UNIVERSITY OF CALIFORNIA, SANTA BARBARA

Combining Motivational Academics and Growth Mindset Strategies:

A Remote Parent Coaching Program to Enhance Academic Engagement in Autistic Students

A Dissertation submitted in partial satisfaction of the requirement for the degree of Doctor of Philosophy in Education

By:

Samantha Kaye Poyser

Dissertation Committee:

Professor Rachel Lambert, Co-Chair

Professor Ty Vernon. Co-Chair

Professor Andrew Fedders

December 2021

The dissertation of Samantha Poyser is approved.

12/8/2021

Rachel Lambert, Committee Co-Chair Date

12/9/2021

Ty Vernon, Committee Co-Chair Date

12/8/2021

Andrew Fedders, Committee Member Date

Acknowledgements

The completion of this dissertation would not be possible without the support and contribution of many. I would first like to thank the many families I have had the opportunity to work with during the past five years—they have taught me an infinite amount and I am grateful for the time in which I was welcomed into their homes and into their child's life. Thank you to the families that participated in the present study and allowed me to provide support and collaboration during a challenging year for us all.

Thank you to the research assistants who contributed immensely to these projects—Ashley, Denise, Eda, Isabelle, Kaylee, Lindsey, Olivia, Sarah, Sydney—you have inspired me along the way and I am excited to see your future paths.

I am grateful to the advisors who have mentored me and supported me during the past five years, including Dr. Robert Koegel and Dr. Lynn Koegel, and my committee members Dr. Andrew Fedders and Dr. Rachel Lambert. I am thankful to have had your perspectives and insights along the way that have allowed me to continue to grow as a researcher, clinician, and disability advocate.

This project and the completion of my graduate education would not have been realized without the support and guidance from Dr. Ty Vernon. No words can adequately describe the gratitude I have towards Dr. Vernon for offering his advisement early on during my program. Dr. Vernon manages all the responsibilities he has with grace, compassion, positivity, and an emphasis on self-care and balance, qualities of which have continued to motivate throughout my program. I will ensure to promote these attributes within my future workplace.

I would also like to thank Tracy Kvidahl, Special Educator at Vintage High School, for her passion for working with students with disabilities and making education a more inclusive, supportive, and kind space. I am forever grateful that I had the opportunity to work in your class and be inspired to pursue Special Education.

Lastly, I would like to thank the unconditional support and love I have had from my friends, family, and partner, during my education. Thank you to my friends from the Bay Area – April, Angel, Cierra, Jessica, Kathleen, Luis, Tony—for endless encouragement and making time to spend together whenever I was visiting; spending time with you allowed me to return to school feeling so supported and loved. Thank you to my friends from undergrad, Ali, Lauren, Rachel, Sema, and Shawn, for empathizing together as we navigated our graduate programs. And thank you to my friends that I've made in graduate school— Cynthia, Jenny, Kaitlynn, Katelyn, Rachelle—for supporting one another along the way.

Thank you to my sister Allison, who has led the way in working towards one's dreams and believes in me in the most supportive and kind way. Thank you to my partner Caitlyn for your positivity, patience, and praise that kept me going. Thank you to my family of educators—Catherine, Laura, Steve—whom have shown me the importance of and their passion for working in public education. Thank you to my grandparents, Phil and Sharon, who are always eager to answer the phone and provide me with encouragement; I would not be where I am without your support from day one. And, thank you to my mother, Barbara Poyser, who is belovingly referred to as "Ms. Poyser," throughout Napa, the "world's best teacher," by many. I am inspired by your strength, determination, and love for education on a daily basis, and am continuously in awe of your ability to inspire and support others.

VITA OF SAMANTHA KAYE POYSER

EDUCATION

Ph.D. Education December 2021
Emphasis in Special Education, Disabilities, and Developmental Risk Studies
University of California, Santa Barbara

M.A., Education Spring 2019
Emphasis in Special Education, Disabilities, and Developmental Risk Studies
University of California, Santa Barbara

B.A., Anthropology & Psychology Spring 2015
University of California, Santa Barbara

RESEARCH EXPERIENCE

Dissertation Research 2020-2021
Title: Combining Motivational Academics and Growth Mindset Strategies:
A Remote Parent Coaching Program to Enhance Academic Engagement in Autistic Students.
Advisor: Ty Vernon, Ph.D.

Dissertation Pilot Study 2019-2020
Title: Coaching Special Educators to Implement Pivotal Response Training for their Students with Autism Spectrum Disorder.
Advisor: Ty Vernon, Ph.D.

Master's Study 2018-2019
Title: A Parent-Mediated Intervention for Homework Among Students with Autism Spectrum Disorder.
Advisors: Lynn Kern Koegel, Ph.D., Robert L. Koegel, Ph.D. & Ty Vernon, Ph.D.

Graduate Student Researcher 2016-2021
Koegel Autism Center, University of Santa Barbara, California
Advisor: Ty Vernon, Ph.D.

Undergraduate Student Researcher 2014-2015
Family Health Lab, University of Santa Barbara, California
Advisors: Daphne Bugental, Ph.D. & Randy Corpuz, Ph.D.

CLINICAL EXPERIENCE

Graduate Student Clinician 2016-2021
Koegel Autism Center, University of Santa Barbara, California
Projects: Department of Rehabilitation (adult program); Parent-Child Bio-Behavioral Synchrony in Autism (early intervention)
Supervisors: Anna Krasno, Ph.D. & Ty Vernon, Ph.D.

Behavior Technician 2019-2021
Star of CA, INC, Santa Barbara, CA
Supervisors: Lindsay Lettow, M.A., BCBA & Cassandra Hodge, M.S., LMFT, BCBA

Direct Interventionist & Parent Educator 2016-2019
Koegel Autism Consultants, Santa Barbara, CA
Supervisor: Lizzie Ponder, M.A., BCBA

PROFESSIONAL PRESENTATIONS

Poyser, S., &Vernon. (2020, May). *Training of Special Education Teachers and their Paraprofessionals to Implement Pivotal Response Training for Academic Tasks.* Poster presented virtually at the International Society for Autism Research conference, Seattle, WA.

Poyser, S., Vernon, T. & Koegel, R. (2019, May). *A Strength-Based Intervention to Increase Academic Motivation for Students with Autism Spectrum Disorder.* Poster presented at the International Society for Autism Research conference, Montreal, Canada.

Poyser, S., Vernon, T., Koegel, R. & Koegel, L. (2019, January). *A Parent-Mediated Intervention for Homework for Students with Autism Spectrum Disorder*. Poster presented at the Applied Behavior Analysis International conference, San Francisco, CA.

Hai, J. & Poyser, S. (2020, March). *Navigating the IEP Process: Guidance from Parents, an IEP Advocate and a Special Education Teacher*. Presentation at the Santa Barbara Public Library, Santa Barbara, CA.

Poyser, S. (2019, July). *Research In Autism and Special Education*. Lecture presented virtually for UMass Boston Finch Lab, University of Massachusetts Boston.

Penner, K. & Poyser, S. (2019, May). *Overview of Autism Spectrum Disorders*. Lecture presented for Child and Adolescent Development class, University of California, Santa Barbara.

Poyser, S. (2018, May). *School-Aged Children and Autism Spectrum Disorders.* Lecture presented for Introduction to Autism class, University of California, Santa Barbara.

PUBLICATIONS

Koegel, Lynn K., & Samantha K. Poyser, "Motivational Academics". In R.L. Koegel & L.K. Koegel (2nd Eds), *Pivotal Response Treatment for Autism Spectrum Disorders*, (pp.147-158). Baltimore: Paul H. Brookes, 2019.

Schuck, Rachel K., Daina M. Tagavi, Kaitlynn M. P. Baiden, Patrick Dwyer, Zachary J. Williams, Anthony Osuna, Emily F. Ferguson, et al. "Neurodiversity and Autism Intervention: Reconciling Perspectives Through a Naturalistic Developmental Behavioral Intervention Framework." *Journal of Autism and Developmental Disorders*, October 13, 2021.

TEACHING EXPERIENCE

Teaching Assistant — Spring 2021
SOC 1: Introduction to Sociology
Department of Sociology, University of California, Santa Barbara
Professor: Lisa Hajjar, Ph.D.

Teaching Assistant — 2018-2020
PSY 120L: Advanced Research Methods in Psychology
Department of Psychology, University of California, Santa Barbara
Professor: Vanessa Woods, Ph.D.

Teaching Assistant — Spring 2018, Fall 2020
ANTH 5: Introduction to Biological Anthropology
Department of Anthropology, University of California, Santa Barbara
Professor: Steven Gaulin, Ph.D.

Teaching Assistant — Spring 2018
ED 190: Introduction to Autism
Department of Education, University of California, Santa Barbara
Professor: Ty Vernon, Ph.D.

Teaching Assistant — Fall 2017
SOC 172: Criminology
Department of Sociology, University of California, Santa Barbara
Professor: Gordon Abra, Ph.D.

Abstract

Combining Motivational Academics and Growth Mindset Strategies: A Remote Parent Coaching Program to Enhance Academic Engagement in Autistic Students

by

Samantha Kaye Poyser

Due to Covid-19, there have been extreme changes to the educational landscape for students. These changes to instruction not only impacted children, but their parents as well as they took on greater responsibilities for instruction. This presented challenges for many students, but particularly for students with Autism Spectrum Disorder (ASD). Reaction to these changes and the format of remote learning resulted in resistance to engage with remote learning, presenting difficulties for both student and parent. However, these challenges may be alleviated with appropriate parent support in motivational strategies to implement during remote learning. Using a multiple baseline across participants design, the current study sought to investigate whether coaching in Pivotal Response Treatment (PRT) and Growth Mindset delivered in a remote format would result in positive outcomes for students and their parents. Participants included 3 parent-student dyads. Parents were provided with education and feedback in implementing motivational strategies for remote learning. Results indicated positive outcomes for both students (increased engagement, decreased maladaptive behavior) and parents (competent implementation of motivational strategies; decreased stress). Additionally, parents reported the coaching and remote format to be socially valid. This research may help to better understand how online formats can be used to support parents during times where they are unable to access in-person resources. Additionally, this study may illuminate further ways that PRT and Growth Mindset can be applied to motivate and increase engagement for students with ASD.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

The Covid-19 Pandemic drastically changed educational practices across the globe. Schools closed with little to no notice and teachers were tasked with altering their curriculum to an online format within days. These unexpected transformations directly impacted instruction, routines, and relationships for students everywhere (Parenteau et al., 2020; Stenhoff et al., 2020). However, there was another group in addition to students and teachers that experienced this sudden shift of educational practices: parents. Left to address the gap between the typical services received in the class and the limitations of remote education their children were enrolled in, parents and caregivers were often required to assume the role of instructor and facilitate an educational environment at home. These abrupt changes for students, coupled with the monumental responsibilities placed on parents, presented families with an unprecedented set of new challenges to navigate during the Covid-19 Pandemic (Hagemen, 2020; Patrick et al., 2020).

Students with Autism Spectrum Disorder (ASD) in particular may have been at an elevated risk for experiencing challenges with the change to remote education (Ameis et al., 2020). Autism Spectrum Disorder is a neurodevelopmental disorder characterized by vulnerabilities in socialization, communication and restricted and repetitive interests and behaviors (American Psychiatric Association, 2013). Often, those with ASD respond to certainty and routine, and therefore changes and uncertainty in established structures can bring about greater amounts of stress and difficulty than it may for other individuals (Banda & Grimmett, 2008; Schreibman et al., 2000). Typically, school environments are set up to support students with ASD by establishing clear routines and expectations (Odom et al., 2010; Stahmer et al., 2013); however, these routines and expectations may not be feasible or immediately transferrable to the home learning environment (Parenteau et al., 2020; Stenhoff et al., 2020).

These changes may have increased stress for many students, especially as structures meant to support students emotionally were not available in the same manner. Students with ASD were reported to experience increased maladaptive behaviors in response (Ameis et al., 2020; Parenteau et al., 2020). Furthermore, as individuals with ASD can have challenges with flexibility, they were likely to experience distress in the face of unexpected changes (D'Cruz et al., 2013), adding to a stressful learning environment.

As educators were charged with upending and redesigning their curriculum for a remote format, it became clear that remote education creates inequitable learning environments (Ameis et al., 2020). Although inequity may exist within the structural framework at any school, this intensifies when the students no longer have a physical campus to attend. Remote learning during the Pandemic became dependent on parents' and caregivers' facilitation (Cahapay, 2020; Fontanesi et al., 2020). Even with the best practices in use to instruct students, parents were required to ensure that the appropriate technology was functioning, they had the required materials, and the home environment itself was safe and limited from distractions.

Despite parents knowing their children very well, many were under equipped to assume the role of teacher, and struggled with the novel and dual relationship of parent-teacher (Aishworiya & Kang, 2020; Ameis et al., 2020). Having a large portion of their instruction implemented by their parents is a significant adjustment for all students, as the parent relationship is fundamentally different from one with a teacher. This may be especially the case for students with ASD, as many of their services (such as academic supports, speech, behavior management) were facilitated by their parents as well (Latzer, 2021).

These changes in learning environment, school routines, and parent relationship can create uncertainty and difficulty for students with ASD, and can result in a range of behaviors.

Students with ASD may experience a decrease in academic engagement, a decrease in motivation, and an increase in maladaptive behaviors as they navigate and respond to these drastic changes. In turn, parents may experience increased stress in navigating their role of educator and providing support for their child during these challenges. These obstacles are placed amidst the background of a Pandemic, and changes in all areas of life, creating extreme and unprecedented hardship for families. In order to support students with ASD during remote learning, it is paramount that appropriate practices are in place. Parents may have varied knowledge of the methodologies and evidence-based practices used to previously support their children in an academic context. A way to support parents and students during this time is to provide parents with education about motivational strategies for students with disabilities. Motivational strategies in education have been shown to increase academic engagement and use of adaptive behaviors for students with ASD (Cowan et al., 2017; Koegel et al., 2010; Odom et al., 2010). Providing parents and caregivers with information and training in motivational strategies may help to facilitate remote learning and decrease challenges on both sides.

One motivational strategy that may be feasible for parents to implement during remote learning is Pivotal Response Treatment (PRT). PRT is an evidence-based practice based on Applied Behavioral Analysis that focuses on individual motivation (Koegel et al., 1999; Koegel et al., 2010). One component of PRT that lends itself to remote learning is its focus on implementation by caregivers in the natural environment (Brookman-Frazee & Koegel, 2004; Koegel et al., 2019). PRT has been applied to language development, socialization, and daily living skills, and there is evidence that it can be used to increase academic motivation as well (Koegel et al., 2010; Koegel & Koegel, 2019). As PRT is designed to be positive, motivating,

and individualized to a child's natural environment, parents may find it a suitable means to increase their child's engagement and enhance the remote learning environment.

Additionally, a focus on Growth Mindset may help both parents and students participate in remote learning in a positive manner (Dweck, 1999). The focus on individual academics and lack of extracurriculars and peers may lend itself to a hyper focus on perfectionism and rigidity for students with ASD during remote learning (Colizzi et al., 2020). This combination of high parent expectations and focus on individual results may create a negative and tense learning environment for both parents and students. Use of Growth Mindset, focusing on child effort, improvement, and perseverance, may help to reset the learning environment. Children may be able to better engage if supported with a growth perspective. As many children find remote learning more challenging than in-person instruction, utilizing Growth Mindset may help them to cope with these challenges and persevere through academic difficulty.

Although PRT and Growth Mindset have been implemented in home and school settings (e.g. Anderson et al., 2016; Gengoux et al., 2015; Koegel et al., 2012), it is important to determine if parents will find them relevant and beneficial when these environments are combined during remote learning. The purpose of this study was to evaluate the use of a remote parent education program in motivational strategies for students with ASD to increase academic engagement during remote learning. Parents received online individualized coaching across five weeks to support them as they facilitated their child's remote instruction.

This study may provide insight into how parents can use practices such as PRT and Growth Mindset to support and enhance the learning environment for their child. Even as children return to in-person learning, parents can continue to use these practices for homework and further learning opportunities. Additionally, this study may have implications about the role

of remote parent education for parents of students with ASD. It will be useful to understand how a weekly, remote, individualized coaching format can benefit parents. Lastly, this study explores the use of Growth Mindset for students with ASD to foster an emphasis on effort versus perfection, an area without much prior emphasis. Growth Mindset may be an important lens with which to alleviate academic challenges for students with ASD.

Literature Review

Academics for Students with ASD

Students with ASD demonstrate many strengths while in an academic environment. Fundamental to the diagnosis of ASD is preferred (or "restricted") interests, often resulting in an extensive amount of knowledge in particular subject areas (Mancil & Pearl, 2008). These preferred interests serve as potent motivators and students can accumulate vast amounts of knowledge about several topics (Koegel et al., 2010; Lanou et al. 2012). Students with ASD can become greatly motivated in non-preferred areas when these interests are incorporated into academic tasks. Additionally, students excel at maintaining classroom responsibilities and participating along with their classmates. Students with ASD are vital members in their classrooms and contribute to the greater school community.

Yet, students with ASD may experience challenges while learning. Although they may have expansive knowledge on their preferred topic, they may be unmotivated to participate in less preferred academic areas that do not include this topic (Gunter et al., 1994; Koegel et al., 2010). When routine is predictable and consistent, students may be more likely to engage in the activity; however, they can become dysregulated and demonstrate maladaptive behavior when presented with changes in routine (Parenteau et al., 2020; Schreibman et al., 2000). Additionally, when a task is at their level with appropriate modifications, students can demonstrate their

knowledge, but if the task is presented in an unclear way or with too much (or too little) demand, students may demonstrate off-task behavior (Endedijk et al., 2011; Koegel, Koegel & Surratt, 1992).

Additional areas of need may include tasks that require sitting and attending for extended durations, understanding abstract concepts, and deciphering unclear directions (Endedijk et al., 2011; Koegel, Koegel & Surratt, 1992). These barriers created by the learning environment and curriculum may results in students with ASD having low motivation to participate in classroom activities (McComas Hoch, Paone, & El-Roy, 2000; Mohammadzaheri et al., 2015). Children with ASD may exhibit maladaptive behavior in order to escape or avoid these difficult or non-preferred tasks (Koegel et al., 2010; Koegel & Koegel, 2019; Mohammadzaheri et al., 2015). Consequentially, the effort to avoid a challenging or non-engaging task may prevent academic growth. Additionally, adults that are in the classroom to support the student may end up focusing more on responding to maladaptive behavior as opposed to providing sufficiently motivating learning opportunities.

Engagement and Motivation

Academic engagement encompasses behaviors that facilitate learning opportunities, and can be described by the three dimensions of behavioral, emotional, and cognitive (Fredricks et al., 2004; Greenwood et al., 2002). In this study, we define engagement as "Behavioral Engagement," (Downer et al., 2007). Behavioral engagement includes observable behaviors that respond to instruction: attending to activities, following directions, completing tasks, and persevering through academic difficulties (Fredricks et al., 2004; Ponitz et al., 2019).

Engagement is responsive to instructional and educational environment (Greenwood et al., 2002; Opdenakker & Minnaert, 2011; Wang & Eccles, 2013). When students are

academically engaged, they are able to participate in a variety of learning opportunities that will further their academic development. Engagement is correlated with academic achievement, academic performance, overall learning, and graduation rate (Ponitz et al., 2019; Wang & Eccles, 2013).

Critical to engagement is motivation (Greenwood et al., 2002; Wang & Eccles, 2013). Motivation, in an academic context, can be defined as working towards goals through intrinsic and extrinsic motivators, that may be influenced by causal perceptions, self-efficacy, and goal-orientation (Bong, 1996; Dweck, 1999; Schunk, 2011; Weiner, 1985). Motivation allows for children to be sufficiently engaged in learning opportunities and may mediate the relationship between engagement and achievement. Motivation is an impacted area for individuals with ASD, and therefore students may exhibit lower levels of engagement than their typically-developing peers (Koegel, 2010; Koegel & Mentis, 1985). By increasing motivation, students should display higher amounts of academic engagement.

Parental Involvement

Parental support plays a critical role in a child's education and academic growth. Research has shown a positive relationship between parental involvement and a child's academic achievement, school engagement, intrinsic and extrinsic motivation, competence, and goal orientation (Gonzalez-DeHass, Willems, & Holbein, 2005; LaRocque, Kleiman & Darling, 2011). Parental involvement is especially important for students with disabilities (Burke, 2012; Koegel et al., 2003; LaRocque et al., 2011). In sum, parental involvement in a child's academics has been found among best practice for students with ASD and is important in supporting students with disabilities in a school context (Cooper & Nye, 1994; Goldman & Burke, 2017; Lynch & Irvine, 2009).

Pivotal Response Treatment and Academics

Pivotal Response Treatment (PRT) is an Evidence-Based Practice with a multitude of positive outcomes in communication, socialization and adaptive behaviors for individuals with ASD (Koegel et al., 1999; Koegel & Koegel, 2006; Verschuur et al., 2014). PRT is a methodology in which the individual's natural interests serve as motivation to develop and increase skills in multiple areas. PRT is designed to be individualized, motivational, and natural to implement across a range of settings, resulting in collateral gains across areas pivotal to development (Koegel et al., 1999; Koegel et al., 2012). PRT is a compliment to academics as its focus on motivation can help students with ASD engage in areas that are less preferred. Motivation is crucial for students with ASD when considering their academic engagement.

