THE PRELIMINARY FEASIBILITY STUDY OF PARENT TRAINING: AN
INTERPERSONAL EFFECTIVENESS SKILLS TRAINING FOR ADOLESCENTS WITH
AUTISM SPECTRUM DISORDER

By

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ABSTRACT

Adolescence is an age of significant physical, cognitive, social, and emotional development, characterized by the transition from childhood to adulthood. Substantial shifts in social interactions during this period actively shape the nature and quality of adolescent relationships. It can present opportunities and challenges as individuals navigate the complexities of personal growth, social interactions, and emerging independence. Notably, individuals diagnosed with autism spectrum disorder (ASD) often struggle to establish and maintain social connections, as social impairments constitute an essential characteristic of the disorder. These challenges exert profound and enduring effects on individuals with ASD. Using a convergent parallel mixed-methods design, this study primarily evaluated the feasibility of the Relationship and Interpersonal Skills Training for Autistic Adolescents (RISTA) parent training program with some secondary clinical outcomes collected. RISTA consists of three components: (a) asynchronous training, (b) in-person workshop, and (c) home observations. Fifteen parents completed a 4-hour parent workshop. Eleven parents ($n = 11$) were retained (73%) and completed the teaching component to their adolescents at home, where they were observed by a trained research assistant with a fidelity of implementation at 88%.

Feasibility results indicate the feasibility of the RISTA parent training program: Intervention Appropriateness Measure had a mean rating of 4.55 out of 5, Acceptability of Intervention Measure was a mean rating of 4.80 out of 5, and Feasibility of Intervention Measure was a mean rating of 4.43 out of 5 measured by parents. Parents also rated the workshop, facilitator, and overall program very highly. Parents also showed a significant increase in interpersonal effectiveness skills knowledge ($M = 11.27$ to 13.73; $d = .59$) and also provided constructive qualitative feedback on the intervention process.

Secondary results suggested preliminary evidence for significant improvement in parenting confidence, parent-adolescent relationships, and adolescent social and communication skills. Specifically, parents demonstrated a significant increase in parenting confidence as measured by the BASC-3-PRQ ($M = 32.73$ to 37.19; $d = 1.03$), a statistically significant decrease in parental stress, as measured by the PSS ($M = 42.37$ to 38.82; $d = .97$), a significant increase in the parent-adolescent relationship subscale connectedness, as measured by the PARS ($M = 4.47$ to 4.77; $d = .77$). Additionally, parents reported a significant increase in their adolescents' social skills ($M = 40.00$ to 43.64; $d = .63$) as measured by the BASC-3-PR and communication abilities ($M = 38.19$ to 40.55; $d = .70$) as measured by the BASC-3-PRQ. Although participants also showed a decrease in parent-adolescent hostility ($M = 2.10$ to 1.95; $d = .32$) and an increase in parent-adolescent shared activities ($M = 3.34$ to 3.55; $d = .38$), and adolescent interpersonal skills: relationship skills ($M = 2.27$ to 2.45; $d = .19$) boundary-setting skills ($M = 2.18$ to 2.55; $d = .45$) negotiation skills ($M = 2.09$ to 2.36; $d = .25$) and conflict reduction skills ($M = 2.09$ to 2.45; $d = .35$), these findings were not significant.

The RISTA parent training program has significant implications for practice, education, rehabilitation, and mental health counseling research. It introduces a new perspective in a service approach tailored to adolescents with ASD, emphasizing socioemotional well-being for the transition into adolescence. RISTA raises awareness among counseling practitioners about involving parents in interventions. In education, it enriches counseling programs' curriculum by integrating evidence-based parent training. RISTA strengthens the empirical evidence for parent training and introduces a new framework in ASD research. Future studies should scale up the feasibility study for greater evidence and generalizability.

and as I reflect on this path we have traveled, I will forever hold dear the memories we created together.

To my husband, **Ali,** and my two little girls, **Nellie** and **Rita** – you are my heart and soul. Ali, you have been my loudest and most dedicated cheerleader. Your belief in me, constant encouragement, and willingness to stand by my side have carried me through the highs and lows. I am eternally grateful for your support and the countless ways you have allowed me to pursue this goal. Without you, none of this would have been possible. To my girls, you are my greatest treasures. Watching you grow fills my heart with immeasurable joy and reminds me of this journey's true meaning and purpose. Nellie, thank you for your excitability; it reminds me to cherish the simple things in life. Rita, thank you for your intensity; it reminds me to be present even when it is hard.

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With an open heart and a curious mind, I am ready to embrace the next path and all its possibilities, "bird by bird." As I embark on new adventures, I carry the spirit of my hometown. It serves as a reminder of the importance of kindness, hard work, and the power of community.

