice these no matter which strategy you decide to use.

Remain Calm

Remember that you are in charge. If you stay calm, your child is more likely to stay calm. Even when your child is upset, keeping yourself calm will help your child settle down and eventually comply with your demand. Keeping calm will also make you feel better!

Use Appropriate Demands

Do not expect your child to change his/her behavior overnight. Be realistic in what kind of demands and expectations you place upon your child. Some of you might have a child that can realistically clean up his/her entire room without help. Others of you may only be able to realistically ask your child to clean up one toy out of 100 out on the floor. Either place is a great place to be. Remember to move at your child's pace and to be mindful of the small victories.

Functions of Behavior

All behavior serves a function, or purpose. This means that behavior occurs for a reason. Consider this example: Bob asks his daughter to clean up her room. She starts throwing toys at her younger siblings until Bob takes her to a different room and cleans up the toys himself. In this example, throwing toys is really saying "I don't want to clean up my toys." Knowing what a behavior is saying will help you understand why it is happening and how you can help your child use appropriate ways to communicate the same thing. In this example, Bob can teach his daughter to ask for 5 more minutes to play or to ask for help cleaning up the toys.

Below are the different functions a behavior can have.

- **Access/Attention**-Some behaviors happen because your child wants something or wants you to pay attention to him/her. These behaviors could look like crying until you buy an ice-cream cone, stealing things from off your desk until you chase him/her around the room, or many other variations.
- **Escape**-Some behaviors occur because your child wants to stop doing something, or wants you to stop doing something. These behaviors could look the same as behaviors motivated by access or attention. However, the goal of these behaviors will be to *stop* something from happening, rather than to make something happen.
- **Self-Stimulation**-Some behaviors occur because they simply "feel good" to a child. Spinning in a chair, clapping hands loudly, flapping hands, or holding toys up close to the eyes are some common examples.

Reinforcement

Reinforcement is a behavioral term for anything that makes a behavior more likely to happen again. For example, let's pretend I want a frosty. I ask my mom nicely using "please" and my mom gets me a frosty. The frosty reinforces my behavior of asking nicely and using please. I am more likely to ask nicely and use please in the future. This works for bad behaviors, too. If my sister steals my toy and I punch her in the nose and I get my toy back, the toy reinforces my behavior. I am more likely to punch my sister if she takes my toy again.

<p>Step 1-Find your child's reinforcers</p>	<p>Make a list of things your child likes. Examples may include:</p> <ul style="list-style-type: none"> • Playing with the iPad • Eating treats or snacks • Playing specific games with a parent or sibling
<p>Step 2-Save some reinforcers for special occasions</p>	<p>Pick one or two reinforcers to manage bad behavior. Initially, reward your child for every single compliant behavior. This will teach your child that following your instructions results in positive outcomes. <i>Example: Henry always tantrums when asked to go out to the car. Dad now says, "First let's go to the car and then you can have the iPad." Now Henry usually goes to the car without complaint.</i></p>
<p>Step 3-Deliver the reinforcer during compliant behavior</p>	<p>Only deliver your child's reinforcer when compliant behavior is happening. If your child refuses to follow through with an instruction, wait to give him/her the reinforcer until compliant behavior has happened. <i>Example: Dad asked Holly to put her shoes on but Holly went to the kitchen to get a snack. Dad tells Holly she needs to put her shoes on first and then he can get a snack for her. Holly goes back to put her shoes on.</i></p>
<p>Step 4-Be consistent</p>	<p>Do not provide reinforcers during noncompliant behavior. Doing so will increase your child's noncompliant behaviors. Be consistent at providing reinforcers for compliant behaviors.</p>

Functional Communication Training

Functional communication training means that you teach your child how to use language to get what he wants instead of screaming, running away, etc. Instead of hitting to have 5 more minutes of TV, you teach your child to say “More TV please.” Functional communication training can help manage behaviors. Your child still gets the desired outcome with less effort, and you can understand what your child wants without enduring screaming and crying.

Initially, follow through with your child’s requests when using functional communication training. You want your child to learn that when he uses language instead of behaviors, he gets what he wants. As your child becomes more adept at using language appropriately, you can start introducing the other techniques discussed in this training.

Step 1-Identify difficult transitions	Make a list of activities or situations in which your child has a difficult time transitioning
Step 2-Identify phrases your child can use	<p>Examples may include:</p> <ul style="list-style-type: none"> • “iPad please.” • Sign language for “more” • “I need five more minutes to finish.”
Step 3-Teach your child to use functional language	<p>Identify times when your child typically becomes upset. Be prepared to teach your child to use functional language rather than noncompliant behavior.</p> <p><i>Example: Mom starts to put Charlie’s toy cars away and he starts to cry. Mom says, “You can ask to keep your toys out. Say, ‘Cars.’” Charlie says cars and Mom allows him to play for 10 more minutes.</i></p>
Step 4-Be consistent	Be consistent with having your child use functional communication. Your child will eventually start using communication on his/her own.

Transition Cues

A common interfering behavior for children with disabilities is when they become upset when it is time to transition to a new activity. It is especially problematic when children are engaged in their most preferred activity and have to change to a less desirable activity. One thing you can do is cue activity transitions by providing a warning several minutes before a transition.

Step 1-Identify difficult transitions	Make a list of activities or situations in which your child has a difficult time transitioning
Step 2-Identify types of cues your child understands	<p>Examples may include:</p> <ul style="list-style-type: none"> • Pictures • Written words • Spoken words • Numbers (e.g. “When I get to 10 we’re going to put away the toys. 1, 2, 3...”) • Sounds (e.g. timers)
Step 3-Identify a realistic goal	<p>Think about your child’s skills set and decide what an appropriate goal would be.</p> <p>Examples include:</p> <ul style="list-style-type: none"> • My child needs a 1 minute warning before engaging in a 10 minute activity he/she doesn’t like. • My child needs a 10 minute warning before engaging in a 1 minute activity he/she does like. • My child needs a 10 second warning before engaging in a 5 second activity he/she doesn’t like.
Step 4-Provide the cue	Using the cue you picked, tell your child how much time he or she has left.
Step 5-Be consistent	Provide these cues consistently. It may be difficult at first, but your child will grow accustomed to the routine and behaviors will go down in frequency.

Prompting

Another strategy that can help your child comply is called prompting. Prompting includes verbal, visual, or physical assistance to insure your child completes a task.

Step 1-Ask your child to complete a task.	Remember to make sure to choose a doable task within your child's skill set.
Step 2-Identify which kind of prompt is appropriate.	<ul style="list-style-type: none"> • Gesture-point to or motion to an object or part of an object that will help complete the task • Model-complete the action yourself; you give an example of how the task should be completed • Physical-use hand-over-hand help or lightly touch your child's hand or elbow to guide him/her in completing the task • Verbal-give verbal, detailed instructions in how to complete the task • Visual-use a picture model, timer, or anything else
Step 3-Praise your child	Praise your child as if he/she had completed the task on his/her own. Provide extra praise and reinforcement when he/she one day does do it independently.
Step 4-Fade over time	As your child gets more consistent with complying, gradually fade the prompts you use. Eventually, you will not need any at all.