Although PRT was developed in the home setting, several studies have investigated how to adapt PRT for the classroom setting (Stahmer et al., 2012; Stahmer, Suhrheinrich & Rieth, 2016; Suhrheinrich, 2011). These studies have focused on teachers and paraprofessionals adapting PRT to fit the needs of a classroom while maintaining its evidence-based components that result in improvements. Academic settings often have different choices, reinforcers and individuation than do home settings, which necessitates differential implementation of PRT.

Researchers have adapted tasks to increase their motivational properties for children with ASD with positive outcomes (Koegel et al., 2010). In using motivation-based principles, children with ASD may be more likely to engage in their academic tasks, and as a result, demonstrate more academic growth and participation than when they engage in behaviors to attempt to avoid or escape the task. A highly non-preferred task may become far less aversive if the motivating properties of PRT are used when asking the child to work on the task. These motivating strategies and their implementation are described in greater detail below.

Child Attention and Clear Directions

To ensure that children have appropriate and ample opportunities to learn and develop skills, it is critical to first gain their attention and present clear directives (Suhrheinrich, 2011). Once attention is gained, it is imperative to keep instructions clear and at the child's language comprehension level. Gaining attention and presenting a clear direction will increase the likelihood of the child responding, and therefore receive reinforcement for responding (Petursdottir & Mellor, 2016). Receiving reinforcement for responding will continue to increase the ability and motivation to utilize skills when clear directions are given in the future.

It is important to provide clear expectations throughout the activity, which may be supplemented with a visual schedule or visual reminders (Rutherford et al., 2020). With clear expectations for behavior and task completion, students can begin the activity knowing the guidelines for the task and how to access reinforcement. With clear directions delineating when the child will move to another activity or receive a break, escape and avoidance behaviors can be prevented (Schreibman et al., 2000).

Natural and Contingent Reinforcement

Reinforcement is vital to learning—when it is appropriately delivered it should increase future instances of appropriate responding (Ferster, 1964; Koegel & Koegel, 2006; Slocum & Vollmer, 2015). In order for reinforcement to be effective, it must be immediate, contingent, and consistent (Suhrheinrich, 2011). Overtime, reinforcement can be delayed or non-contingently reinforced; however, to begin, increased reinforcement increases the likelihood of future responsivity. Reinforcement is an important component of PRT as it motivates the individual to continue responding in appropriate ways.

Contingent reinforcement is demonstrated when a child receives reinforcement based on demonstrating a target and appropriate behavior (Hart et al., 1968). Contingent reinforcement has been shown to be more effective when it is delivered naturally, such as providing a child with positive attention following an appropriate greeting (rather than providing them with a sticker, for example) (Koegel et al., 1987). Natural and contingent reinforcement have been correlated with higher academic achievement and task engagement among students with disabilities (Bryan & Burnstein, 2004).

Preferred Interests

Including a child's preferred (or "restricted") interests can serve as natural reinforcement that increases academic motivation (Charlop-Christy & Haymes,1998; Hinton & Kern, 1999; Mancil& Pearl, 2008; Vismara & Lyons, 2007). A review found gains in learning when a student's preferred interests were incorporated into classroom practices (Gunn & Delafield-Butt, 2016). Including preferred interests has increased academic engagement among students with ASD for a wide range of subjects including: text comprehension (Zein, Solis, Lang & Kim, 2016); writing (Winter-Messiers et al., 2007); math, science, history (Boyd, Conroy, Mancil, Nakao, & Alter, 2007); and reading (Zein et al., 2016).

Incorporating preferred interests can take many forms. For instance, if the child's task is to write a sentence and their preferred interest is cars, they can write a sentence about a car and then be reinforced by playing with one of their toy cars. Overtime, the act of writing about cars itself may serve as natural and contingent reinforcement. If the child has a more obscure preferred interest, for example trash, the child can use adding and subtracting pieces of trash during a math task, and then be able to take the trash out as reinforcement. Overtime, the act of adding and subtracting while visualizing trash will serve as natural and contingent reinforcement.

For almost any preferred interest, a task can be structured in a way to provide opportunities for natural and contingent reinforcement. Including the preferred interest in the task can increase interest and engagement during the task and eventually the child can generalize the skill beyond the preferred interest itself (Koegel et al., 2010).

Reinforce Attempts

Often students may work on a task with high engagement but upon receiving negative or corrective feedback, they will exhibit maladaptive behaviors to escape or avoid continuing the task (Slocum & Vollmer, 2015). If students have successfully avoided a task previously, they are likely to continue behaviors that allowed them to do so in the future as well as they have been negatively reinforced. Therefore, it is important to provide reinforcement for a student's reasonable attempts towards challenging and difficult tasks in lieu of maladaptive behaviors (Stahmer et al., 2016).

Often, one may wait until the student has completed the task, or found the correct answer to a math problem for example, before reinforcing them. However, this delay between attempting a task and receiving reinforcement may be too great, and it may be easier for a student to escape the task entirely. If students are reinforced along the way and for attempted effort, such as reinforcing them towards each step they complete in solving a math problem, they are more likely to continue on the task and engage in the future. Reinforcing goal-directed attempts are crucial to fostering student motivation and perseverance.

Additionally, it is important to consider the academic goal of the task. If the goal is finding the correct answer to the math problem, is it sufficient if one of the numbers isn't written neatly, or is it more important that the child demonstrated the logical reasoning to answer the problem? If the goal is to practice writing out science hypotheses, is it sufficient if one word is

misspelled so long as the child demonstrated scientific thinking to write out their original hypothesis? As the student becomes more comfortable with completing these tasks and they are no longer as difficult to complete, there can be additional expectations for task completion. However, to initially improve engagement, students should be reinforced for goal-directed attempts towards working on challenging tasks.

Child Choice

Providing children with choice is a strategy used by many professionals to increase academic engagement among students with disabilities (Denning & Moody, 2013; Goodman and Williams, 2007). Child choice targets decision-making and motivation and has been shown to increase appropriate behaviors (Reutebuch, El Zein & Roberts, 2015; Shogren, Faggella-Luby, Bae, & Wehmeyer, 2004).

Choice allows a child to have more control over less preferred tasks and demands. When tutors provided children with ASD a choice as to the order of task completion and stimulus materials for homework, accuracy, productivity, and affect increased while disruptive behaviors decreased (Moes, 1998). A review found that when children with ASD were provided choice in academic settings, work completion, on-task behavior, affect and interest increased, while maladaptive behaviors deceased (Reutebuch, et al., 2015).

Academic choice can take the form of a choice between tasks, or within tasks (Rispoli et al., 2013; Stahmer et al., 2016), such as asking which subject the student would like to start first (between tasks) or the order in which the child wishes to complete the problems within the same subject (within task). Choice can also be provided for materials (such as which manipulatives to use for a math problem or which utensil to write with) and location (such as read on the couch or read at the table) (Suhrheinrich, 2011). Child choice can also include a variety of topics to

choose from to practice reading, writing, and typing skills. Child choice is not whether the child does the task, but rather providing the child with the autonomy to choose how they would like to work on the task.

Interspersing Maintenance and Acquisition Tasks

Students may try to escape or avoid a task when demands are difficult. Even if students complete the first half of a task, viewing the rest of the task as it gets more challenging may prevent them from attempting to complete it. Tasks that are mainly acquisition (hard or new) demands often result in decreased student engagement. However, interspersing maintenance (easy or mastered) tasks within acquisition tasks can offset potential frustration (Stahmer, 2012) by helping a student gain momentum on maintenance tasks before being asked to complete an acquisition task. Task interspersal decreases the demand of acquisition tasks (Koegel et al., 2010) and increases overall momentum (Cowan, Abel &Candel, 2017).

This can take the form of having skills the child has already mastered as the maintenance task (such a one-digit multiplication) interspersed with skills the child is learning as the acquisition task (two-digit multiplication). This can also be interspersing preferred tasks within less-preferred tasks. If the child's preferred task is to read, and less-preferred task is to write, they can switch between reading and writing tasks to keep up momentum and not be overwhelmed by the less-preferred task of writing. Overtime, momentum can shift as the child begins to master difficult or new tasks.

Behavioral momentum can also take the form of provifing a "transition" activity between a highly preferred task and a highly non-preferred task, to build on a child's momentum and support them through the transition (Banda, 2008; Cowan et al., 2017). For example, when transitioning from "free time" to a non-preferred academic task, a moderately preferred or

neutral task, such as a walk around the house, can be interspersed to build momentum during the transition.

Growth Mindset

Growth Mindset (Dweck, 1999) is a theory that derives from Attribution Theory (Weiner & Kukla, 1970) and Achievement Goal Theory (Elliott & Dweck, 1988). Its premise is that one aspect of mindset can be thought of as a continuum between fixed and malleable. Those that hold views more in line with a fixed mindset attribute achievement and failure to a static sense of intelligence and capability, whereas those that hold views more in line with a Growth Mindset view constructs such as intelligence and capability as entities that can develop and improve (Hochanadel & Finamore, 2015; Seaton, 2018).

The role of mindset comes into focus when thinking of persistence during challenging tasks (Dweck, 1999; Dweck & Yeager, 2019). A Growth Mindset allows an individual to see challenges as a means of skill development, and not only persevere during a difficult task but to seek out further learning opportunities. Those that ascribe to values more in line with a fixed mindset attribute difficulties and failure to their own abilities, and are more likely to quit during a difficult task or not attempt them at all. When an individual stops themselves from attempting challenging tasks due to a fixed mindset, they are prevented from engaging in opportunities that will allow them to expand their knowledge, skills, and sense of self.

Interventions to increase the awareness and use of a Growth Mindset have increased motivation (Blackwell et al., 2017), improved academic achievement (Paunesku et al., 2015; Wang et al., 2019; Wanzek et al., 2021), halted academic regression for students with declining math achievement (Blackwell et al., 2017) and may be protective in counteracting stereotype threat (Good et al., 2003). Studies have found that students who use a Growth Mindset have

more positive affect, greater self-efficacy, higher achievement during transition periods, greater course completion for advanced math courses, and less avoidant coping responses (Burnette et al., 2020; Yeager & Dweck, 2012). Growth Mindset does not predict innate academic achievement, rather it helps to explain difference in how students respond to challenges (Dweck & Yeager, 2019). For those with a Growth Mindset who set a goal of learning and development, they will be more likely to engage in opportunities that will strengthen their skill develop and result in higher academic achievement.

Students with disabilities are more likely than students without disabilities to ascribe to a fixed mindset (Burnette et al., 202; Carvalho & Skipper, 2020; Verberg et al., 2019). They are more likely to maintain low self-efficacy and focus on goal engagement (Baird et al., 2009). For students with ASD, their restricted and repetitive behaviors may translate to a fixation on perfection and avoidance of making mistakes (Poljac et al., 2017; Reaven, 2009), leaving them vulnerable. Goal setting for students with ASD may focus on engagement and lack of errors, and can easily result in avoidance when faced with challenges (Slocum & Vollmer, 2015). Students with disabilities may benefit from learning about a Growth Mindset as it can prevent maladaptive behaviors that may arise due to avoidance of failure. Teaching parents about Growth Mindset may be an avenue for them to support their children during challenges that arise during remote learning to optimize opportunities for engagement and development.

Parent Education

Parent collaboration and education in implementing motivational and evidence-based practices has been correlated with positive child outcomes (Brookman-Frazee & Koegel, 2004; Fettig et al., 2013). Training parents and caregivers in EBPs has been shown to improve parent confidence, parent skills, child engagement, and parent-child relationships (Brookman-Frazee et

al., 2006; Brookman-Frazee & Koegel, 2004), as well as decrease parental stress (Brookman-Frazee & Koegel, 2004; Schultz et al., 2011; Tonge et al., 2006). Educating parents and caregivers in EBPs allow for parents to gain knowledge in EBPs and increase the generalization of their child's skills through utilization of more consistent practices (Steiner, 2011).

Parent education in PRT has led to increases in self-efficacy and decreases in parental stress (Verschuur et al., 2019) as well as positive child outcomes including increases in initiations, communication and cognitive functioning (Gengoux et al., 2015; Hardan et al., 2015; Verschuur et al., 2019). Because PRT is designed for implementation in a child's natural environment, parents can utilize practices throughout the day and incorporate them into their family routines. Parents can ensure a more consistent implementation of antecedent supports and reinforcement (Koegel et al., 2019; Lucyshyn et al., 2002; Marshall et al., 2002).

For Growth Mindset, parents may be critical factors in supporting the development of a Growth Mindset in their children; however, instilling this belief among their children is not automatic (Andersen & Nielsen, 2016; Haimovitz & Dweck, 2017). Studies have found that even if a parent maintains a Growth Mindset, there are certain practices they can utilize to help their child employ a Growth Mindset as well (Haimovitz & Dweck, 2017). Parents may need support in providing effective praise and feedback, as well as setting appropriate goals to help their child develop a Growth Mindset that will allow them to persevere through difficult tasks (Haimovitz & Dweck, 2017; Kamins & Dweck, 1999).

Parent education should be strength-based, focused on a child's skills, and delivered with a positive affect (Koegel et al., 2019; Steiner, 2011). Parents should be viewed as co-collaborators, with the coach basing their feedback and coaching around goals that are constructed with the parent (and depending on the age and ability, the child as well). By

welcoming parent input, it ensures that the coaching is socially acceptable to the family as a whole. Keeping family functioning and family values at the forefront of coaching planning is important to reduce parent stress and focus on socially significant coaching goals (Stahmer & Pellecchia, 2015).

Remote Programs

Although the format for parent education has traditionally been in-person, there has been a recent increase in the use of remote formats to provide parent education (Ameis et al., 2020; Parsons et al., 2017). Here we define remote coaching to mean the use of video conferencing, remote coaching, and online materials to provide parent support and training (e.g. McGarry et al., 2019; Wacker et al., 2013). The efficacy of remote programs to support families with ASD has been tested and results have shown outcomes comparable to in-person training (Ameis et al., 2020; Blackman et al., 2020; Lindgren et al., 2016). Remote programs can improve parent knowledge, coaching implementation, and child outcomes (Ameis et al., 2020; Douglas et al., 2018; Vismara et al., 2013).

Parents find online coaching to support in-person training to be socially acceptable (Ingersoll et al., 2015; Pickard et al., 2016; Wainer & Ingersoll, 2015). In an online format, parents can collaborate with a researcher to plan and program child coaching goals and methods, and parents receive ongoing feedback and coaching while implementing the strategies. This ensures that the coaching fits within the family routines and goals, which should remain as a primary parent education goal (Stahmer & Pellecchia, 2015). The feasibility of remote coaching may allow for increased flexibility and adaptability for parents.

Since coaching is delivered remotely, parent education is able to reach families without limitations based on geographic location, therefore allowing high-quality coaching and parent

support to be widespread (Bearss et al., 2018; Mello et al., 2016). Remote coaching was used in the present study to be able to provide families with parent education during the Covid-19 Pandemic, when they was a lack of availability of in-person support due to safety concerns. The use of an online format allowed parents to receive training on motivational practices to use with their child in an academic context during a time in which they were unable to receive in-person support.

The Impact of Covid-19

Due to the impacts of Covid-19 many aspects of life have changed with very little to no notice. For children in particular, in-person education immediately halted and instruction was moved to an online format in March 2020. This has often placed parents in the role of educator as they facilitate their child's instruction and academics activities.

All children had to adjust to this abrupt change in education, but this transition may be particularly difficult for children with ASD (Aishworiya & Qi Kang, 2020: Ameis et al., 2020). Individuals with ASD have increased stress, maladaptive behaviors, and agitation during transitions and times of change (Ameis et al., 2020; Parenteau et al., 2020). Covid-19 has demanded that children with ASD accept changes in routines, locations, relationships, activities and personnel with no preparation (Ameis et al., 2020). Parents have reported their children experiencing increase in hyper-activity, sadness, anger, confusion, and an overall decrease in mental health (Parenteau et al., 2020; Patrick et al., 2020). Even as schools return to a hybrid format, transitioning between the school and home learning environment may present additional challenges (Ameis et al., 2020; Reicher et al., 2020). (It is important to note that although students with ASD are likely to experience stress due to the sudden changes, some individuals

have expressed a decrease in stress due to fewer social interactions and pressures, and transitions within the school day (Ameis et al., 2020; Reicher et al., 2020)).

The at-home learning environment is fundamentally different from a school learning environment. There are greater distractions (e.g. sounds, sights, other family members) and alternatives in the home setting (e.g. electronics, toys, edibles) (Stenhoff et al., 2020). At the same time, there is less structure, modifications and teacher interaction (as teachers cannot make modifications in the moment as they could in person) (Stenhoff et al., 2020). Parents have varying degree of knowledge about implementation of their child's education plan, yet the restructuring of an instructional environment is left to them to navigate (Parenteau et al., 2020).

Parents of children with ASD have greater stress levels as compared to other parents (Aishworiya & Qi Kang, 2020; Estes et al., 2013; Hayes & Watson; 2012; Rivard et al., 2013); however, this is further compounded by Covid-19. Parents are now tasked with the role of being a teacher, in addition to the many other roles they hold (Cahapay, 2020). Children may have difficulty understanding these new parent-child dynamics, and parents may have difficulty establishing new expectations for remote learning (Aishworiya & Qi Kang, 2020). Parent mental health and stress should be of particular concern during remote education (Ameis, 2020; Colizzi et al., 2020; Hageman, 2020), as of October 2020, 27% of parents reported declining mental health (Patrick et al., 2020).

In addition to concerns regarding the parent-child dynamic during remote education, there is a concern regarding how and if students with disabilities are receiving a free and appropriate education in a remote format (Stenhoff et al., 2020). Typically students would receive services such as speech, occupational therapy, and adaptive physical education while at school (Stenhoff et al., 2020). However, as of May 2020, up to 40% of parents reported that their

child's IEP goals and supports were not being implemented (Warner-Richter & Lloyd, 2020). The inequities students with disabilities face at school are replicated and intensified during remote learning (Ameis et al., 2020; United Nations General Assembly, 2020). There are now additional barriers of digital literacy and parental involvement (Stenhoff et al., 2020)—access is even more difficult to attain. These circumstances place even greater pressure on parents to facilitate educational and skill-building opportunities for their child (Cahapay, 2020).

Providing remote parent education may alleviate parent stress and provide additional support (Ameis et al., 2020). Especially as services, such as ABA, may look different due to Covid-19 (e.g. being delivered remotely, following safety protocols such as masks and distancing), providing families with extra support is necessary. Providing parents with ways to increase structure, predictability and motivation while in the home environment can decrease stress and increase positive learning experiences (Reicher, 2020; Warner-Richter & Lloyd, 2020). Although teachers may have already provided parents with tools and strategies for facilitating education, teachers have been faced with a great array of challenges as well in the transition to remote learning and it cannot be expected that they can provide all the support alone. Remote programs can provide a bridge in the gap of services and support many families are currently facing (Ameis et al., 2020).

Purpose

The purpose of this study was to conduct parent education with caregivers on motivational strategies to use during remote learning activities to increase student engagement for remote instruction. Parents reported greater stress during the Covid-19 Pandemic and were tasked with additional responsibilities of facilitating remote education. For students with disabilities, remote instruction presented greater challenges as compared to in-person instruction.

Using strategies based on PRT and Growth Mindset may supply caregivers with tools to enhance remote learning for their child with ASD.

Increasing engagement can allow students with ASD to participate in their remote instruction to the greatest extent of their abilities. This in turn can alleviate stress for both student and parent. Although this study occurred in the context of Covid-19, it may inform remote coaching models going forward.

Research Questions

The primary study questions are below:

1. How does delivering parent education through a remote format impact parental implementation of motivational strategies to increase engagement for academic tasks?
2. How will children with ASD respond to the parent-implemented motivational strategies?
3. How will the coaching impact parental stress?
4. How do parents evaluate coaching acceptability?

Methods

Participants

To recruit families, a call for participants with study details was posted on the social media pages for the Koegel Autism Center and regional centers throughout Southern California. Parents were then directed to contact the center to learn further information about the study. Informed consent was collected after a brief meeting with the researcher.

Each child participant met the following inclusion criteria: (1) diagnosis of ASD according to the specified criteria in the *Diagnostic and Statistical Manual of Mental Disorders* (American Psychiatric Association, 2013), (2) participation in remote learning (e.g. through Zoom) as part as their school instruction (3) parent report of low engagement or maladaptive behavior during remote learning.

Each parent participant met the following inclusion criteria a) willing to participate in parent education sessions and b) were present during a majority of their child's remote instruction (greater than 50%). As to be conducive to the natural routines within the home, both parents were able to participate in study if they both facilitated remote learning on a typical basis.

Participants included three parent-child dyads.

Alex.

Alex was age 5:9 and enrolled in kindergarten. Alex was identified by his parents to be male, Filipino and Caucasian (See Table 1 for participant demographic data). He was diagnosed with both Autism Spectrum Disorder and Attention Deficit Hyperactivity Disorder (ADHD) at age 2:9.

Alex was enrolled in a public elementary school in the Bay Area of California in a general education class and received 100% of his instruction remotely at the time of the study (90 minutes, 4x a week). He received resource/academic supports for 150 minutes/weekly, occupational therapy for 30 minutes/weekly and speech for 60 minutes/weekly.

Based on data obtained from the Behavior Assessment Scale for Children, 3rdedition (BASC-3), Alex was reported to have clinically significant difficulties in the areas of Hyperactivity, Aggression, the Externalizing Problems Composite, Attention Problems, Atypicality, the Behavioral Symptoms Index, and Functional Communication (3rd ed.; BASC-3; Reynolds & Kamphaus, 2015). Data from the Autism Diagnostic Observation Schedule, 2nd edition (ADOS-2), and Childhood Autism Rating Scales, 2nd edition (CARS-2) Standard Version, indicated that Alex had mild to moderate symptoms of ASD (2nd ed,; ADOS-2; Lord et al., 2012; 2nd ed.; CARS-2Vaughan, 2011). Data for all three measures was reported by school personnel.

Alex's interests included watching Scooby Doo and playing with figurines of characters from the show. He also played Minecraft and enjoyed building structures in the game. April reported that Alex was fascinated by elevators; he would ask to look up pictures of elevators and was excited whenever he was able to ride in one.

Alex's mother, April, was age 42 and Filipina. She had participated in 1 day of training in PRT prior to the study. Alex's father, Shawn, was age 43 and Caucasian. He had no prior training in PRT. For this study, both of Alex's parents participated in coaching sessions as they naturally divided the facilitation of remote learning between them; both parents were recorded for the coaching sessions to mimic the natural environment for Alex. Shawn was unavailable to

participate in a follow-up session due to transitioning to a new job, but April was able to participate in follow-up measures.

Marcos.

Marcos was age 7:9 and enrolled in second grade. Marcos was identified by his parents to be male, Latin and Asian (See Table 1 for participant demographic data). He was diagnosed with both Autism Spectrum Disorder (age 3:0) and Attention Deficit Hyperactivity Disorder (ADHD) (age 6:0).

Marcos was enrolled in an independent charter school in the Los Angeles Unified School District in a general education class and received 100% of his instruction remotely at the time of the study. He received resource/academic supports for 300 minutes/weekly, occupational for 30 minutes/weekly and speech for 60 minutes/weekly.

According to school records, Marcos was eligible to receive services at school because of his diagnosis of ASD. His diagnosis was reported to impact his sensory processing skills, participation in oral discussions, pragmatic skills, expressive language, reading skills, math skills, writing skills, fine motor skills, and behavior. His receptive language was not reported to be impacted. Based on data obtained from an Independent Educational Evaluation and Psycho-education Assessment Report, Marcos was reported to have difficulties with attention and impulsivity that were moderately severe. All measures were completed by school personnel.

Marcos' interests included playing Minecraft and Roblox. Kathleen reported that Marcos would spend much of his free time playing these games and trying to advance to further levels. Marcos also enjoyed playing with stuffed animals and had a collection of "Minion" toys.

Marcos' mother, Kathleen, was age 48 and Asian. She had no training in PRT prior to the study. Marcos' father, Angel, was age 48 and Hispanic. He also had no prior training in PRT.

Both of Marcos' parents participated in coaching sessions as they both expressed interest in learning more about motivational strategies; however, only Kathleen participated in probe measures as she was the one currently facilitating remote learning during school hours.

Ricardo.

Ricardo was age 11:2 and enrolled in fifth grade. Marcos was identified by his parents to be male and Hispanic (See Table 1 for participant demographic data). He was diagnosed with both Autism Spectrum Disorder (age 3:0) and Attention Deficit Hyperactivity Disorder (ADHD) (age 3:0). Ricardo was enrolled in an independent STEM Academy in the Los Angeles Unified School District in a general education class and received 100% of his instruction remotely at the time of the study. During remote instruction, he received no additional services.

Based on data obtained from Kaufman Test of Educational Achievement, Third Edition, Ricardo was reported to have "cognitive weaknesses" in the areas visual processing, language, and executive functioning (3rd ed.; KTEA; Kaufman & Kaufman, 2014) . These impacted Ricardo the most in the area of written expression. Ricardo was reported to perform "average" in the areas of Academic Skills Battery, Reading, and Written Language. Ricardo was reported to perform "below average" in the area of math. All measures were completed by school personnel.

Ricardo's interests included a variety of video games, including Zelda, Minecraft, and Roblox. Ricardo enjoyed looking up these games online and learning more about strategies he could use to continue playing them. Jessica also reported that Ricardo watched videos of other people playing these games to better understand how to play.

Ricardo's mother, Jessica, was age 41 and Hispanic. She had attended one conference in Pivotal Response Treatment and received a Level 1 certification. Ricardo's father, Tony, was Hispanic. He also had no prior training in PRT. Ricardo's mom participated in the study as she

was primarily responsible for facilitating remote learning, but both parents were present for the initial coaching meeting to identify goals and current areas of support.

Table 1: Participant Demographics

	Participant	Mom	Dad
Name	Alex	April	Shawn
Age	5:9	42	43
Ethnicity	Filipino/ Caucasian	Filipina	Caucasian
Age of Diagnosis	2:9		

	Participant	Mom	Dad
Name	Marcos	Kathleen	Angel
Age	7:9	48	48
Ethnicity	Asian/ Hispanic	Asian	Hispanic
Age of Diagnosis	3:0		

	Participant	Mom	Dad
Name	Ricardo	Jessica	Tony
Age	11:02	41	Not provided
Ethnicity	Hispanic	Hispanic	Hispanic
Age of Diagnosis	3:0		

Setting

All coaching sessions occurred over the Koegel Autism Center Zoom platform for telehealth. Zoom is a HIPAA compliant video conferencing platform and secure use of the software was vetted and approved through the Campus Information Technology and Data Security Personnel. Parents were located in their home during coaching sessions, while the researcher was in an office.

Parents filmed themselves implementing the coaching and then uploaded it to UCSB Box, a HIPAA compliant cloud storage platform for baseline, coaching, and follow-up probes.

Research Design

A non-concurrent multiple baseline across participants design was used to evaluate the effects of the coaching (Kratochwill et al., 2010; Watson & Workman, 1981). A non-concurrent multiple baseline was chosen so that the scheduling of sessions could remain flexible for families. The number of baseline points were systematically staggered for the three participants (2/4, 5, 7). For Alex, 2 baseline sessions occurred with both mom and dad, and 2 baseline sessions occurred with dad alone. This was due to family schedule and replicating the natural environment for the study. Alex and Ricardo participated in 2 follow-up sessions, but Marcos was only able to participate in one due to family schedule. Marcos had 5 baseline sessions and Ricardo had 7, all of which were implemented by their moms. In order to control for confounding variables, the same researcher implemented all coaching sessions.

Procedures

First, families contacted the Koegel Autism Center and a meeting was arranged with the researcher to determine if families met eligibility criteria. Families were provided with further information about the study and time commitment. If families chose to participate in the study,

they were given a consent form to sign prior to beginning baseline. The first three families who met eligibility criteria and were able to meet the time commitment of the study were selected to participate.

Parents were provided with written and verbal instructions (during a phone meeting) on how to record baseline measures and upload them to UCSB Box. To maintain the integrity of the remote learning environment, the researcher was not present for the baseline sessions. Parents were advised to choose an academic activity that they would like support on during remote learning and film the duration of the activity. The researcher requested the video to be at least 5-10 minutes in length, preferably 8-10 minutes. For videos that were submitted that were longer than 10 minutes, only the first 10 minutes were scored; however, the researcher viewed the whole video to provide feedback. The researcher viewed each video after it was recorded and provided the parents with feedback if any adjustments needed to be made to video quality (e.g. unable to hear child); however, no other feedback was provided during baseline sessions.

After baseline measures were completed, the researcher met with the parents for an initial coaching session. During this meeting, parents were asked to discuss the remote learning process and identify areas of support for their child. Then the researcher presented an overview of PRT and Growth Mindset. Following each strategy, the researcher asked parents if they had used the strategy (or something similar) prior and how it worked, or if they thought that the strategy would be an appropriate fit for their family. After the strategies were covered, parents were asked to choose the ones that they would like to focus on implementing with their child the upcoming week. Then the researcher took the goals from earlier in the sessions and asked parents to think of how they could use the strategies to target the goals. The researcher provided feedback and outlined a plan with the parents to conclude the session. The researcher then

provided parents with a written summary of the session and specific directions for the strategies the following day.

Each week following the initial session, parents worked on implementing the strategies with their child. Parents were asked to record themselves during the same type of activity that they had used for baseline sessions. The researcher reviewed the video clip prior to each coaching session. The format of the coaching session was as follows: check-in, review of video clip, self-evaluation, researcher feedback, review of strategies, next steps, and areas to review for following coaching session.

Parents were viewed as co-collaborators with the researcher to develop a coaching plan. This coaching method was chosen to ensure that the coaching aligned with family values and family systems. It was also chosen so that parents had agency over the coaching, increasing the likelihood that they would apply the strategies after coaching ceased (Stahmer & Pellecchia, 2015).

Parents were provided with 4 coaching sessions but were offered one more if they wanted further feedback. Due to the family schedule, Shawn was only able to participate in 2 coaching sessions with April, but April completed five coaching sessions. Kathleen participated in four coaching sessions, and Jessica participated in five. Coaching sessions lasted between 30-60 minutes, with an average of 44 minutes (see Table 2).

Following two to four weeks after the coaching sessions concluded, parents met with the researcher for a follow-up. Parents uploaded a follow-up video to UCSB Box. The format of the follow up session was as follows: check-in, review of video clip, self-evaluation, researcher feedback, review of strategies, and next steps.

Table 2: Coaching Sessions and Minutes

	April	Shawn	Kathleen	Jessica
Sessions	5	2	4	5
Total Minutes	265	100	145	285

Independent Variables

An coaching package of strategies, including Pivotal Response Treatment (PRT) and Growth Mindset were presented to parents. The coaching package included the following components:

Clear Directions

The parent gains their child's attention before providing instruction. A clear cue indicates to the child how they should respond and provides clear expectations for work completed. It also clearly outlines the expectation for the reinforcer. Clear directions may also include a visual schedule, timer, or priming. An example would include the parent ensuring the child is looking at them prior to giving a direction, and using simple and clear language: "in two minutes, we are going to go sit down in the chair for math class."

Child Choice

The parent follows the students' interest in materials, toys, or activities by providing choices, either within or between activities, as a way to engage their child. Examples include: do you want to sit at the table or in your reading corner? Which story do you want to read? Do you want to start with math or language arts? Choice should be provided whenever there is an opportunity for the child to use their agency over the completion of a task.

Incorporate interests

The parent includes the child's preferred interests directly into the task as natural reinforcement or connects them to the reinforcer for completing the task. For example, if a

child's preferred interest in Minecraft, the parent can adapt a mask task to reflect building on Minecraft. Another example would be to modify a reading assignment to include a child's favorite character.

Behavioral Momentum

The parent alternates between more preferred/ less preferred, easier/ harder, new/ mastered tasks to prevent the repetitive presentation of difficult tasks. The parent provides a transition activity between a non-preferred activity and a preferred activity to build momentum. An example would include a parent rotating between subtraction and division, if division is less preferred. Another example could include rotating between subjects, such as math and spelling, if one is less preferred. An example of transition activities would include a "movement break," such as walking around the house, between the transition from a highly preferred activity (e.g. iPad time) to a non-preferred task (e.g. spelling test).

Contingent reinforcement

The parent provides reinforcement that is dependent on the student's behavior immediately after the response. If a student does respond appropriately, the parent withholds reinforcement. An example would include allowing the child to eat skittles if he used them to complete a math task, and waiting until child works on the math task to eat them.

Reinforce attempts

The parent provides reinforcement after the students' reasonable, goal-directed attempts. For less preferred/more difficult tasks, the parents provide more frequent reinforcement for attempts. An example would include the parent reinforcing a child for writing a paragraph, even if some of the words are misspelled, rather than having the child go back and correct every error prior to reinforcement. The parent can provide praise and reinforcement for appropriate attempts,

before giving corrective feedback. The parent is advised to think of the objective of the task and focus on effort towards the goal rather than perfection.

Growth Mindset

The parent will prime the child with Growth Mindset for tasks that are difficult or less preferred, such as "remember our goal today is to learn something new. It's okay if we get a question wrong, that's how we learn." When the child makes a mistake or engages in negative self-talk, the parent prompts the child to reframe the situation. An example would be to reframe "I am no good at this" to "I am still learning about this. Things are difficult when we're still learning them, but I tried my best today." Parents can also provide examples of ways that child improved on a skill even when it was difficult at first using a child's interests, such as going through many attempts in a video game to advance to the next level.

The parent provides praise that focuses on effort and growth, as opposed to generic praise or praise based on "perfection." Praise is labeled and specific, for example, instead of saying "good job" the parent can say "I see how you're using a lot of colors on your picture. Nice job focusing as you draw the rainbow," or "I like how you took 3 deep breaths when you made a mistake."

To conclude difficult and less preferred tasks, the parent will ask their child to reflect on what they did well or gave sufficient on during the task, such as "what are you proud of today?" The parent can provide examples as they start this practices and fade prompts as the child is able to come up with answers independently.

Family Goals

To ensure that the study was socially valid and fit into the natural routine of the family, each parent chose 2-3 primary goals to work on during coaching. Goals were based on areas of

need during remote learning. The parents and researcher worked together to define how they could specifically use the strategies to target these goals (see Table 3). PRT is designed to be used as a package of components, however, parents may have been implementing some of the components without the others during baseline. Therefore their goals may include a focus on one or more PRT components and not all components of PRT, if they were already consistently implementing a component effectively prior to coaching. By focusing on specific components of PRT, they could enhance their overall implementation of the practice.

Alex.

April and Shawn's primary need was to support Alex in attending to remote learning and decreasing escape-maintained maladaptive behaviors. Specifically, they reported that Alex had difficulty in transitioning to the table to prepare for remote learning, remaining at the table during instruction, refraining from eloping, and tolerating making mistakes. Maladaptive behaviors included elopement, crying, verbal protest and property destruction.

After reviewing all of the strategies, April and Shawn chose the following goals to target. Strategies were picked based on fit with family structure and ability to increase engagement and use of adaptive behaviors.

1. Parent will provide **clear directions**, expectations, and limit the environment from distractions during remote learning.
2. Parent will provide **contingent reinforcement**, through offering **choices**, providing specific **praise**, incorporating **child interests** as natural reinforcers, and **reinforcing attempts**.
3. Parent will provide specific praise and use language reflecting **Growth Mindset** to prevent maladaptive behaviors while completing tasks.

Marcos.

Kathleen and Angel's primary need was to support Marcos in refraining from attention-seeking and escape-maintained maladaptive behaviors that occurred during remote learning and prevented Marcos from engaging. Specifically, they reported that Marcos would gain attention from teachers when he used maladaptive behaviors during difficult tasks, that would further distract from him completing a non-preferred task. Maladaptive behaviors included verbal protest and property destruction.

After reviewing all of the strategies, Kathleen and Angel chose the following goals to target. Strategies were picked based on fit with family structure and ability to increase engagement and use of adaptive behaviors.

1. Parent will provide **clear directions**, **contingent reinforcement**, and utilize **momentum** to encourage enagement.
2. Parent will use **Growth Mindset** language when the child is working on task and experiencing difficulty.

Ricardo.

Jessica's primary need was to support Ricardo in refraining from negative self-talk and crying that occurred when difficult tasks were presented during remote learning. Specifically, Jessica reported that Ricardo engaged in frequent negative self-talk during a weekly quiz in which students' answers were public to the whole class and students were ranked based on their answers correct. Ricardo's negative self-talk and crying would prevent him from focusing on the subject matter at hand. Maladaptive behaviors included crying and negative self-talk (e.g. "I am a failure").

After reviewing all of the strategies, Jessica chose the following goals to target. Strategies were picked based on fit with family structure and ability to increase engagement and use of adaptive behaviors.

1. Parent will provide **clear directions** and **contingent reinforcement**, through utilizing **momentum**, providing specific **praise**, and **reinforcing attempts**.
2. Parent will use **Growth Mindset** language when the child is the child is working on a difficult task and using negative self-talk.

Table 3: PRT Component of Focus

	Shawn	April	Kathleen	Jessica
PRT Components	Clear Directions	Clear Directions	Clear Directions	Clear Direction
	Choice	Preferred Interests	Momentum	Momentum
	Preferred Interests	Contingent Reinforcement	Contingent Reinforcement	Contingent Reinforcement
	Contingent Reinforcement	Reinforce Attempts		Reinforce Attempts

Parent Education

Coaching sessions followed a specific protocol based on previous models of parent education (DiGennaro Reed et al., 2018; Parsons et al, 2012; Stenhoff et al, 2020). The goal of the parent education coaching sessions were to facilitate the parent independently choosing appropriate strategies to implement consistently and effectively.

First, the researcher presented a brief PowerPoint that covered all of the strategies in the coaching package. The researcher described the strategies and provided examples. For each strategy, the researcher provided a specific example of how the parent could incorporate the strategy with their child. Then the researcher asked the parent(s) if they had any experience with the strategy and how they could apply it within their family. The parent was asked to come up

with examples if they felt the strategy was appropriate for their child. The researcher provided feedback on parent examples. Together, the parent and researcher created a more specific plan of how the parent could implement strategy over the course of the following week. Before concluding the session, the researcher asked the parent if they had any questions and if there was anything they wanted to cover in the next session. Following the session, the researcher provided the parent(s) with a written summary of strategies discussed, examples of how the parents could use them with their child, and the plan for the upcoming week.

During the week, the parent implemented the strategies with their child and picked a task to record and upload to UCSB Box for the researcher to review. The researcher composed a PowerPoint on relevant strategies following a video review to go over with the parent(s) during their next parent education session as well as written feedback about strengths of the parent's implementation and areas for improvement.

For the following parent coaching sessions, the researcher started the session with asking the parent(s) how the week had been. Then they asked for the parent to give themselves feedback on the video clip, and what they did well and where they had questions. The researcher provided verbal feedback, starting with areas of strength, and then reviewed the PowerPoint. The PowerPoint for each parent education session presented feedback for strategies implemented and next steps. Again, the researcher asked the parent if they had any questions and if there was anything they wanted to review the following week. The researcher provided written feedback summarizing the session.

In all, parents received 2 written pieces of feedback per week (1 reviewing the video clip submitted and 1 based on the discussion during the parent coaching session) and 1 PowerPoint per week. Parent had access to copies of all materials via a shared UCSB Box folder.

Measures

Observed Child Measures

Engagement. Engagement was measured using a 6-point likert scale, based on a protocol from Koegel and colleagues (2010) (see Appendix A). Engagement was defined as classroom behaviors that contribute to academic success: writing, participation, discussing material, reading, asking questions, and responding (Greenwood et al., 2002; Greenwood, Delquadri, & Hall, 1984). For each 30-second interval, student engagement was scored as (0) no engagement (1-2) low engagement (3-4) moderate engagement or (5) high engagement. At the end of the probe, the scores for each interval were averaged to get an overall engagement score for each session.

Maladaptive Behavior. Maladaptive behavior was defined as crying, screaming, elopement, aggression, or property destruction occurring by themselves or in combination (see Appendix B). For each 30-second interval, the presence or absence of maladaptive behavior was recorded. The percentage of intervals with maladaptive behaviors was divided by the total number of intervals to calculate an overall maladaptive behavior measure.

Observed Parent Measures

Parent Implementation of PRT. Parent implementation PRT was measured using a 6-point Likert scale, based on a protocol by Robinson (2011) and Stahmer and colleagues (2016) that examined competent implementation (see Appendix C). For each 30-second interval, parent implementation was scored as (0-1) no to little implementation, (2-3) variable implementation, or (4-5) competent implementation. Each component of PRT was scored, but the areas of focus were used to determine implementation. At the end of the probe, the component scores were averaged together and then all intervals were averaged for an overall implementation score.

Growth Mindset. Parent use of Growth Mindset was measured using a 6-point Likert scale (see Appendix D) based on the protocol by Stahmer and colleagues (2016) that examined competence in implementation. Growth mindset was based on two behaviors: providing specific, effort-focused praise/ feedback, and reflecting/reframing student frustration. These two behaviors were chosen due to their ability to be defined and their incorporation into each family's goals. For each 30-second interval, parent implementation was scored as (0-1) no to little implementation, (2-3) variable implementation, or (4-5) competent implementation. At the end of the probe, the scores for each component were averaged together and then all intervals were averaged for an overall implementation score.

Specific, effort-focused praise included comments that focused on effort, growth, and attempts towards the goal. For example, instead of saying "good job," a more specific comment would be "good job using your fact sheet to figure out the multiplication problem." Instead of praising only correct answers, a parent could say "nice job writing out a creative sentence about the story." Parents could provide specific praise throughout a task that was not contingent on arriving at the correct answer, but rather, engaging in appropriate behaviors that were goal-driven.

Reflecting/ reframing included the way that the parent responded to a child's challenges. For example, instead of saying "it's no big deal" in response to a child saying "I'm a failure," a parent could say "I know that this is a hard problem. Let's try to break it into steps like you did with the last problem. The last problem seemed really hard at first but when we broke it into steps you figured it out quickly." In saying something similar to this, the parent validate the child's statement that the problem is difficult, but provides them with language that reflects their ability to navigate the challenge. Additionally, a parent can point out appropriate ways that the

child is coping with challenges, such as "I like how you took deep breathes when you became frustrated" instead of saying "calm down."

Self-Reported Measures

Parental Stress. Parental stress was recorded during baseline and follow-up. Parents were asked about their stress related to remote learning based on Barry and Jones' Parental Stress Scale (1995) (see Appendix E). They were asked to answer based solely on stress related to remote learning. A higher score indicated a higher level of stress. The Parental Stress Scale has been shown to be a valid and reliable indicator of stress (Barry & Jones, 1995).

Academic Engagement—Parent Report. Parents completed an academic checklist recorded during baseline and follow-up, in which parents reported much engagement and maladaptive behavior their child typically exhibited during remote learning (see Appendix F). A higher score indicated a higher amount of engagement and lower amount of maladaptive behavior.

Coaching Acceptability. Parents scored the acceptability of coaching components on a 5-point scale (see Appendix G), ranging from "strongly disagree" to "strongly agree". After certain items were reverse-coded, scores were summed for overall coaching acceptability. A higher score indicated a higher coaching acceptability. Coaching acceptability was parsed into six sections: overall, child choice, interspersing tasks, preferred interests, reinforcement, and Growth Mindset.

Qualitative Analysis

A narrative analysis based on fieldnotes during parent coaching sessions was conducted to further describe the participants in the study. Although not to the standards that publication would warrant, the author decided to include a descriptive analysis to ensure that the families

participated in this study were appropriately represented. Narrative analysis allows the researcher to analyze another's personal experience based off of texts or other materials (Bamberg, 2012; Riessman, 1993). In this study, fieldnotes and artifacts from coaching were synthesized for narrative analysis. One component from PRT and one component from Growth Mindset was chosen for narrative analysis for each parent-student dyad.

During each coaching sessions, the researcher took extensive field notes based on parent report of the week, responses to feedback, and the goals that the parent identified for the following week. Additionally, the researcher took fieldnotes each week while watching the videos that participants submitted. The Qualitative analysis reflects coaching sessions, the video probe, and any additional videos or materials that parents submitted to the researcher for feedback.

Coding

Three research assistants naïve to the study premise coded the video clips for the observed measures. After a one hour training on video coding, research assistants were assigned to code student or parent behaviors. Videos were scored in a random order as to control for observer drift. A third of the videos were randomly selected to check for reliability by an additional research assistant. If there was less than 80% agreement, scoring was halted and an additional training was conducted until 80% reliability was met and then coding resumed (Kazdin, 2011).

Engagement. An agreement was defined as both coders recoding a score within one point of each other during the same interval. A disagreement was defined as coders recording a score more than one point away from each other. The average percent agreement for engagement was 96.25%, with a range of 80 to 100.

Maladaptive Behavior. An agreement was defined as both coders recording disruptive behavior during the same interval. A disagreement was defined as one coder recording disruptive behavior during an interval in which the other coder did not. The average percent agreement for maladaptive behavior was 96.6%, with a range of 80 to 100.

Parent Implementation of PRT. An agreement was defined as both coders recording a score within one point of each other for each component during the same interval. A disagreement was defined as coders recording a score more than one point away from each other. The number of intervals with agreement was divided by the total number of intervals to calculate an overall agreement score. The average percent agreement for FOI was 87%, with a range of 75 to 98.

Growth Mindset. An agreement was defined as both coders recording a score within one point of each other for each component during the same interval. A disagreement was defined as coders recording a score more than one point away from each other. The number of intervals with agreement was divided by the total number of intervals to calculate an overall agreement score. The average percent agreement for Growth Mindset was 87%, with a range of 70 to 100.

Effect Size. Treatment effects were analyzed using visual inspection and effect size. Visual inspection was assessed through the use of multiple-baseline design graphs. Effect size can be used in addition to visual inspection to evaluate the statistical significance of the coaching (Cohen, 2013; Watson & Workman, 1981). Hedge's G was used to evaluate effect size and was chosen due to the small sample size of the study (Durlak, 2009; Hedges, 1985). To calculate Hegde's g, the difference in means between baseline and coaching on a given measure were divided by the pooled and weighted standard deviation. A small effect size is defined as 0.2-0.5, medium 0.5-0.8, and large above 0.8 (Cohen, 2013).

Results

Engagement

Alex. During baseline, Alex's observed engagement ranged from 1.6 to 3.8, with an average in the low engagement range ($M = 2.35$, $SD = 1.0$). During coaching, Alex's observed engagement ranged from 3.6 to 5, with an average in the high engagement range ($M = 4.12$, $SD = 0.77$). At follow-up, Alex's observed engagement was high ($M = 5$, $SD = 0$). There was a large increase in engagement between baseline and coaching ($g = 1.6$), that maintained during follow-up.

Marcos. During baseline, Marcos' observed engagement ranged from 2 to 4.4, with an average in the moderate engagement range ($M = 3.08$, $SD = 0.90$). During coaching, Marcos' observed engagement ranged from 3 to 4.6, with an average in the moderate engagement range ($M = 3.43$, $SD = 0.79$). At follow-up, Marcos' observed engagement was high ($M = 4.4$). There was a large increase in engagement between baseline and coaching ($g = 0.70$), that maintained during follow-up.

Ricardo. During baseline, Ricardo's observed engagement ranged from 3 to 3.9, with an average in the moderate engagement range ($M = 3.55$, $SD = 0.31$). During coaching, Ricardo's observed engagement ranged from 4.3 to 5.0, with an average in the high engagement range ($M = 4.83$, $SD = 0.35$). At follow-up, Ricardo's observed engagement was high ($M = 5.0$, $SD = 0$). There was a large increase in engagement between baseline and coaching ($g = 3.6$), that maintained during follow-up.

Increases of engagement were noted for all three participants. Alex increased from low engagement to high engagement between baseline and coaching, with improvements maintaining for follow-up. Marcos continued to have moderate engagement, but demonstrated more

consistent engagement during intervention with engagement increasing to high engagement during follow-up. Ricardo increased from moderate engagement to high engagement between baseline to coaching, with improvement maintaining during follow up (see *Figure 1*).

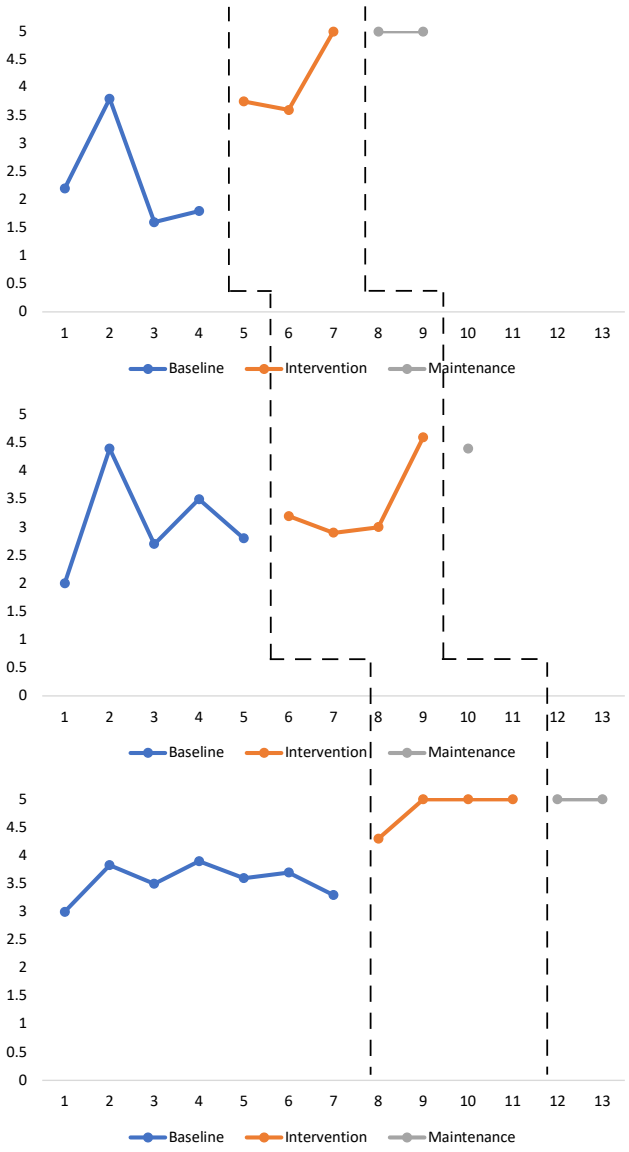

Figure 1: Engagement

Maladaptive Behaviors

Alex. During baseline, Alex exhibited maladaptive behavior during one of four sessions, lasting 70% of the session ($M = 17.5$, $SD = 35$). Alex did not display any maladaptive behavior during coaching or follow-up. There was a moderate decrease in maladaptive behaviors between baseline and follow-up ($g = 0.61$).

Marcos. During baseline, Marcos exhibited maladaptive behavior during three of five sessions, ranging from 0 to 30% per session ($M = 8.0$, $SD = 8.37$). Marcos did not display any maladaptive behavior during coaching or follow-up. There was a large decrease in maladaptive behaviors between baseline and follow-up ($g = 1.12$).

Ricardo. During baseline, Ricardo exhibited maladaptive behavior during two of seven sessions, ranging from 0 to 40% per session ($M = 7.14$, $SD = 14.96$). Ricardo did not display any maladaptive behavior during coaching or follow-up. There was a moderate decrease in maladaptive behaviors between baseline and follow-up ($g = 0.57$).

Although none of the three participants demonstrated consistent maladaptive behavior during baseline, when it did occur it had high intensity, ranging up to 40-70% of the session. Significant decreases in maladaptive behavior were observed for all three participants, with Marcos having the largest reduction in maladaptive behavior (see *Figure 2*).

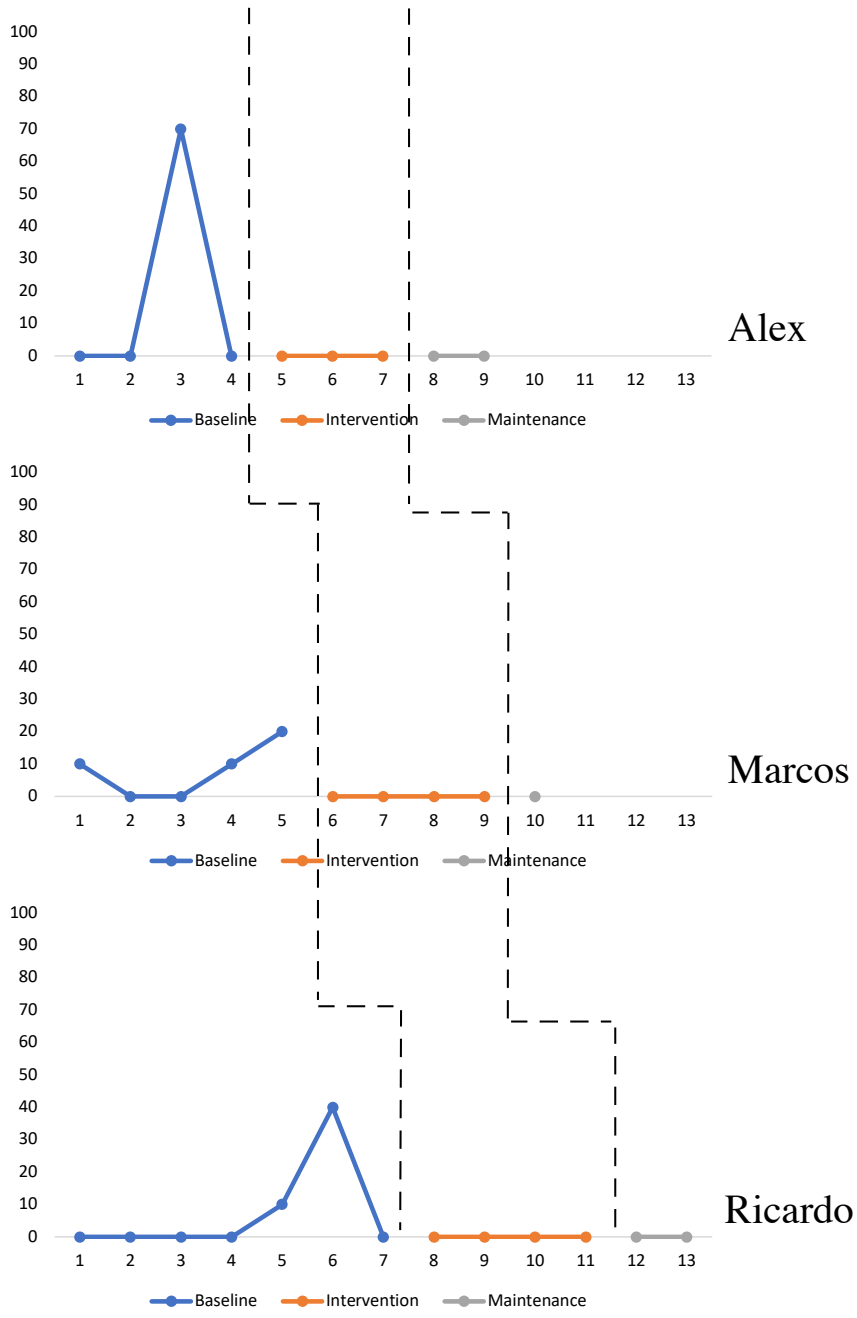

Figure 2: Maladaptive Behavior

Parent Implementation of PRT

April. During baseline, April had variable implementation of PRT ($M = 2.39$, $SD = 0.51$). During coaching, April had competent implementation for all sessions ($M = 4.93$, $SD = 0.12$), and maintained competent implementation at both follow-up sessions ($M = 5$, $SD = 0$). Large increases were observed between baseline and coaching ($g = 8.18$), and maintained during follow-up.

Shawn. During baseline, Shawn low to variable implementation of PRT ($M = 2.07$, $SD = 0.78$). During coaching, Shawn improved to variable and competent implementation ($M = 3.31$, $SD = 0.87$), with two out of three sessions having higher scores than those in baseline. Large increases were observed between baseline and coaching ($g = 1.3$).

Kathleen. During baseline, Kathleen had variable implementation of PRT ($M = 3.12$, $SD = 0.68$). During coaching, Kathleen had competent implementation of PRT ($M = 4.59$, $SD = 0.30$), and maintained competent implementation at follow-up ($M = 4.75$). Large increases were observed between baseline and coaching ($g = 2.9$), and maintained during follow-up.

Jessica. During baseline, Jessica had low implementation of PRT ($M = 0.99$, $SD = 0.98$). During coaching, Jessica had variable to competent implementation ($M = 4.03$, $SD = 0.41$), and maintained competent implementation at both follow-up sessions ($M = 4.91$, $SD = 0.40$). Large increases were observed between baseline and coaching ($g = 3.3$), and maintained during follow-up.

Implementation of PRT improved between baseline and coaching, and maintained for all parents at follow-up. Specifically, April, Jessica and Shawn had a score of 3 or lower during all baseline sessions, and scored above a 3.30 for all coaching and follow-up sessions (apart from one session for Shawn which was a score of 2.43). For April, Kathleen, and Jessica, all coaching

scores were higher than baseline. Parent implementation continued to improve during follow-up sessions (see *Figure 3*).

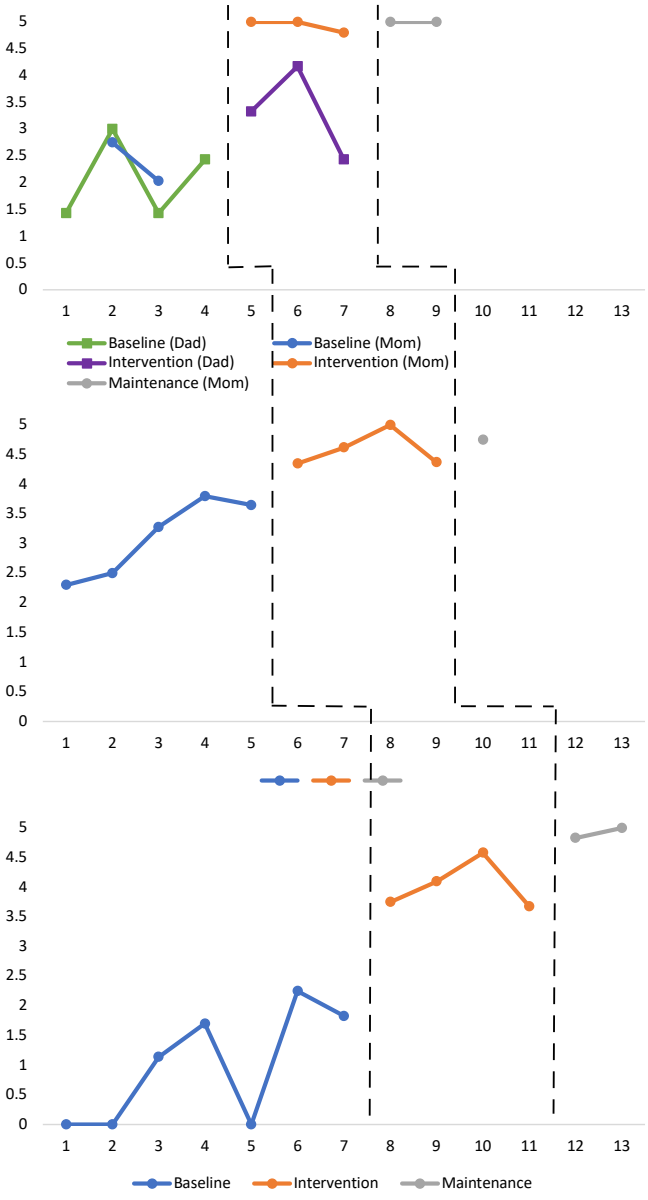

Figure 3: PRT Implementation

Growth Mindset

April. During baseline, April's use of Growth Mindset strategies ranged from low to variable ($M = 2.1$, $SD = 0.28$). During coaching, April's use of Growth Mindset strategies were all scored as competent ($M = 4.97$, $SD = 0.06$), and maintained during follow-up ($M = 5$, $SD = 0$). Large increases in use of Growth Mindset Strategies were observed between baseline and coaching ($g = 5.0$), and maintained during follow up.

Shawn. During baseline, Shawn's use of Growth Mindset strategies were low or variable ($M = 1.88$, $SD = 1.25$). During coaching, one sessions was scored as competent and two were scored as variable ($M = 3.47$, $SD = 1.34$). Large increases in use of Growth Mindset Strategies were observed between baseline and coaching ($g = 1.04$).

Kathleen. During baseline, Kathleen's use of Growth Mindset strategies ranged from low to variable ($M = 3.07$, $SD = 0.82$). During coaching, Kathleen's use of Growth Mindset strategies were all scored as competent ($M = 4.68$, $SD = 0.27$), and maintained during follow-up ($M = 4.54$). Large increases in use of Growth Mindset Strategies were observed between baseline and coaching ($g = 2.2$).

Jessica. During baseline, Jessica's use of Growth Mindset strategies were all scored as low ($M = 0.82$, $SD = 1.07$). During coaching, Jessica's use of Growth Mindset strategies were all scored as competent ($M = 4.88$, $SD = 0.17$), and maintained during follow-up ($M = 4.73$, $SD = 0.04$). Large increases in use of Growth Mindset Strategies were observed between baseline and coaching ($g = 4.2$), and maintained during follow up.

Use of Growth Mindset strategies increased for all four parents between baseline and coaching. Specifically, all coaching and follow-up sessions for April, Kathleen and Jessica were scored as a 4 or above. Additionally, Shawn scored a 2.5 or below for all baseline sessions, but

scored above a 2.5 for all coaching sessions. Although Kathleen scored a 4 during baseline, her implementation of Growth Mindset strategies became more consistent during coaching (see *Figure 4*).

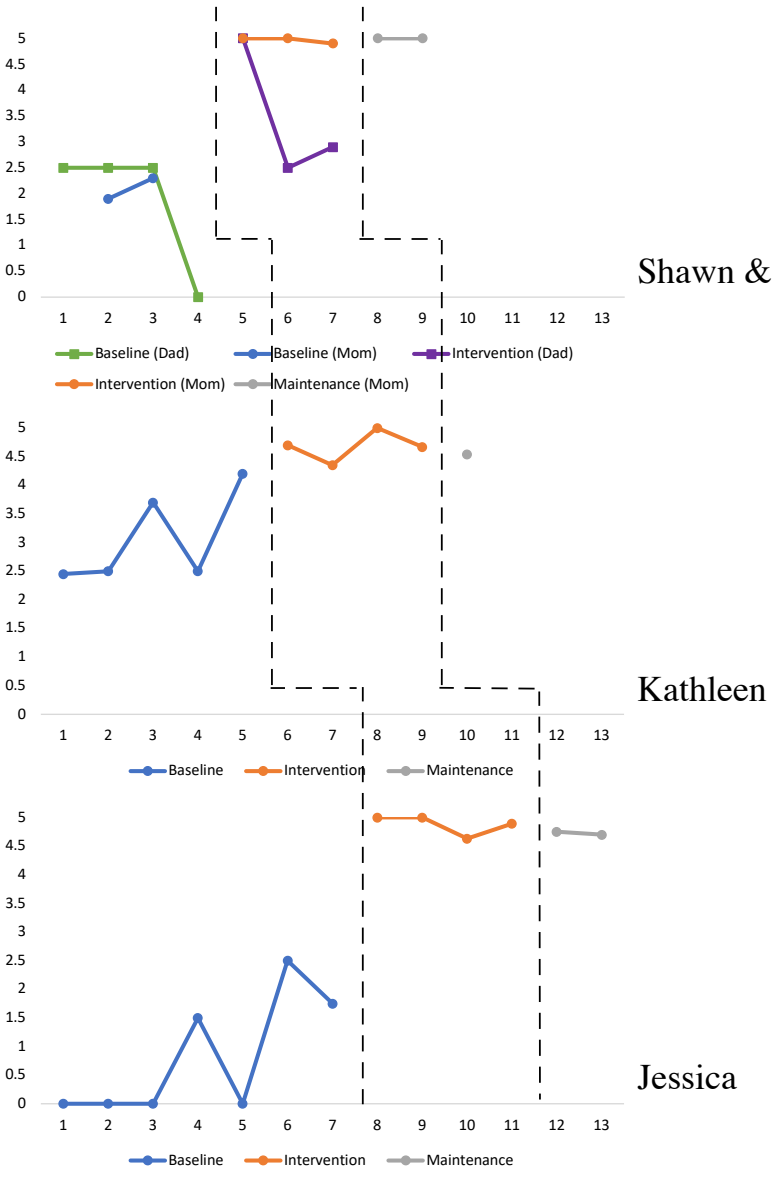

Figure 4: Growth Mindset Implementation

Stress

April. Prior to coaching, April had a score of 71 (out of 95) on the Parent Stress Scale, indicating moderate stress. Following coaching, April had a score of 66 on the Parent Stress Scale, indicating a decrease in stress.

Kathleen. Prior to coaching, Kathleen had a score of 65 (out of 95) on the Parent Stress Scale, indicating high stress. Following coaching, Kathleen had a score of 74 on the Parent Stress Scale, indicating an increase in stress.

Jessica. Prior to coaching, Jessica had a score of 82 (out of 95) on the Parent Stress Scale, indicating high stress. Following coaching, Jessica had a score of 58 on the Parent Stress Scale, indicating a decrease in stress.

Decreases in stress were seen for two out of three participants ($g = 0.5$) (see figure xx). An increase in stress was observed for Kathleen. This may have been in response to the follow-up session occurring the same week as Marcos' Individualized Education Plan meeting, which Kathleen and Angel reported to be a stressful event (see *Figure 5*).

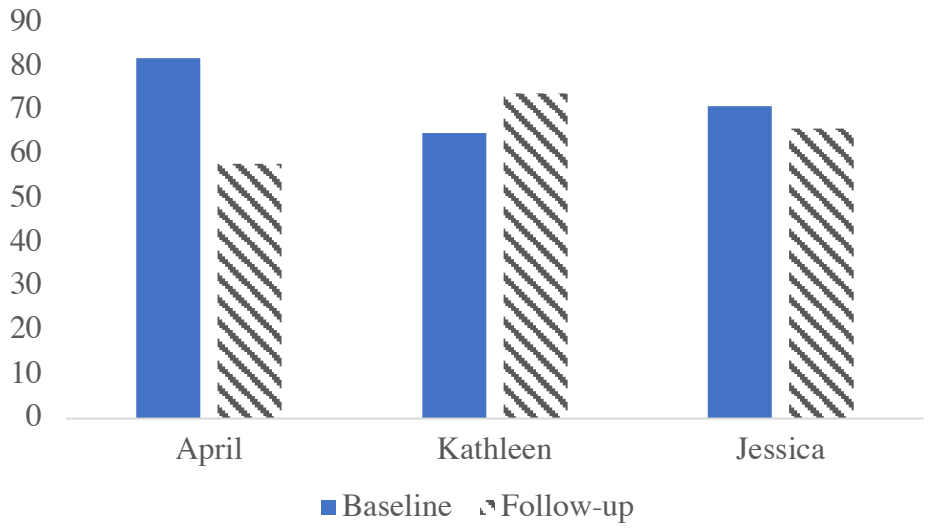

Figure 5: Parental Stress

Academic Engagement—Parent Report

April. Prior to coaching, April reported Alex's academic engagement as 14 on the Academic Engagement Scale. Following coaching, April reported Alex's academic engagement as 38, indicating a large increase in academic engagement.

Kathleen. Prior to coaching, Kathleen reported Marcos' academic engagement as 20 on the Academic Engagement Scale. Following coaching, Kathleen reported Marcos' academic engagement as 25, indicating a moderate increase in academic engagement.

Jessica. Prior to coaching, Jessica reported Ricardo's academic engagement as 39 on the Academic Engagement Scale. Following coaching, Jessica reported Ricardo's academic engagement as 42, indicating a moderate increase in academic engagement.

Moderate increases in academic engagement were reported by all three parents ($g = 0.5$) (see *Figure 6*).

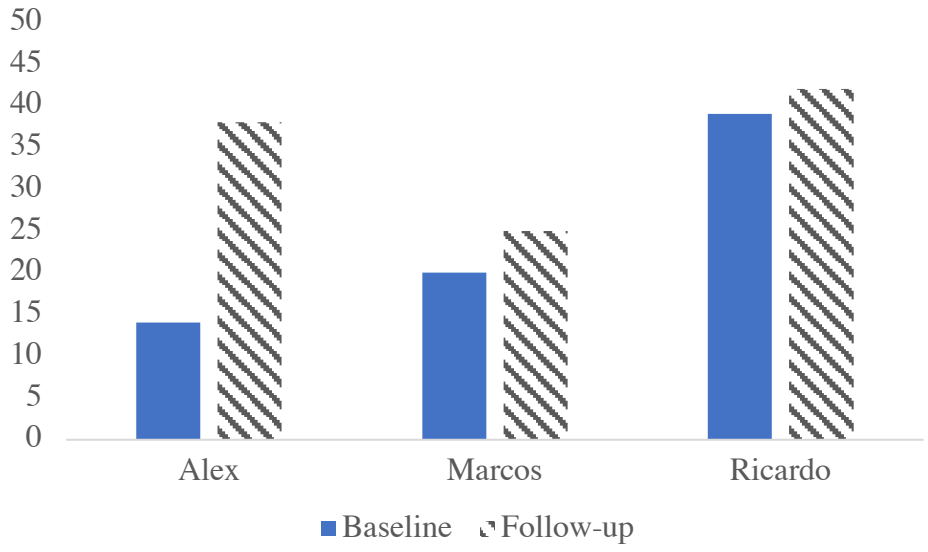

Figure 6: Student Engagement—Parent Report

Coaching Acceptability

Out of a scale of 5, all parents reported the coaching to be highly acceptable overall (M = 4.58). Parents found the remote format of coaching to be appropriate as well (M = 5). Parents rated the components of the coaching as acceptable: Growth Mindset (M = 4.5), Child Choice (M = 4.67), Behavioral Momentum (M = 4.25), Preferred Interests (M = 4.5), and Reinforcement (M = 4.67) (see *Figure 7*).

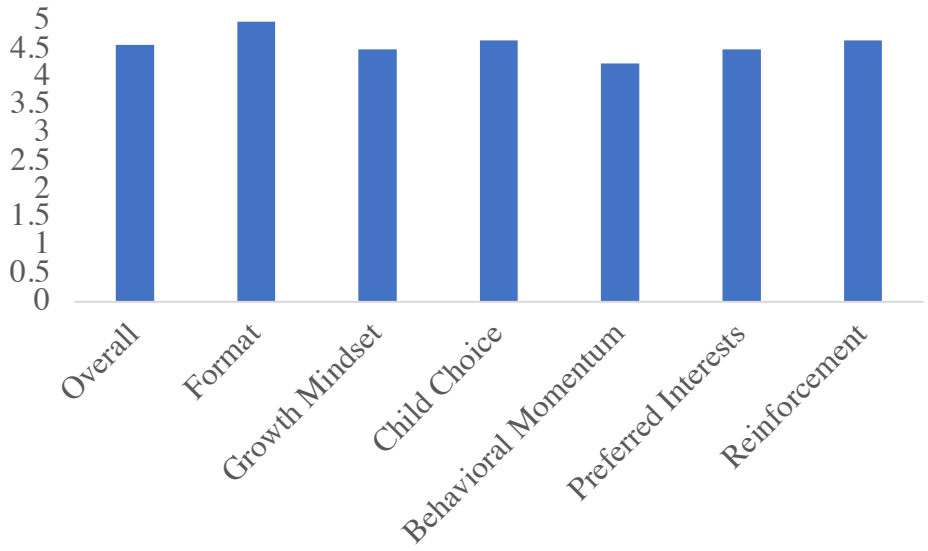

Figure 7: Coaching Acceptability

Qualitative Results

Alex

PRT. Prior to coaching, Alex's preferred interests were not incorporated into tasks. During coaching, April and Shawn incorporated Alex's interests in a variety of tasks. During the first coaching session, Alex was asked to label the parts of a bird. As soon as Shawn picked up a pencil and drew his own bird, Alex's engagement quickly increased. Upon pointing this out to Shawn and April, they came up with a plan to increase Alex's engagement by drawing pictures alongside the activity to utilize behavioral momentum and natural reinforcement. Behavioral

momentum allowed Alex to start off the task with a mastered skill (drawing) and receive natural reinforcement throughout the task (watching dad draw). The researcher suggested that after Alex labeled one part of the bird (or the animal for the following week), Shawn could draw another part of the bird. During the next coaching session, Shawn and April utilized natural reinforcement through drawing to engage Alex.

When brainstorming ways to include preferred interests, April suggested that she incorporate Alex's interest of Scooby Doo into phonics. During the next week, when sounds were presented for Alex during remote learning, April related them to a Scooby Doo character or topic (such as "mystery van") to engage Alex. Alex was observed to be highly engaged when using Scooby Doo characters in phonics.

Lastly, during baseline, April and Shawn reported that they had difficulty with Alex's interest in elevators, as they were unsure how they could connect with him and this topic. The researcher suggested that they incorporate this interest into academics as a way to connect with Alex. April decided to use an elevator as tool during math to engage Alex. She composed and printed an elevator that had math problems at each "floor." As Alex solved math problems, he was able to climb up the elevator. Alex was highly engaged during this activity and was observed to smile throughout completing math problems and climbing up the elevator.

Growth Mindset. Prior to coaching, Alex would engage in maladaptive behaviors, such as crying and property destruction, when he made a mistake. During coaching, the researcher pointed out that Alex quickly corrected April or Shawn when they made a mistake. April and Shawn suggested that they make mistakes when demonstrating examples to Alex and then model how to respond to encourage Alex to make mistakes.

During one of the coaching sessions, April purposefully made a math mistake. Alex quickly noticed and was observed to be highly engaged while correcting April's mistake. April modeled how she worked through the mistake, and said "I made a mistake, that's okay, mistakes are part of learning. I'm going to fix it and keep going." During a subsequent coaching session, Alex made a mistake and said "it's okay." He continued to work on the task without any challenging behaviors.

Marcos

PRT. Marcos would ask many questions during baseline that were related to topic, but not necessarily related to the academic task. When Marcos' questions were not responded to, he displayed maladaptive behaviors such as verbal protest. During coaching, Kathleen was advised to tell Marcos that she would write down his questions and then after he completed the task they could discuss them or look up the answers. This way Marcos could be reinforced for engaging with the material and still complete the task at hand. Marcos did not display any maladaptive behavior during coaching and was contingently reinforced with looking up answers to questions after the task.

Growth Mindset. Marcos engaged in frequent negative self-talk during baseline. During coaching, the researcher provided feedback to Kathleen to validate and reframe Marcos' statements. During baseline, when Marcos said "I don't like it, this is boring," Kathleen would respond with "this isn't boring, come on." The researcher advised that Kathleen reflect and reframe Marcos' statements to prevent further frustration and provide guidance on how to proceed with a challenging (or "boring") task. During coaching, Kathleen was observed to make statement such as "I hear you saying this is hard. You are working really hard trying to figure it

out. Let's see what we can try next." Marcos completed the remainder of the task without further negative self-talk.

Ricardo

PRT. Prior to coaching, Jessica did not reinforce attempts. When asked how she could incorporate this component, Jessica suggested that she allow Ricardo to practice writing without correction based on his spelling, but rather encouragement of the writing process itself. The researcher praised Jessica for coming up with that strategy and encouraged her to provide natural reinforcement by allowing Ricardo to write about his interests as well. During coaching sessions, Jessica gave Ricardo a list of choices for a writing prompt to ensure that Ricardo could write about something he was motivated by. Ricardo chose to write about "what would you do with $1 million?" and created five paragraphs explaining how he would give the money to different charities throughout the globe. Jessica refrained from providing corrections based on spelling, and praised Ricardo for coming up with ideas. She provided contingent reinforcement when Ricardo would ask for help with spelling. Ricardo worked on the task for more than ten minutes with high engagement. Jessica praised Ricardo throughout the activity and reported that she was impressed by his engagement with writing.

Growth Mindset. Ricardo exhibited high rates of negative talk during baseline sessions, especially during weekly quizzes. The weekly quizzes occurred with his class on Zoom and each student received points for answering quickly and correctly. Points were displayed for the whole class to see and students were ranked 1-20 based on their points. During baseline, Jessica reported that the weekly quizzes were very distressing to Ricardo. He would try to answer quickly to get points, but in answering quickly he would chose the wrong answer. Ricardo was observed to engage in crying, verbal protest, and high amounts of negative self-talk during

baseline while completing the quizzes. Ricardo was in the bottom three of the rankings for each session prior to coaching.

During coaching, Jessica was encouraged to set up the quiz using Growth Mindset, reminding Ricardo that it was okay to make mistakes and that learning was the goal for the quiz, not receiving the top score. When asked how else she could incorporate Growth Mindset, Jessica suggested that she provide specific, effort-driven praise that was not contingent on accuracy or points. Jessica used phrases such as "that was a tough question; it's okay that you guessed a different answer, now you have learned something new; I know you're disappointed, but you are thinking really hard about the material." Given that Ricardo enjoyed playing video games, it was also suggested that Jessica use advancing from level to level as a way to model and reflect persevering through challenges to Ricardo. Jessica pointed out that at first Ricardo could not get past a certain level of his video game, but with persistence and effort he became better at his game and was able to "beat" the level. She explained that it is similar with material in school.

Ricardo was in the top three of the rankings during coaching for all but one session. He was observed to answer the questions more slowly as he was not as focused on receiving extra points for answering quickly. For the session where Ricardo was in the bottom of the rankings, he did not engage in maladaptive behaviors or negative self-talk, but rather congratulated his peers who placed in the top ranking. Jessica praised him for his "sportsmanship" during the session.

Discussion

Summary of Findings

Coaching parents in evidence-based methods to increase engagement for students with Autism Spectrum Disorder (ASD) resulted in overall positive outcomes for both parents and

students. Specifically, students demonstrated an increase in engagement and a decrease in maladaptive behaviors during coaching. Parents, after receiving parent education, increased their implementation of Pivotal Response Treatment (PRT) and Growth Mindset strategies. These gains maintained during follow-up sessions. Parents reported their child's academic engagement to improve during coaching and two out of three parents reported a decrease in their stress after coaching. Parents reported to find the strategies, coaching method, and remote format to be socially valid as well.

An increase in engagement was observed for all three children. Alex, Marcos and Ricardo demonstrated increased engagement immediately once parents began coaching, and engagement continued to increase throughout coaching sessions. A reason for continued and gradual increase may be because parents were able to establish new routines and forms of facilitating remote learning during coaching. Once children became more familiar with these routines, consistent expectations, and reinforcement, they may have been more motivated to engage in remote learning. Additionally, parents refined their implementation throughout the course of coaching. All three children demonstrated high engagement during follow-up sessions, indicating that treatment effects were not a temporary response. Children responded to parent coaching with increased engagement in academics.

Motivation is vital for all students, but students with Autism Spectrum Disorder may face different challenges in accessing sufficient motivation for academic engagement (Koegel et al., 2010). Therefore, it is critical to use students' strengths when supporting them with academic tasks. By using PRT and Growth Mindset, students were able to increase their engagement during remote learning. When students are properly motivated, they are able to access greater information and learning opportunities (Greenwood et al., 2002; Wang & Eccles, 2013).

Students with ASD must have access to learning opportunities similar to their peers, and if motivational strategies aren't used, students with ASD may not have equal opportunities within the classroom.

Parents may question how feasible it is to use these strategies during all academic activities. Studies have found that dedicated time implementing PRT can result in improvements for children (Verschuur et al., 2014). Additionally, PRT and Growth Mindset should not require an extensive amount of preparation, but rather be incorporated as the task and situation warrants. Therefore, PRT and Growth Mindset may be strategies that can be incorporated within the classroom to increase student engagement for a wide range of students and across many tasks.

No maladaptive behavior was observed for any of the children during coaching sessions, indicating positive effects of parent implementation. It should be noted that while Marcos' maladaptive behavior was on an increasing trend, Alex and Ricardo demonstrated a session with no maladaptive behaviors prior to coaching. Neither Alex nor Ricardo demonstrated maladaptive behavior for each baseline session; however, when they did, it was for a significant portion of the session. Although not occurring daily, the intensity of maladaptive behaviors was reported to cause parents and students stress and prevented from engagement in academics. Coaching helped to prevent maladaptive behaviors from occurring and therefore allow for increased engagement.

Maladaptive behaviors can prevent meaningful engagement with academics (Greenwood et al., 2002; Koegel et al., 2010; Koegel & Koegel, 2019). Overtime, the occurrence of maladaptive behaviors may be negatively associate with academics and it can be difficult to break this relationship. By using PRT and Growth Mindset to present academics in a motivating way, these behaviors can be prevented. Even as engagement ranged during coaching sessions, student did not exhibit maladaptive behaviors, demonstrating that using PRT and Growth

Mindset was preventative to behaviors that could be greatly distressing to the student. When maladaptive behaviors are present during academic tasks, rather than continuing to respond to the behavior (e.g. requiring a child to take a time out after they rip up their paper; taking away iPad time if the child verbally protests), an adult should first look at setting up the task using the motivational principles of PRT and use language consistent with Growth Mindset to encourage engagement during the task itself.

Parents improved upon their implementation of PRT strategies, demonstrating that coaching had a positive impact on parent facilitation. All four parents demonstrated competent implementation during coaching, and implementation remained high during follow-up, reflecting the longevity of treatment effects. All four parents demonstrated immediate improvements in their implementation during the first coaching session, and were able to reach high scores of implementation throughout the remainder of coaching.

Coaching has been shown to result in improved implementation in PRT (Stahmer et al., 2016). Parents, teachers, and paraprofessionals have met fidelity in PRT following coaching and feedback (Murphey et al., 2016; Robinson, 2011). This study demonstrates that PRT coaching can result in improved PRT implementation for parents after 1 coaching session, and continued implementation after two to three additional coaching sessions. Some parents may hesitate from participating in PRT trainings or coaching due to the time commitment; however, this study showed that with specific feedback and planning, parents can improve in their implementation after meeting with a coach once a week across one month. Additionally, parents were able to implement PRT with training that occurred remotely, demonstrating effectiveness of the remote format.

Coaching in Growth Mindset resulted in improved implementation of Growth Mindset strategies for parents when working with their children. All four parents demonstrated more consistent and competent use of Growth Mindset strategies during coaching that maintained during follow-up sessions. Implementation of Growth Mindset strategies improved immediately during the first coaching session for all parents, and then remained high during coaching. Whereas use of Growth Mindset strategies was variable prior to coaching, implementation during coaching was stable.

Growth Mindset has been applied to many areas to increase motivation and perseverance for students across a wide range of subject areas (Anderson & Nielson, 2016; Wanzek et al., 2021). The use of Growth Mindset with students who have ASD warrants further investigation. All three students in this study demonstrated negative views of self when completing academic tasks and would try to end the task or cry when presented with an academic challenge or told that made a mistake. Individuals with ASD can perseverate on topics and are more likely to have rigidity around making errors (Bertollo et al., 2020; D'Cruz et al., 2013). Growth Mindset may be an avenue through which students with ASD can work on these behaviors and increase their flexibility for challenging tasks. They may also become more flexible in making and resolving mistakes, decreasing any maladaptive behaviors that function to escape and avoid mistakes. If students are more inclined to work through challenges, they are likely to stay engaged with the task and have a greater amount of learning opportunities.

A decrease in stress was observed for two out of three parents. April and Jessica both reported decreased stress levels following coaching. Although Kathleen did not report lower stress after coaching, she did report that she found coaching to be helpful. A factor contributing to a rise in Kathleen's stress level may have been Marcos' Individualized Education Plan

meeting, which happened within the same week of the administration of the stress measure. Kathleen and Angel reported that Marcos' IEP meeting was causing them a great amount of stress, and they were concerned about the outcome of the meeting. Given the documented stressful nature of IEP meetings for parents (Jung, 2011; Slade et al., 2017; Zeitlin & Curcic, 2014), the stress measure may have captured their immediate stress in relation to the IEP meeting instead of stress in relation to remote learning.

Parents of children with Autism have elevated amounts of stress compared to parents of children without ASD or with other types of disabilities (Dunn et al., 2001; Hayes & Watson, 2013). Coupled with remote learning, these parents were at risk for high levels of stress. Increases in stress were found for parents during the Pandemic, and it was recommended that programs focus resources to support parents and increase their resilience, especially for parents of children with ASD (Latzer et al., 2021). Receiving support and coaching may have helped parents experience less stress during remote learning. Additionally, since parents met with the researcher once a week, they knew that if they had questions or areas of need during the week, that they would have a time to consult, receive feedback, and work together to create a plan for the following week. Parents of children with ASD that feel they have a support network experience less stress as compared to those who do not, and the format of the coaching may have provided another area of support for parents (Dunn et al., 2001; Meadan et al., 2010).

All three parents reported that their child's academic engagement improved. This helps to confirm that the increases in engagement that were observed by independent coders were also witnessed by parents. Alongside their typically-developing peers, children with Autism can demonstrate high levels of academic engagement across school subjects (Koegel et al., 2010). When parents implemented motivational strategies, students were reported to increase their

engagement across academic subjects, pointing to the flexibility of implementation across tasks. PRT and Growth Mindset are not limited to specific tasks, and therefore are feasible to implement across subject areas, adding to their feasibility for academics.

Parents rated the components of the study to be high in acceptability. In particular, parents found the components of Child Choice and Reinforcement Strategies (contingent reinforcement, reinforce attempts) to be most helpful; however, all components were rated as highly acceptable. Parents found the format of remote coaching to be socially valid, and reported that meeting once a week for coaching was the right amount. In terms of the amount of meetings, parents reported that meeting more often would have been difficult due to family schedules and time on Zoom, and that meeting less often may have prevented them from improving upon implementation from session to session.

The study was designed to be flexible to family schedules and needs, as research involving with ASD should be participant-centered (Leadbitter et al., 2021; Stahmer & Pellecchia, 2015). Additionally, to increase the likelihood of parents applying the strategies long-term, it was important that they found the program to be useful and applicable to their daily family lives. If parents were held to a schedule and program that did not align with their own family needs, they would be less likely to continue using the strategies after the coaching sessions concluded. However, parents were observed to continue using the strategies with competence at follow-up, exemplifying coaching acceptability.

Implications

Due to Covid-19, this study utilized an online format to provide coaching; however, the remote format can continue to be useful even as students and families return to in-person instruction. Resources for ASD are concentrated in certain areas across the United States, and

families have reported to be without geographic access to resources (Vismara et al., 2013). A remote format may allow families across a greater geographical area access resources for ASD. Especially for coaching in more specific topics, remote feedback could help to supplement in-person services. Remote coaching is cost effective, in that families do not need to drive, relocate, or change schedule to accommodate coaching sessions. Families found the remote program to be effective and flexible to fit with their family. Renewed focus on remote programs occurred during the Pandemic, and its effectiveness in connecting families with resources should continue to be explored.

The format with built in flexibility may have increased parent participation and application. Parents were not viewed as "participants" but rather as "co-collaborators" with the researcher. The researcher did not directly implement the strategies with the students, and therefore parents were responsible for the delivery of the strategies. Parents met with the researcher prior to coaching to determine goals, and were asked if strategies fit within their routines and family values. If a strategy did not comply with a family's values, it was not focused on during coaching sessions. Coaching and implementation were not researcher-driven, but rather a partnership between the parents and researcher.

To be effective in providing parent education, parents should be included to the fullest extent possible (Stahmer & Pellecchia, 2015). Ensuring that parent education is provided in a person-centered and culturally competent manner, the individual providing the coaching should check in with parents at all stages of the program and engage in progress checks. Parents know their children in a way that outside professionals cannot, and must be included in meaningful and respectful manners during programs.

These increases in engagement and decreases in maladaptive behaviors in the present study can be attributed to parent implementation of motivational strategies. Often, when students display low levels of engagement or high levels of maladaptive behavior, professionals may focus on child-focused interventions to remediate the behaviors (Slocum & Vollmer, 2015). Although teaching functional skills for children with ASD is important, professionals must also consider their own behavior and its impact on children. Perhaps incorporating motivating principles and setting up the learning environment in an engaging way can further increase the skills that the child is working on developing. The child should not be viewed as the issue when they do not find curriculum engaging. Rather, modification such as incorporating a preferred interest or utilizing behavioral momentum should be applied first to increase engagement.

Limitations

Although there were several implications from this study, limitations were also present. Shawn was not able to participate in all coaching sessions, and received 1 hour and 40 minutes of coaching, compared to April's 4 hours and 25 minutes. This may explain why his implementation was variable during coaching, although it did improve from baseline. Additionally, due to Shawn's work schedule for a new job, he was unable to complete follow-up sessions and therefore conclusions could not be drawn about the maintenance of his application of strategies. However, all three parents that participated in the follow-up had improved upon their implementation of PRT and Growth Mindset, and it is plausible that Shawn could have as well.

Growth Mindset was incorporated into the study so that parents would have a way to support their children during challenging tasks that typically resulted in maladaptive behaviors. Although maladaptive behaviors decreased, there was no direct measure of Growth Mindset for

the students in the study. Anecdotally, parents reported that their children were able to come up with examples of how they persisted during a task when asked during daily check-ins; however, there was no measure of this. Research has shown that even when parents or teacher have a Growth Mindset, it does not automatically transfer to children (Haimovitz & Dweck, 2017). In future studies, it would be informative to take measures of students' Growth Mindset beliefs before and after the program. Researchers could use the Implicit Theories of Intelligence Scale for Children (Dweck, 1999) to determine Mindset beliefs. If there is an increase in the parents' Growth Mindset and not the child's, there could be effort dedicated to fostering a Growth Mindset for children.

Lastly, although there were measures to determine how parents and children individually responded to the study, there was not a measure of how parents and children responded to one another. Both parents and children were observed and reported to respond to the study positively, but their relationship may have been a factor in the observed improvement. Future studies could explore a measure of parent-child relationship to see how it changed when PRT and Growth Mindset strategies were implemented. It is reasonable to assume that since PRT and Growth Mindset focus on strengths and effort, there may have been a positive improvement in the relationship between parent and child, making participating in academics further engaging for students.

Future Directions

As this study has exemplified, remote coaching in motivating academics strategies was effective. This format may be useful to bridge the research-to-practice gap in implementing PRT in the classroom (Suhrheinrich et al., 2013). PRT has been implemented in the classroom with educators with positive results (Stahmer et al., 2016). Teachers and paraprofessionals are

motivated to use PRT in the classroom; however, reaching consistent implementation has been shown to have more varying results (Stahmer et al., 2013; Suhrheinrich, 2016). Perhaps utilizing remote formats to support long-term implementation would be feasible for both educators and researchers.

As mentioned above, there is limited research on using Growth Mindset with the ASD population. Growth Mindset may be effective in helping children with ASD become more flexible in making mistakes and working through challenges, as individuals with ASD are less likely to be flexible when encountering a mistake (Bertollo et al., 2020; D'Cruz et al., 2013). Given Growth Mindset's focus on effort, strengths, and growth, Growth Mindset could benefit children with across many different areas beyond academics (Elliot & Dweck, 1988). In using Growth Mindset, individuals may be able to see the progress their making towards their goals and continue to be flexible during challenges. Growth Mindset may be a way to frame mistakes to make them less adverse to children with ASD, and rather view mistakes as a natural part of the learning process.

While Growth Mindset can benefit students with ASD, it may also benefit the adults working with them as well. It is possible that parents and teachers may experience frustration when working with students that continue to make errors or are not making the progress necessarily expected of them. Growth Mindset may be important to frame the growth and effort for the adult, to help work through potential frustrations. It is important to notice the progress that the child has made and how they are continuing to work through a goal. It may be that thinking of a time the child has had difficulty and preserved can serve to continue motivate the adult to support their child through challenges.

Lastly, one principle of this study was to ensure that parents were co-contributors. In future studies, it should be explored how children can serve as co-contributors as well. Actively involving children in their coaching can ensure that programs are individual-centered and that individuals with ASD have agency (Hawbaker, 2007; Leadbitter, 2021; Mason et al., 2002). It should be explored which methods of participation are appropriate for students in determining their own goals and the methods in which they would like to be supported.

Conclusion

Covid-19 changed life in innumerable ways for millions of families. A transition to remote learning is one of the many changes that impacted parents and their children. This change in educational formats left students with ASD particularly vulnerable to gaps in services and disengaged from instruction. In turn, parents assumed the role of instructor and took responsibility for their child's academic progress. These drastic changes were reported to increase stress for parents and maladaptive behaviors for students.

When parents were supported with coaching in a remote format, they were able to use motivational strategies to increase their child's engagement and decrease maladaptive behaviors during remote learning. Increasing engagement through PRT and Growth Mindset during remote learning allowed students greater opportunities for academic engagement and subsequent growth. Supporting parents as they bridge the gap in services for their student is important in decreasing parent stress and increasing student engagement to ensure they have appropriate educational opportunities.

The remote coaching method utilized in this study may be useful in future studies to supplement in-person coaching. Additionally, the use of Growth Mindset in conjunction with

PRT warrants further investigation, as it may ameliorate distress caused by flexibility and challenges, and allow for increased engagement across multiple contexts.

References

Aishworiya, Ramkumar, and Ying Qi Kang. "Including Children with Developmental Disabilities in the Equation During This COVID-19 Pandemic." *Journal of Autism and Developmental Disorders*, August 20, 2020. https://doi.org/10.1007/s10803-020-04670-6.

Ameis, Stephanie H., Meng-Chuan Lai, Benoit H. Mulsant, and Peter Szatmari. "Coping, Fostering Resilience, and Driving Care Innovation for Autistic People and Their Families during the COVID-19 Pandemic and Beyond." *Molecular Autism* 11, no. 1 (July 22, 2020): 61. https://doi.org/10.1186/s13229-020-00365-y.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: Author.

Andersen, Simon Calmar, and Helena Skyt Nielsen. "Reading Intervention with a Growth Mindset Approach Improves Children's Skills." *Proceedings of the National Academy of Sciences* 113, no. 43 (October 25, 2016): 12111–13. https://doi.org/10.1073/pnas.1607946113.

Baird, Grayson L., Walter D. Scott, Eric Dearing, and Sarah K. Hamill. "Cognitive Self-Regulation in Youth With and Without Learning Disabilities: Academic Self-Efficacy, Theories of Intelligence, Learning vs. Performance Goal Preferences, and Effort Attributions." *Journal of Social and Clinical Psychology* 28, no. 7 (September 2009): 881–908. https://doi.org/10.1521/jscp.2009.28.7.881.

Bamberg, Michael. "Narrative Analysis." In *APA Handbook of Research Methods in Psychology, Vol 2: Research Designs: Quantitative, Qualitative, Neuropsychological, and Biological*, 85–102. APA Handbooks in Psychology®. Washington, DC, US: American Psychological Association, 2012. https://doi.org/10.1037/13620-006.

Banda, Devender R. "Enhancing Social and Transition Behaviors of Persons with Autism through Activity Schedules: A Review." *Education and Training in Developmental Disabilities* 43, no. 3 (2008): 324–33.

Bearss, Karen, T. Lindsey Burrell, Saankari A. Challa, Valentina Postorino, Scott E. Gillespie, Courtney Crooks, and Lawrence Scahill. "Feasibility of Parent Training via Telehealth for Children with Autism Spectrum Disorder and Disruptive Behavior: A Demonstration Pilot." *Journal of Autism and Developmental Disorders* 48, no. 4 (April 1, 2018): 1020–30. https://doi.org/10.1007/s10803-017-3363-2.

Berry, Judy O., and Warren H. Jones. "The Parental Stress Scale: Initial Psychometric Evidence." *Journal of Social and Personal Relationships* 12, no. 3 (1995): 463–72. https://doi.org/10.1177/0265407595123009.

Bertollo, Jennifer R., John F. Strang, Laura G. Anthony, Lauren Kenworthy, Gregory L. Wallace, and Benjamin E. Yerys. "Adaptive Behavior in Youth with Autism Spectrum Disorder: The Role of Flexibility." *Journal of Autism and Developmental Disorders* 50, no. 1 (January 1, 2020): 42–50. https://doi.org/10.1007/s10803-019-04220-9.

Blackman, Abigail L., Corina Jimenez-Gomez, and Samuel Shvarts. "Comparison of the Efficacy of Online versus In-Vivo Behavior Analytic Training for Parents of Children with Autism Spectrum Disorder." *Behavior Analysis: Research and Practice*, April 25, 2019. http://dx.doi.org.proxy.library.ucsb.edu:2048/10.1037/bar0000163.

Blackwell, Lisa S., Kali H. Trzesniewski, and Carol Sorich Dweck. "Implicit Theories of Intelligence Predict Achievement Across an Adolescent Transition: A Longitudinal Study and an Intervention." *Child Development* 78, no. 1 (2007): 246–63. https://doi.org/10.1111/j.1467-8624.2007.00995.x.

Bong, Mimi. "Problems in Academic Motivation Research and Advantages and Disadvantages of Their Solutions." *Contemporary Educational Psychology* 21, no. 2 (April 1, 1996): 149–65. https://doi.org/10.1006/ceps.1996.0013.

Boyd, Brian A., Maureen A. Conroy, G. Richmond Mancil, Taketo Nakao, and Peter J. Alter. "Effects of Circumscribed Interests on the Social Behaviors of Children with Autism Spectrum Disorders." *Journal of Autism and Developmental Disorders* 37, no. 8 (September 2007): 1550–61. https://doi.org/10.1007/s10803-006-0286-8.

Brookman-Frazee, Lauren, and R.L. Koegel. "Using Parent/Clinician Partnerships in Parent Education Programs for Children with Autism." *Journal of Positive Behavior Interventions* 6, no. 4 (October 1, 2004): 195–213. https://doi.org/10.1177/10983007040060040201.

Bryan, Tanis, and Karen Burstein. "Improving Homework Completion and Academic Performance: Lessons From Special Education." *Theory Into Practice* 43, no. 3 (August 1, 2004): 213–19. https://doi.org/10.1207/s15430421tip4303_7.

Burke, Meghan Maureen. "Examining Family Involvement in Regular and Special Education: Lessons to Be Learned for Both Sides." *International Review of Research in Developmental Disabilities* 43 (October 25, 2012): 187–218. https://doi.org/10.1016/B978-0-12-398261-2.00005-2.

Burnette, Jeni L., Alexandra D. Babij, Lauren E. Oddo, and Laura E. Knouse. "Self-Regulation Mindsets: Relationship to Coping, Executive Functioning, and ADHD." *Journal of Social and Clinical Psychology* 39, no. 2 (February 2020): 101–16. https://doi.org/10.1521/jscp.2020.39.02.101.

Cahapay, Michael B. "How Filipino Parents Home Educate Their Children with Autism during COVID-19 Period." *International Journal of Developmental Disabilities* 0, no. 0 (June 22, 2020): 1–4. https://doi.org/10.1080/20473869.2020.1780554.

Carvalho, Eloise de, and Yvonne Skipper. "A Two-Component Growth Mindset Intervention for Young People with SEND." *Journal of Research in Special Educational Needs* 20, no. 3 (2020): 195–205. https://doi.org/10.1111/1471-3802.12472.

Charlop-Christy, Marjorie H., and Linda K. Haymes. "Using Objects of Obsession as Token Reinforcers for Children with Autism." *Journal of Autism and Developmental Disorders* 28, no. 3 (June 1, 1998): 189–98. https://doi.org/10.1023/A:1026061220171.

Cicchetti, Dante, and Marjorie Beeghly. *The Self in Transition: Infancy to Childhood*. University of Chicago Press, 1990.

Cohen, Jacob. *Statistical Power Analysis for the Behavioral Sciences*. Routledge, 2013.

Colizzi, Marco, Elena Sironi, Federico Antonini, Marco Luigi Ciceri, Chiara Bovo, and Leonardo Zoccante. "Psychosocial and Behavioral Impact of COVID-19 in Autism Spectrum Disorder: An Online Parent Survey." *Brain Sciences* 10, no. 6 (June 2020): 341. https://doi.org/10.3390/brainsci10060341.

Cooper, Harris, and Barbara Nye. "Homework for Students with Learning Disabilities: The Implications of Research for Policy and Practice." *Journal of Learning Disabilities* 27, no. 8 (October 1, 1994): 470–79. https://doi.org/10.1177/002221949402700802.

Cowan, Richard J., Leah Abel, and Lindsay Candel. "A Meta-Analysis of Single-Subject Research on Behavioral Momentum to Enhance Success in Students with Autism." *Journal of Autism and Developmental Disorders* 47, no. 5 (2017): 1464–77. https://doi.org/10.1007/s10803-017-3076-6.

D'Cruz, Anna-Maria, Michael E. Ragozzino, Matthew W. Mosconi, Sunil Shrestha, Edwin H. Cook, and John A. Sweeney. "Reduced Behavioral Flexibility in Autism Spectrum Disorders." *Neuropsychology* 27, no. 2 (2013): 152–60. https://doi.org/10.1037/a0031721.

Denning, Christopher, and Amelia Moody. "Supporting Students with Autism Spectrum Disorders in Inclusive Settings: Rethinking Instruction and Design." *Electronic Journal for Inclusive Education* 3, no. 1 (January 1, 2013). https://corescholar.libraries.wright.edu/ejie/vol3/iss1/6.

DiGennaro Reed, Florence D., Abigail L. Blackman, Tyler G. Erath, Denys Brand, and Matthew D. Novak. "Guidelines for Using Behavioral Skills Training to Provide Teacher Support." *TEACHING Exceptional Children* 50, no. 6 (July 1, 2018): 373–80. https://doi.org/10.1177/0040059918777241.

Douglas, Sarah N., Rebecca Kammes, and Erica Nordquist. "Online Communication Training for Parents of Children With Autism Spectrum Disorder." *Communication Disorders Quarterly* 39, no. 3 (May 1, 2018): 415–25. https://doi.org/10.1177/1525740117727491.

Downer, Jason, Sara Rimm-Kaufman, and Robert Pianta. "How Do Classroom Conditions and Children's Risk for School Problems Contribute to Children's Behavioral Engagement in Learning?" *School Psychology Review* 36 (September 1, 2007). https://doi.org/10.1080/02796015.2007.12087938.

Dunn, Michael E., Tracy Burbine, Clint A. Bowers, and Stacey Tantleff-Dunn. "Moderators of Stress in Parents of Children with Autism." *Community Mental Health Journal* 37, no. 1 (February 1, 2001): 39–52. https://doi.org/10.1023/A:1026592305436.

Durlak, Joseph A. "How to Select, Calculate, and Interpret Effect Sizes." *Journal of Pediatric Psychology* 34, no. 9 (October 1, 2009): 917–28. https://doi.org/10.1093/jpepsy/jsp004.

Dweck, Carol S. *Self-Theories: Their Role in Motivation, Personality, and Development*. Self-Theories: Their Role in Motivation, Personality, and Development. New York, NY, US: Psychology Press, 1999.

Dweck, Carol S., and David S. Yeager. "Mindsets: A View From Two Eras." *Perspectives on Psychological Science* 14, no. 3 (May 1, 2019): 481–96. https://doi.org/10.1177/1745691618804166.

Elliott, Elaine S., and Carol S. Dweck. "Goals: An Approach to Motivation and Achievement." *Journal of Personality and Social Psychology* 54, no. 1 (January 1988): 5–12. http://dx.doi.org/10.1037/0022-3514.54.1.5.

Endedijk, Hinke, Eddie Denessen, and Angélique W. Hendriks. "Relationships between Executive Functioning and Homework Difficulties in Students with and without Autism Spectrum Disorder: An Analysis of Student- and Parent-Reports." *Learning and Individual Differences*, Educational Neuroscience, 21, no. 6 (December 1, 2011): 765–70. https://doi.org/10.1016/j.lindif.2011.07.016.

Estes, Annette, Erin Olson, Katherine Sullivan, Jessica Greenson, Jamie Winter, Geraldine Dawson, and Jeffrey Munson. "Parenting-Related Stress and Psychological Distress in Mothers of Toddlers with Autism Spectrum Disorders." *Brain & Development* 35, no. 2 (February 2013): 133–38. https://doi.org/10.1016/j.braindev.2012.10.004.

Ferster, Charles B. "Positive Reinforcement and Behavioral Deficits of Autistic Children." In *Conditioning Techniques in Clinical Practice and Research*, edited by Cyril M. Franks, 255–74. Berlin, Heidelberg: Springer, 1964. https://doi.org/10.1007/978-3-662-39876-0_23.

Fettig, Angel, Tia R. Schultz, and Michaelene M. Ostrosky. "Collaborating With Parents in Using Effective Strategies to Reduce Children's Challenging Behaviors." *Young Exceptional Children* 16, no. 1 (March 1, 2013): 30–41. https://doi.org/10.1177/1096250612473127.

Fontanesi, Lilybeth. "The Effect of the COVID-19 Lockdown on Parents: A Call to Adopt Urgent Measures." Psychological Trauma: Theory, Research, Practice, and Policy. US: Educational Publishing Foundation, 20200611. https://doi.org/10.1037/tra0000672.

Fredricks, Jennifer A., Phyllis C. Blumenfeld, and Alison H. Paris. "School Engagement: Potential of the Concept, State of the Evidence." *Review of Educational Research* 74, no. 1 (2004). https://doi.org/10.3102/00346543074001059.

Gengoux, Grace W., Kari L. Berquist, Emma Salzman, Salena Schapp, Jennifer M. Phillips, Thomas W. Frazier, Mendy B. Minjarez, and Antonio Y. Hardan. "Pivotal Response Treatment Parent Training for Autism: Findings from a 3-Month Follow-Up Evaluation." *Journal of Autism and Developmental Disorders* 45, no. 9 (September 2015): 2889–98. https://doi.org/10.1007/s10803-015-2452-3.

Goldman, Samantha E., and Meghan M. Burke. "The Effectiveness of Interventions to Increase Parent Involvement in Special Education: A Systematic Literature Review and Meta-Analysis." *Exceptionality* 25, no. 2 (April 3, 2017): 97–115. https://doi.org/10.1080/09362835.2016.1196444.

Gonzalez-DeHass, Alyssa R., Patricia P. Willems, and Marie F. Doan Holbein. "Examining the Relationship Between Parental Involvement and Student Motivation." *Educational Psychology Review* 17, no. 2 (March 2005): 99–123. https://doi.org/10.1007/s10648-005-3949-7.

Good, Catherine, Joshua Aronson, and Michael Inzlicht. "Improving Adolescents' Standardized Test Performance: An Intervention to Reduce the Effects of Stereotype Threat." *Journal of Applied*

Developmental Psychology 24, no. 6 (December 1, 2003): 645–62. https://doi.org/10.1016/j.appdev.2003.09.002.

Goodman, Gay, and Cathy M. Williams. "Interventions for Increasing the Academic Engagement of Students with Autism Spectrum Disorders in Inclusive Classrooms." *TEACHING Exceptional Children* 39, no. 6 (2007): 53–61.

Greenwood, Charles R., Betty T. Horton, and Cheryl A. Utley. (2002) "Academic Engagement: Current Perspectives on Research and Practice." *School Psychology Review* 31,328–49. https://doi.org/10.1080/02796015.2002.12086159.

Greenwood, C. R., Delquadri, J., & Hall, R. V. (1984). Opportunity to respond and student academic performance. *Focus on behavior analysis in education*, 58-88.

Gunn, Kerry C. M., and Jonathan T. Delafield-Butt. "Teaching Children With Autism Spectrum Disorder With Restricted Interests: A Review of Evidence for Best Practice." *Review of Educational Research* 86, no. 2 (June 2016): 408–30. https://doi.org/10.3102/0034654315604027.

Gunter, Philip, R. Kenton Denny, Richard Shores, Thomas Reed, Susan Jack, and Michael Nelson. "Teacher Escape, Avoidance, and Countercontrol Behaviors: Potential Resoponses to Disruptive and Aggressive Behaviors of Students with Severe Behavior Disorders." *Journal of Child and Family Studies* 3, no. 2 (1994): 211–23. https://doi.org/10.1007/BF02234068.

Hageman, Joseph R. "Children's and Familie's Behavioral and Mental Health During COVID-19." *Pediatric Annals* 49, no. 10 (October 9, 2020): e405–6. https://doi.org/10.3928/19382359-20200922-05.

Haimovitz, Kyla, and Carol S. Dweck. "The Origins of Children's Growth and Fixed Mindsets: New Research and a New Proposal." *Child Development* 88, no. 6 (2017): 1849–59. https://doi.org/10.1111/cdev.12955.

Hardan, Antonio Y., Grace W. Gengoux, Kari L. Berquist, Robin A. Libove, Christina M. Ardel, Jennifer Phillips, Thomas W. Frazier, and Mendy B. Minjarez. "A Randomized Controlled Trial of Pivotal Response Treatment Group for Parents of Children with Autism." *Journal of Child Psychology and Psychiatry, and Allied Disciplines* 56, no. 8 (August 2015): 884–92. https://doi.org/10.1111/jcpp.12354.

Hart, Betty M., Nancy J. Reynolds, Donald M. Baer, Eleanor R. Brawley, and Florence R. Harris. "Effect of Contingent and Non-Contingent Social Reinforcement on the Cooperative Play of a Preschool Child1." *Journal of Applied Behavior Analysis* 1, no. 1 (1968): 73–76. https://doi.org/10.1901/jaba.1968.1-73.

Hawbaker, Becky Wilson. "Student-Led IEP Meetings: Planning and Implementation Strategies." *TEACHING Exceptional Children Plus* 3, no. 5 (May 2007). https://eric.ed.gov/?id=EJ967458.

Hayes, Stephanie A., and Shelley L. Watson. "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 Disorders* 43, no. 3 (March 2013): 629–42. http://dx.doi.org/10.1007/s10803-012-1604-y.

Hedges, L. V., & Olkin, I. (1985). *Statistical methods for meta-analysis*. Orlando: Academic Press.

Hinton, L. Michelle, and Lee Kern. "Increasing Homework Completion by Incorporating Student Interests." *Journal of Positive Behavior Interventions* 1, no. 4 (October 1, 1999): 231–41. https://doi.org/10.1177/109830079900100405.

Hochanadel, Aaron, and Dora Finamore. "Fixed And Growth Mindset In Education And How Grit Helps Students Persist In The Face Of Adversity." *Journal of International Education Research (JIER)* 11, no. 1 (January 26, 2015): 47–50. https://doi.org/10.19030/jier.v11i1.9099.

Ingersoll, Brooke, this link will open in a new window Link to external site, and Natalie I. Berger. "Parent Engagement with a Telehealth-Based Parent-Mediated Intervention Program for Children with Autism Spectrum Disorders: Predictors of Program Use and Parent Outcomes." *Journal of Medical Internet Research* 17, no. 10 (October 2015): No Pagination Specified. http://dx.doi.org.proxy.library.ucsb.edu:2048/10.2196/jmir.4913.

Jung, Adrian Woo. "Individualized Education Programs (IEPs) and Barriers for Parents from Culturally and Linguistically Diverse Backgrounds." *Multicultural Education* 19, no. 3 (2011): 21–25.

Kamins, Melissa L., and Carol S. Dweck. "Person versus Process Praise and Criticism: Implications for Contingent Self-Worth and Coping." *Developmental Psychology* 35, no. 3 (1999): 835–47. https://doi.org/10.1037/0012-1649.35.3.835.

Kaufman & N. L. Kaufman (2014). Kaufman Test of Educational Achievement, Third Edition. Bloomington, MN: NCS Pearson

Kazdin, A.E. "Single-Case Research Designs, Second Edition." *Child & Family Behavior Therapy* 34, no. 1 (January 1, 2012): 76–79. https://doi.org/10.1080/07317107.2012.654458.

Koegel, Lynn K., Ty W. Vernon, Robert L. Koegel, Brittany L. Koegel, and Anne W. Paullin. "Improving Social Engagement and Initiations Between Children With Autism Spectrum Disorder and Their Peers in Inclusive Settings." *Journal of Positive Behavior Interventions* 14, no. 4 (October 2012): 220–27. https://doi.org/10.1177/1098300712437042.

Koegel Lynn Kern, Koegel Robert L., Frea William, and Green-Hopkins Israel. "Priming as a Method of Coordinating Educational Services for Students With Autism." *Language, Speech, and Hearing Services in Schools* 34, no. 3 (July 1, 2003): 228–35. https://doi.org/10.1044/0161-1461(2003/019).

Koegel, Lynn Kern, Robert L. Koegel, Joshua K. Harrower, and Cynthia Marie Carter. "Pivotal Response Intervention I: Overview of Approach." *Journal of the Association for Persons with Severe Handicaps* 24, no. 3 (October 1999): 174–85. http://dx.doi.org/10.2511/rpsd.24.3.174.

Koegel, Lynn Kern, Kelsey Oliver, and Robert L. Koegel. "Parent Education in Pivotal Response Treatment." In *Pivotal Response Treatment for Autism Spectrum Disorders, 2nd Ed*, 107–22. Baltimore, MD, US: Paul H. Brookes Publishing Co., 2019.

Koegel, Lynn Kern, Anjileen K. Singh, and Robert L. Koegel. "Improving Motivation for Academics in Children with Autism." *Journal of Autism and Developmental Disorders* 40, no. 9 (September 1, 2010): 1057–66. https://doi.org/10.1007/s10803-010-0962-6.

Koegel, Robert L., Lynn K. Koegel, and Alan Surratt. "Language Intervention and Disruptive Behavior in Preschool Children with Autism." *Journal of Autism and Developmental Disorders* 22, no. 2 (1992): 141–53. https://doi.org/10.1007/BF01058147.

Koegel, Robert L., and Lynn Kern Koegel. *Pivotal Response Treatment for Autism Spectrum Disorders, Second Edition. Brookes Publishing Company*. Brookes Publishing Company, 2019.

Koegel, Robert L., Lynn Kern Koegel, Ty W. Vernon, and Lauren I. Brookman-Frazee. "Empirically Supported Pivotal Response Treatment for Children with Autism Spectrum Disorders." In *Evidence-Based Psychotherapies for Children and Adolescents (2nd Ed.)*, edited by John R. [Ed Weisz and Alan E. [Ed Kazdin, 327–44, Chapter xx, 602 Pages. The Guilford Press (New York,

NY, US), 2010. https://search.proquest.com/psycinfo/docview/760213476/E9A70C90C27D4AC8PQ/13.

Koegel, Robert L., and Michelle Mentis. "Motivation in Childhood Autism: Can They or Won't They?" *Journal of Child Psychology and Psychiatry* 26, no. 2 (March 1, 1985): 185–91. https://doi.org/10.1111/j.1469-7610.1985.tb02259.x.

Koegel, Robert L., Mary C. O'Dell, and Lynn Kern Koegel. "A Natural Language Teaching Paradigm for Nonverbal Autistic Children." *Journal of Autism and Developmental Disorders* 17, no. 2 (June 1, 1987): 187–200. https://doi.org/10.1007/BF01495055.

Kratochwill, T. R., J. Hitchcock, R. H. Horner, J. R. Levin, S. L. Odom, D. M. Rindskopf, and W. R. Shadish. *Single-Case Designs Technical Documentation*. What Works Clearinghouse, 2010. https://eric.ed.gov/?id=ED510743.

Lanou, Aaron, Lauren Hough, and Elizabeth Powell. "Case Studies on Using Strengths and Interests to Address the Needs of Students With Autism Spectrum Disorders." *Intervention in School and Clinic* 47, no. 3 (January 1, 2012): 175–82. https://doi.org/10.1177/1053451211423819.

LaRocque, Michelle, Ira Kleiman, and Sharon M. Darling. "Parental Involvement: The Missing Link in School Achievement." *Preventing School Failure: Alternative Education for Children and Youth* 55, no. 3 (April 21, 2011): 115–22. https://doi.org/10.1080/10459880903472876.

Latzer, TokatlyYael Leitner, and Orit Karnieli-Miller. "Core Experiences of Parents of Children with Autism during the COVID-19 Pandemic Lockdown." *Autism* 25, no. 4 (May 1, 2021): 1047–59. https://doi.org/10.1177/1362361320984317.

Leadbitter, Kathy, Karen Leneh Buckle, Ceri Ellis, and Martijn Dekker. "Autistic Self-Advocacy and the Neurodiversity Movement: Implications for Autism Early Intervention Research and Practice." *Frontiers in Psychology* 12 (2021): 782. https://doi.org/10.3389/fpsyg.2021.635690.

Lindgren, Scott, David Wacker, Alyssa Suess, Kelly Schieltz, Kelly Pelzel, Todd Kopelman, John Lee, Patrick Romani, and Debra Waldron. "Telehealth and Autism: Treating Challenging Behavior at Lower Cost." *Pediatrics* 137, no. Supplement 2 (February 1, 2016): S167–75. https://doi.org/10.1542/peds.2015-2851O.

Lord, R. J. Luyster, K. Gotham & W. Guthrie (2012). Autism Diagnostic Observation Schedule, Second Edition (ADOS-2) Manual (Part II): Toddler Module. Torrance, CA: Western Psychological Services, 2012.

Lucyshyn, Joseph M., Robert H. Horner, Glen Dunlap, Richard W. Albin, and Kathy R. Ben. "Positive Behavior Support with Families." In *Families and Positive Behavior Support: Addressing Problem Behavior in Family Contexts*, 3–43. Family, Community & Disability. Baltimore, MD, US: Paul H Brookes Publishing, 2002.

Lynch, Shane L., and Angela N. Irvine. "Inclusive Education and Best Practice for Children with Autism Spectrum Disorder: An Integrated Approach." *International Journal of Inclusive Education* 13, no. 8 (December 1, 2009): 845–59. https://doi.org/10.1080/13603110802475518.

Mancil, G. Richmond, and Cynthia E. Pearl. "Restricted Interests as Motivators: Improving Academic Engagement and Outcomes of Children on the Autism Spectrum." *TEACHING Exceptional Children Plus* 4, no. 6 (July 2008). https://eric.ed.gov/?id=EJ967728.

Marshall, Joanne Kay, and Pat Mirenda. "Parent—Professional Collaboration for Positive Behavior Support in the Home." *Focus on Autism and Other Developmental Disabilities* 17, no. 4 (November 1, 2002): 216–28. https://doi.org/10.1177/10883576020170040401.

Mason, Christine Y, Marcy Mcgahee-Kovac, Lora Johnson, and Sandy Stillerman. "Implementing Student-Led IEPs: Student Participation and Student and Teacher Reactions." *Career*

Development for Exceptional Individuals 25, no. 2 (October 1, 2002): 171–92. https://doi.org/10.1177/088572880202500206.

McComas, J., H. Hoch, D. Paone, and D. El-Roy. "Escape Behavior during Academic Tasks: A Preliminary Analysis of Idiosyncratic Establishing Operations." *Journal of Applied Behavior Analysis* 33, no. 4 (2000): 479–93. https://doi.org/10.1901/jaba.2000.33-479.

McGarry, Elizabeth, Ty Vernon, and Anisha Baktha. "Brief Report: A Pilot Online Pivotal Response Treatment Training Program for Parents of Toddlers with Autism Spectrum Disorder." *Journal of Autism and Developmental Disorders*, June 12, 2019, 1–8. https://doi.org/10.1007/s10803-019-04100-2.

Meadan, Hedda, James W. Halle, and Aaron T. Ebata. "Families with Children Who Have Autism Spectrum Disorders: Stress and Support." *Exceptional Children* 77, no. 1 (October 1, 2010): 7–36. https://doi.org/10.1177/001440291007700101.

Mello, Maria P., Samantha E. Goldman, Richard C. Urbano, and Robert M. Hodapp. "Services for Children with Autism Spectrum Disorder: Comparing Rural and Non-Rural Communities." *Education and Training in Autism and Developmental Disabilities* 51, no. 4 (December 2016): 355–65.

Moes, Doug R. "Integrating Choice-Making Opportunities within Teacher-Assigned Academic Tasks to Facilitate the Performance of Children with Autism." *Journal of the Association for Persons with Severe Handicaps* 23, no. 4 (December 1, 1998): 319–28. https://doi.org/10.2511/rpsd.23.4.319.

Mohammadzaheri, Fereshteh, Lynn Kern Koegel, Mohammad Rezaei, and Enayatolah Bakhshi. "A Randomized Clinical Trial Comparison Between Pivotal Response Treatment (PRT) and Adult-Driven Applied Behavior Analysis (ABA) Intervention on Disruptive Behaviors in Public School

Children with Autism." *Journal of Autism and Developmental Disorders* 45, no. 9 (September 2015): 2899–2907. https://doi.org/10.1007/s10803-015-2451-4.

Murphy, Adria, Suzanne Elaine Robinson, Debra L. Cote, Belinda Dunnick Karge, and Trissie Lee. "A Teacher's Use of Video to Train Paraprofessionals in Pivotal Response Techniques." *Journal of Special Education Apprenticeship* 4, no. 2 (December 2016). https://eric.ed.gov/?id=EJ1127774.

Opdenakker, Marie-Christine, and Alexander Minnaert. "Relationship between Learning Environment Characteristics and Academic Engagement." *Psychological Reports* 109, no. 1 (August 1, 2011): 259–84. https://doi.org/10.2466/09.10.11.PR0.109.4.259-284.

Parenteau, China I., Stephen Bent, Bushra Hossain, Yingtong Chen, Felicia Widjaja, Michael Breard, and Robert L. Hendren. "COVID-19 Related Challenges and Advice from Parents of Children with Autism Spectrum Disorder." *SciMedicine Journal* 2, no. 0 (September 14, 2020): 73-82–82. https://doi.org/10.28991/SciMedJ-2020-02-SI-6.

Parsons, Dave, Reinie Cordier, Sharmila Vaz, and Hoe C. Lee. "Parent-Mediated Intervention Training Delivered Remotely for Children With Autism Spectrum Disorder Living Outside of Urban Areas: Systematic Review." *Journal of Medical Internet Research* 19, no. 8 (August 14, 2017): e198. https://doi.org/10.2196/jmir.6651.

Parsons, Marsha B., Jeannia H. Rollyson, and Dennis H. Reid. "Evidence-Based Staff Training: A Guide for Practitioners." *Behavior Analysis in Practice* 5, no. 2 (December 1, 2012): 2–11. https://doi.org/10.1007/BF03391819.

Patrick, Stephen W., Laura E. Henkhaus, Joseph S. Zickafoose, Kim Lovell, Alese Halvorson, Sarah Loch, Mia Letterie, and Matthew M. Davis. "Well-Being of Parents and Children During the

COVID-19 Pandemic: A National Survey." *Pediatrics* 146, no. 4 (October 1, 2020). https://doi.org/10.1542/peds.2020-016824.

Paunesku, David, Gregory M. Walton, Carissa Romero, Eric N. Smith, David S. Yeager, and Carol S. Dweck. "Mind-Set Interventions Are a Scalable Treatment for Academic Underachievement." *Psychological Science* 26, no. 6 (June 1, 2015): 784–93. https://doi.org/10.1177/0956797615571017.

Petursdottir, Anna Ingeborg, and James R. Mellor. "Reinforcement Contingencies in Language Acquisition: Implications for Language Intervention." *Policy Insights from the Behavioral and Brain Sciences* 4, no. 1 (March 1, 2017): 25–32. https://doi.org/10.1177/2372732216686083.

Pickard, Katherine E, Allison L Wainer, Kathryn M Bailey, and Brooke R Ingersoll. "A Mixed-Method Evaluation of the Feasibility and Acceptability of a Telehealth-Based Parent-Mediated Intervention for Children with Autism Spectrum Disorder." *Autism* 20, no. 7 (October 1, 2016): 845–55. https://doi.org/10.1177/1362361315614496.

Poljac, Edita, Vincent Hoofs, Myrthe M. Princen, and Ervin Poljac. "Understanding Behavioural Rigidity in Autism Spectrum Conditions: The Role of Intentional Control." *Journal of Autism and Developmental Disorders* 47, no. 3 (March 2017): 714–27. https://doi.org/10.1007/s10803-016-3010-3.

Ponitz, Claire Cameron, Sara E. Rimm-Kaufman, Kevin J. Grimm, and Timothy W. Curby. "Kindergarten Classroom Quality, Behavioral Engagement, and Reading Achievement." *School Psychology Review* 38, no. 1 (March 1, 2009): 102–20. https://doi.org/10.1080/02796015.2009.12087852.

Reaven, Judith A. "Children with High-Functioning Autism Spectrum Disorders and Co-Occurring Anxiety Symptoms: Implications for Assessment and Treatment." *Journal for Specialists in Pediatric Nursing* 14, no. 3 (2009): 192–99. https://doi.org/10.1111/j.1744-6155.2009.00197.x.

Reicher, Debra. "Debate: Remote Learning during COVID-19 for Children with High Functioning Autism Spectrum Disorder." *Child and Adolescent Mental Health* n/a, no. n/a (2020). https://doi.org/10.1111/camh.12425.

Reutebuch, Colleen K., Farah El Zein, Min Kyung Kim, Aron N. Weinberg, and Sharon Vaughn. *Investigating a Reading Comprehension Intervention for High School Students with Autism Spectrum Disorder: A Pilot Study. Grantee Submission*. Vol. 9, 2015. https://doi.org/10.1016/j.rasd.2014.10.002.

Reutebuch, Colleen K., Farah El Zein, and Garrett J. Roberts. "A Systematic Review of the Effects of Choice on Academic Outcomes for Students with Autism Spectrum Disorder." *Research in Autism Spectrum Disorders* Complete, no. 20 (2015): 1–16. https://doi.org/10.1016/j.rasd.2015.08.002.

Reynolds, C.R., Kamphaus, R.W. (2015). Behavior assessment for children: Third edition. (BASC-3). [Assessment Instrument]. Bloomington, MN: Pearson.

Riessman, Catherine Kohler. *Narrative Analysis*. SAGE, 1993.

Rispoli, Mandy, Russell Lang, Leslie Neely, Siglia Camargo, Nancy Hutchins, Katy Davenport, and Fara Goodwyn. "A Comparison of Within- and Across-Activity Choices for Reducing Challenging Behavior in Children with Autism Spectrum Disorders." *Journal of Behavioral Education* 22, no. 1 (March 1, 2013): 66–83. https://doi.org/10.1007/s10864-012-9164-y.

Rivard, Mélina, Amélie Terroux, Claudel Parent-Boursier, and Céline Mercier. "Determinants of Stress in Parents of Children with Autism Spectrum Disorders." *Journal of Autism and*

Developmental Disorders 44, no. 7 (July 2014): 1609–20. https://doi.org/10.1007/s10803-013-2028-z.

Robinson, Suzanne Elaine. "Teaching Paraprofessionals of Students With Autism to Implement Pivotal Response Treatment in Inclusive School Settings Using a Brief Video Feedback Training Package." *Focus on Autism and Other Developmental Disabilities* 26, no. 2 (June 1, 2011): 105–18. https://doi.org/10.1177/1088357611407063.

Rutherford, Marion, Julie Baxter, Zoe Grayson, Lorna Johnston, and Anne O'Hare. "Visual Supports at Home and in the Community for Individuals with Autism Spectrum Disorders: A Scoping Review." *Autism* 24, no. 2 (February 1, 2020): 447–69. https://doi.org/10.1177/1362361319871756.

Schreibman, Laura, Christina Whalen, and Aubyn C. Stahmer. "The Use of Video Priming to Reduce Disruptive Transition Behavior in Children with Autism." *Journal of Positive Behavior Interventions* 2, no. 1 (January 1, 2000): 3–11. https://doi.org/10.1177/109830070000200102.

Schultz, Tia R., Carla T. Schmidt, and Janine P. Stichter. "A Review of Parent Education Programs for Parents of Children With Autism Spectrum Disorders." *Focus on Autism and Other Developmental Disabilities* 26, no. 2 (June 1, 2011): 96–104. https://doi.org/10.1177/1088357610397346.

Schunk, Dale H. "Self-Efficacy and Academic Motivation." *Educational Psychologist* 26, no. 3–4 (June 1, 1991): 207–31. https://doi.org/10.1080/00461520.1991.9653133.

Seaton, Fiona S. "Empowering Teachers to Implement a Growth Mindset." *Educational Psychology in Practice* 34, no. 1 (January 2, 2018): 41–57. https://doi.org/10.1080/02667363.2017.1382333.

Shogren, Karrie A., Michael N. Faggella-Luby, Sung Jik Bae, and Michael L. Wehmeyer. "The Effect of Choice-Making as an Intervention for Problem Behavior: A Meta-Analysis." *Journal of*

Positive Behavior Interventions 6, no. 4 (October 1, 2004): 228–37. https://doi.org/10.1177/10983007040060040401.

Slade, Nicole, Abbey Eisenhower, Alice S. Carter, and Jan Blacher. "Satisfaction With Individualized Education Programs Among Parents of Young Children With ASD." *Exceptional Children* 84, no. 3 (April 1, 2018): 242–60. https://doi.org/10.1177/0014402917742923.

Slocum, Sarah K., and Timothy R. Vollmer. "A Comparison of Positive and Negative Reinforcement for Compliance to Treat Problem Behavior Maintained by Escape." *Journal of Applied Behavior Analysis* 48, no. 3 (September 2015): 563–74. https://doi.org/10.1002/jaba.216.

Stahmer, Aubyn C., and Melanie Pellecchia. "Moving towards a More Ecologically Valid Model of Parent-Implemented Interventions in Autism." *Autism* 19, no. 3 (April 2015): 259–61. http://dx.doi.org/10.1177/1362361314566739.

Stahmer, Aubyn C., Sarah Reed, Jessica Suhrheinrich, and Laura Schreibman. *Working with Teachers to Adapt an Evidence-Based Intervention for Children with Autism*. Society for Research on Educational Effectiveness, 2013. https://eric.ed.gov/?id=ED564053.

Stahmer, Aubyn C., Jessica Suhrheinrich, Sarah Reed, and Laura Schreibman. *What Works for You? Using Teacher Feedback to Inform Adaptations of Pivotal Response Training for Classroom Use*, 2012. https://eric.ed.gov/?id=ED564578.

Stahmer, Aubyn C., Jessica Suhrheinrich, and Sarah Rieth. "A Pilot Examination of the Adapted Protocol for Classroom Pivotal Response Teaching." *Journal of the American Academy of Special Education Professionals*, 2016. https://eric.ed.gov/?id=EJ1129733.

Steiner, Amanda Mossman. "A Strength-Based Approach to Parent Education for Children With Autism." *Journal of Positive Behavior Interventions* 13, no. 3 (July 1, 2011): 178–90. https://doi.org/10.1177/1098300710384134.

Stenhoff, Donald M., Robert C. Pennington, and Melissa C. Tapp. "Distance Education Support for Students With Autism Spectrum Disorder and Complex Needs During COVID-19 and School Closures." *Rural Special Education Quarterly*, October 4, 2020, 8756870520959658. https://doi.org/10.1177/8756870520959658.

Suhrheinrich, Jessica. "Training Teachers to Use Pivotal Response Training With Children With Autism: Coaching as a Critical Component." *Teacher Education and Special Education: The Journal of the Teacher Education Division of the Council for Exceptional Children* 34, no. 4 (November 2011): 339–49. https://doi.org/10.1177/0888406411406553.

Suhrheinrich, Jessica, Aubyn C. Stahmer, Sarah Reed, Laura Schreibman, Erica Reisinger, and David Mandell. "Implementation Challenges in Translating Pivotal Response Training into Community Settings." *Journal of Autism and Developmental Disorders* 43, no. 12 (December 2013): 2970–76. http://dx.doi.org.proxy.library.ucsb.edu:2048/10.1007/s10803-013-1826-7.

Tonge, BRUCE, AVRIL Brereton, MELISSA Kiomall, ANDREW Mackinnon, NEVILLE King, and NICOLE Rinehart. "Effects on Parental Mental Health of an Education and Skills Training Program for Parents of Young Children With Autism: A Randomized Controlled Trial." *Journal of the American Academy of Child & Adolescent Psychiatry* 45, no. 5 (May 1, 2006): 561–69. https://doi.org/10.1097/01.chi.0000205701.48324.26.

United Nations General Assembly. (2020). *Right to education: impact of the coronavirus disease crisis on the right to education – concerns, challenges and opportunities*. https://undocs.org/A/HRC/44/39

Vaughan, C. A. (2011). Review of Childhood Autism Rating Scale (2nd ed.) [Review of the software *Childhood autism rating scale (2nd ed.)*, by E. Schopler, M. E. Van Bourgondien, G. J. Wellman & S. R. Love]. *Journal of Psychoeducational Assessment, 29*(5), 489–493.

Verberg, Fenneke, Petra Helmond, Roy Otten, and Geertjan Overbeek. "Mindset and Perseverance of Adolescents with Intellectual Disabilities: Associations with Empowerment, Mental Health Problems, and Self-Esteem." *Research in Developmental Disabilities* 91 (August 1, 2019): 103426. https://doi.org/10.1016/j.ridd.2019.103426.

Verschuur, Rianne, Robert Didden, Russell Lang, Jeff Sigafoos, and Bibi Huskens. "Pivotal Response Treatment for Children with Autism Spectrum Disorders: A Systematic Review." *Review Journal of Autism and Developmental Disorders* 1, no. 1 (March 1, 2014): 34–61. https://doi.org/10.1007/s40489-013-0008-z.

Verschuur, Rianne, Bibi Huskens, and Robert Didden. "Effectiveness of Parent Education in Pivotal Response Treatment on Pivotal and Collateral Responses." *Journal of Autism and Developmental Disorders* 49, no. 9 (September 1, 2019): 3477–93. https://doi.org/10.1007/s10803-019-04061-6.

Vismara, Laurie A., Carolyn E. B. McCormick, Amy L. Wagner, Katernia Monlux, Anna Nadhan, and Gregory S. Young. "Telehealth Parent Training in the Early Start Denver Model: Results From a Randomized Controlled Study." *Focus on Autism and Other Developmental Disabilities* 33, no. 2 (June 1, 2018): 67–79. https://doi.org/10.1177/1088357616651064.

Vismara, Laurie A., Carolyn McCormick, Gregory S. Young, Anna Nadhan, and Katerina Monlux. "Preliminary Findings of a Telehealth Approach to Parent Training in Autism." *Journal of Autism & Developmental Disorders* 43, no. 12 (December 2013): 2953–69. https://doi.org/10.1007/s10803-013-1841-8.

Wacker, David P., John F. Lee, Yaniz C. Padilla Dalmau, Todd G. Kopelman, Scott D. Lindgren, Jennifer Kuhle, Kelly E. Pelzel, Shannon Dyson, Kelly M. Schieltz, and Debra B. Waldron. "Conducting Functional Communication Training via Telehealth to Reduce the Problem

Behavior of Young Children with Autism." *Journal of Developmental and Physical Disabilities* 25, no. 1 (February 1, 2013): 35–48. https://doi.org/10.1007/s10882-012-9314-0.

Wainer, Allison L., and Brooke R. Ingersoll. "Increasing Access to an ASD Imitation Intervention Via a Telehealth Parent Training Program." *Journal of Autism and Developmental Disorders* 45, no. 12 (December 1, 2015): 3877–90. https://doi.org/10.1007/s10803-014-2186-7.

Wang, Ming-Te, and Jacquelynne S. Eccles. "School Context, Achievement Motivation, and Academic Engagement: A Longitudinal Study of School Engagement Using a Multidimensional Perspective." *Learning and Instruction* 28 (December 1, 2013): 12–23. https://doi.org/10.1016/j.learninstruc.2013.04.002.

Wanzek, Jeanne, Stephanie Al Otaiba, Yaacov Petscher, Christopher J. Lemons, Samantha A. Gesel, Sally Fluhler, Rachel E. Donegan, and Brenna K. Rivas. "Comparing the Effects of Reading Intervention Versus Reading and Mindset Intervention for Upper Elementary Students With Reading Difficulties." *Journal of Learning Disabilities* 54, no. 3 (May 1, 2021): 203–20. https://doi.org/10.1177/0022219420949281.

Warner-Richter, Mallory, and Chrishana M Lloyd. "Considerations for Building Post-COVID Early Care and Education Systems That Serve Children with Disabilities," 2020, 10.

Watson, P. J., and Edward A. Workman. "The Non-Concurrent Multiple Baseline across-Individuals Design: An Extension of the Traditional Multiple Baseline Design." *Journal of Behavior Therapy and Experimental Psychiatry* 12, no. 3 (September 1, 1981): 257–59. https://doi.org/10.1016/0005-7916(81)90055-0.

Weiner, Bernard. "An Attributional Theory of Achievement Motivation and Emotion." *Psychological Review* 92, no. 4 (1985): 548–73. https://doi.org/10.1037/0033-295X.92.4.548.

Weiner, Bernard, and Andy Kukla. "An Attributional Analysis of Achievement Motivation." *Journal of Personality and Social Psychology* 15, no. 1 (1970): 1–20. https://doi.org/10.1037/h0029211.

Winter-Messiers, Mary Ann, Cynthia M. Herr, Casey E. Wood, Amy P. Brooks, Mary Anne M. Gates, Tasker L. Houston, and Kelly I. Tingstad. "How Far Can Brian Ride the Daylight 4449 Express?: A Strength-Based Model of Asperger Syndrome Based on Special Interest Areas." *Focus on Autism and Other Developmental Disabilities* 22, no. 2 (May 1, 2007): 67–79. https://doi.org/10.1177/10883576070220020701.

Yeager, David Scott, and Carol S. Dweck. "Mindsets That Promote Resilience: When Students Believe That Personal Characteristics Can Be Developed." *Educational Psychologist* 47, no. 4 (October 1, 2012): 302–14. https://doi.org/10.1080/00461520.2012.722805.

Zeitlin, Virginia M., and Svjetlana Curcic. "Parental Voices on Individualized Education Programs: 'Oh, IEP Meeting Tomorrow? Rum Tonight!'" *Disability & Society* 29, no. 3 (March 16, 2014): 373–87. https://doi.org/10.1080/09687599.2013.776493.

Appendix A: Engagement

Engagement: Likert Scale from 0 – 5 (Adapted from Koegel et al., 2010)

For each 30- second interval, rate how engaged the child is.

(0): Child looks bored and attempts to leave the area of the activity. Child may attempt to avoid or escape the task by throwing tantrums, running away, whining, throwing/ destroying materials, crying, or refusing to perform the task.

(1): Child remains in the area of the activity but looks bored and is uninvolved. The child may spend much time looking around and little time attending to the task. The child may engage in behaviors unrelated to the activity, such as playing with toys.

(2): Child generally complies with the instructions, but does not appear eager to participate. There may be moments of staring or inattention, using materials in non-functional manner (i.e. using math sheet as a fan), and looking away from instructional area.

(3): Child complies with the instruction, but does not appear eager to participate in the activity. The child generally focuses on the parent/ teacher/activity/ materials.

(4): Attends and responds to task readily. Child is fairly alert, eager, and involved in the activity and frequently attend to the parent/ teacher/ activity/ materials.

(5): Attends readily to task; responds readily and willingly. Child is alert, eager, and involved in activity. Child attends to the parent/ parent/ activity/ materials intently.

Appendix B: Maladaptive Behavior

Disruptive Behaviors: list frequency/ occurrence of disruptive behaviors

Any time one of the following behaviors occurs, mark an "x" in the interval and list which behavior it is (i.e. "x – crying"). If more than one behavior occurs during one interval, put an "x" and list which behaviors ("x – crying, property destruction, elopement).

If a behavior continues longer than one interval, put an "x" for each interval it occurs in. If it only last a portion of the interval (i.e. 10 seconds), still mark the disruptive behavior for the whole interval.

Disruptive behaviors include:

Crying: crying is defined as the occurrence of vocalization (sounds or words) accompanied by facial contraction with or without tears for any period of time.

Screaming: screaming is defined as the occurrence of vocalizations at a volume above normal conversational level for any period of time.

Elopement: elopement is defined as leaving the seat or instructional area without permission, or being more than 2 feet away from a designated area (workspace) without adult permission for any duration of time.

Aggression: each instance that child kicks, slaps, hits, throws something at or attempts to kick, slap or hit or throw something at another individual.

Property destruction: each instance that child throws item not intended to be thrown (i.e. pencil, paper) or damages item (ripping it up, crumpling it up).

Appendix C: PRT Implementation

PRT Implementation (adapted from Robinson, 2011; Stahmer and colleagues, 2016)

For each 30-second interval, rate how well the parent uses the strategies below:

(1): Parent does not implement during session or never implements appropriately.
(2): Parent implements competently occasionally, but misses the majority of opportunities.
(3): Parent implements competently up to half of the time, but misses many opportunities.
(4): Parent implements competently more than half of the time, but misses some opportunities.
(5): Parent implements competently throughout the session.

Strategies:

Clear directions and expectations: Parent gains child's attention before providing instruction. A clear cue indicates to the students how they should respond and provides clear expectations for work completed. Clear directions/expectations may also include a visual schedule, timer, or reminder of what's to be expected (priming).

Choice: The parent follows the students' interest in materials, toys, or activity by providing choices, either within or between activities, as a way to determine the students' interest or engage the student.

Incorporate interests: The parent includes the child's preferred interests directly into the task or connects them to the reinforcer (reward) for completing the task.

Behavioral Momentum: The parent should clearly intersperse tasks that are easy with tasks that are difficult for the student. The parent alternates between more preferred/ less preferred, easier/ harder, new/ mastered tasks. The parent provides a transition activity between a non-preferred activity and a preferred activity.

Contingent reinforcement: The parent should provide reinforcements/ consequences that are dependent on the student's behavior immediately after the response. If the students do not respond appropriately, the parent withholds reinforcement.

Reinforce attempts: The parent provides reinforcement after most of the students' reasonable, goal-directed attempts (i.e. directed effort towards goal). Reinforcement can be in the form of: checks for self-management, pre-determined reward, or praise.

Appendix D: Growth Mindset

Growth Mindset Implementation (adapted from Robinson, 2011; Stahmer and colleagues, 2016)

For each 30-second interval, rate how well the parent uses the strategies below:

(1): Parent does not implement during session or never implements appropriately.
(2): Parent implements competently occasionally, but misses the majority of opportunities.
(3): Parent implements competently up to half of the time, but misses many opportunities.
(4): Parent implements competently more than half of the time, but misses some opportunities.
(5): Parent implements competently throughout the session.

Praise: The parent provides praise contingent on appropriate behavior and effort. If offering corrective feedback, the parent provides praise beforehand. Praise is labeled and specific ("nice job sitting up in your chair"). Praise includes comments that focus on effort, growth, and attempts towards the task.

Reflect/ Reframing: The parent responds to a child's challenges (e.g. negative self-talk) with reflecting their words and reframing the comments. The parent provides language to demonstrate how to navigate the challenge. The parent provides praise and reflects when the child uses appropriate coping mechanisms.

Appendix E: Parental Stress

Parental Stress Survey

Please rate how much you agree (5) or disagree (1) with the below statements as it relates to your role during remote learning:

1. I am happy with my role in remote learning

   1 (disagree) 2 3 4 5 (agree)

2. I want to spend less time focused on remote learning

   1 (disagree) 2 3 4 5 (agree)

3. Caring for my child during remote learning sometimes takes more time and energy than I have to give

   1 (disagree) 2 3 4 5 (agree)

4. I sometimes worry whether I am doing enough for my child with remote learning

   1 (disagree) 2 3 4 5 (agree)

5. I feel close to my child during remote learning

   1 (disagree) 2 3 4 5 (agree)

6. I enjoy spending time with my child during remote learning

   1 (disagree) 2 3 4 5 (agree)

7. Helping my child during remote learning is important to me

   1 (disagree) 2 3 4 5 (agree)

8. Working with my child during remote learning gives me a more certain and optimistic view for the future

   1 (disagree) 2 3 4 5 (agree)

9. A major source of stress in my life is my child's remote learning

   1 (disagree) 2 3 4 5 (agree)

10. Remote learning leaves little time and flexibility in my life

    1 (disagree) 2 3 4 5(agree)

11. Remote learning has created a financial burden

    1 (disagree) 2 3 4 5 (agree)

12. It is difficult to balance responsibilities during remote learning

    1 (disagree) 2 3 4 5(agree)

13. The behavior of my child during remote learning is stressful to me

    1 (disagree) 2 3 4 5 (agree)

14. If given the choice, I would not choose to stay home and help my child during remote learning

    1 (disagree) 2 3 4 5 (agree)

15. I feel overwhelmed by the responsibilities of remote learning

    1 (disagree) 2 3 4 5 (agree)

16. I feel that I have control over remote learning

    1 (disagree) 2 3 4 5 (agree)

17. I am satisfied with how I help my child during remote learning

    1 (disagree) 2 3 4 5 (agree)

18. I find helping my child during remote learning enjoyable

    1 (disagree) 2 3 4 5 (agree)

19. I feel confident in having the skills necessary to help my child during remote learning

    1 (disagree) 2 3 4 5 (agree)

Appendix F: Academic Engagement—Parent Report

Academic Engagement

Please rate your child's academic performance on a scale from 1 (not at all like them) to 5 (very much like them):

1. My child enjoys remote learning.

   1 2 3 4 5

2. My child enjoys school work.

   1 2 3 4 5

3. My child has more difficulties with remote learning than in person instruction.

   1 2 3 4 5

4. My child completes their school work.

   1 2 3 4 5

5. My child has fun completing school work.

   1 2 3 4 5

6. My child is a good student.

   1 2 3 4 5

7. My child gets distracted (displays off-task behavior) when completing school work.

   1 2 3 4 5

8. My child can independently complete their school work.

   1 2 3 4 5

9. My child displays disruptive behaviors during school work (e.g. crying, yelling, leaving work area).
   1 2 3 4 5

10. On average, how many days a week out of 5 does your child complete their assigned school work?

    1 2 3 4 5

11. On average, how many days a week does your child get upset when completing school work?

    1 2 3 4 5

Appendix G: Coaching Acceptability

Questionnaire on Social Validity of Academic Motivation Project

Please circle the number you agree or disagree with the statements below regarding the Remote Learning Program.

Strongly Disagree	**Somewhat Disagree**	**Neutral**	**Somewhat Agree**	**Strongly Agree**
1	**2**	**3**	**4**	**5**

1. Overall, I believe motivational academics has helped my child complete their school work.
   1 2 3 4 5

2. I believe motivational academics was easy to learn and use.
   1 2 3 4 5

3. I will continue using motivational academics.
   1 2 3 4 5

4. I feel confident in my ability to implement motivational academics with my child.
   1 2 3 4 5

5. I would recommend using motivational academics to other parents for school work.
   1 2 3 4 5

6. I enjoyed participating in the motivational academics study.
   1 2 3 4 5

"Child choice" refers to providing your child with as many choices as possible.

7. I believe "child choice" has helped my child complete their school work.
   1 2 3 4 5

8. I believe "child choice" was easy to learn and use.
   1 2 3 4 5

9. I will continue using "child choice."
   1 2 3 4 5

10. I feel confident in my ability to implement "child choice".
    1 2 3 4 5

"Interspersing tasks" refers switching between tasks that are easier/harder for your child, or preferred/non-preferred

11. I believe "interspersing tasks" has helped my child complete their school work.

Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
1	**2**	**3**	**4**	**5**

12. I believe "interspersing tasks" was easy to learn and use.

1	**2**	**3**	**4**	**5**

13. I will continue using "interspersing tasks."

1	**2**	**3**	**4**	**5**

14. I feel confident in my ability to implement "interspersing tasks".

1	**2**	**3**	**4**	**5**

"Preferred interests" refers to including your child's in their school work.

15. I believe "preferred interests" has helped my child complete their school work.

1	**2**	**3**	**4**	**5**

16. I believe "preferred interests" was easy to learn and use.

1	**2**	**3**	**4**	**5**

17. I will continue using "preferred interests."

1	**2**	**3**	**4**	**5**

18. I feel confident in my ability to implement "preferred interests".

1	**2**	**3**	**4**	**5**

"Reinforcement" refers to rewarding your child for attempts or completing their work, with material reinforcers or social praise.

1. I believe "reinforcement" has helped my child complete their school work.

1	**2**	**3**	**4**	**5**

2. I believe "reinforcement" was easy to learn and use.

1	**2**	**3**	**4**	**5**

3. I will continue using "reinforcement."

1	**2**	**3**	**4**	**5**

4. I feel confident in my ability to implement "reinforcement".

1 2 3 4 5

"Growth Mindset" refers to focusing on areas of growth and effort, as opposed to perfection.

1. I believe "growth mindset" has helped my child complete their school work.
   1 2 3 4 5

2. I believe "growth mindset" was easy to learn and use.
   1 2 3 4 5

3. I will continue using "growth mindset."
   1 2 3 4 5

4. I feel confident in my ability to implement "growth mindset".
   1 2 3 4 5