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CHAPTER 1: INTRODUCTION

Human interconnection has deep evolutionary roots that place the necessity for interpersonal relationships at the utmost importance. Human beings are social creatures that fail to thrive without care (Bowlby, 1969). Meaningful relationships and interactions are part of the foundation of health and well-being, and humans as social beings are interconnected in many ways (e.g., family, friends, colleagues, romantic partners, community, and environment) (Brofenbrenner & Morris, 2006). The power of connection is profound and far more complex than just being near others; it is the energy of feeling enveloped in support. It is the process of being validated and seen. It is belonging. It is spiritual. It is reflective. It is trust, and it is love. This meaningful link between self and others is nourished and starved through ongoing, evolving verbal and nonverbal communication. The ability to communicate effectively can lead to lasting, healthy relationships that impact not only day-to-day life but an individual's development. For example, when positive relationships are present and consistent, individuals are better equipped to manage the stress of life's challenges and the internal conflict that often accompanies them. Having the skills to manage interactions with others can improve relationships and reduce conflicts. Friendships and social interactions are also vessels for thinking, understanding, problem-solving, negotiating, and expressing emotion. Many people, however, are physically and emotionally isolated. They lack involvement in social and recreational activities that foster relationships, and rejection is amplified when social exchanges occur. Isolation and rejection can have devastating and life-long consequences.

Adolescence signifies a critical stage encompassing substantial physical, cognitive, social, and emotional transformations, indicating the pivotal shift from childhood to adulthood. During this phase, significant modifications in social interactions occur, profoundly influencing

the dynamics and quality of adolescent relationships. The transition into adolescence is an intricate and multifaceted process, exhibiting considerable variations among individuals and cultures. This transitional period offers prospects and trials as adolescents navigate the complex terrain of personal growth, social interactions, and autonomy. Therefore, recognizing and supporting adolescents during this journey is critical for their holistic development and well-being.

Adolescents with Autism Spectrum Disorder (ASD) encounter the complex challenge of navigating social roles and establishing connections. Notably, individuals with ASD frequently grapple with the challenging task of initiating and sustaining social bonds, given that social impairments are a salient characteristic of the condition. These pervasive impairments can exert profound and enduring repercussions on the lives of individuals with ASD. The human need for a sense of belonging is fundamental, yet social impairments related to ASD directly undermine interpersonal regulation, hindering the establishment and maintenance of meaningful relationships. When interpersonal dysregulation arises, individuals with ASD encounter various challenges, such as unstable relationships, interpersonal conflicts, chronic disruption within family dynamics, social isolation, and difficulties in fulfilling personal needs while preserving self-respect (Rathus & Miller, 2015). Acquiring the necessary skills to cultivate and sustain relationships, terminate negative associations, assert one's desires effectively, and establish personal boundaries while upholding values and morals are pivotal for adolescents with ASD well-being, mental health, and future achievements.

Thus far, due to the need, most research and treatments for individuals with ASD have heavily focused on the behavior of young children. In addition, social skills programs often lack skill development, maintenance, and generalizability. Dialectical behavior therapy for

adolescents (DBT-A) skills training intentionally addresses these three key areas using didactics, and role plays, experiential exercises that practice new skills, behavior rehearsal, corrective feedback, assigning and reviewing skills training (which involves applying skills to real-life situations), and the involvement of the parent. For clarity and to differentiate interpersonal skills from social skills, it is essential to know the defining factors of each skill set. For example, social skills are often defined as "verbal and nonverbal behaviors a person uses to interact with others so that the encounter is mutually beneficial and reinforcing" (Morgan & Jenson, 1988, p. 254) to increase fluency in socially appropriate behavior. While social skills are necessary for interpersonal effectiveness, interpersonal skills heavily focus on building and maintaining healthy relationships and the importance of human connection.

When a family is involved in treatment, there are improvements in the parent-child relationship, stress reduction, and self-efficacy. Beneficial parent and child outcomes, along with the rising prevalence of ASD and limited access to resources and school and community services, necessitate more accessible treatment options. Parent training allows parents to learn and implement skills that research has shown improve a child's abilities. Parent involvement in skills development through parent training can increase the likelihood that skills will be maintained and utilized in various settings with a family culture, morals, and values at the forefront. Equipping parents, who are a constant in their children's lives, with the knowledge and tools to improve their child's abilities in their own home encourages consistency, which can reinforce the child's progress over time.

This study engages parents in the acquisition of training in interpersonal effectiveness, encompassing skills in teaching and counseling micro-skills. The objective is to enhance parents' proficiency in these specific skill domains, enabling them to model and instruct their adolescents

with ASD in these skills effectively. The parent training aims to enhance parental knowledge and provide pedagogical tools to support acquiring, generalizing, and maintaining essential skills grounded in family fundamentals. The present study investigates the feasibility of implementing parent training focused on interpersonal effectiveness for adolescents diagnosed with ASD.

Person-first vs. Identity-first

To set the tone of this paper, understanding the difference in language is necessary. Person-first language (i.e., a person with autism) is commonly used in professional settings (e.g., teachers, counselors, researchers, and clinicians) (Taboas et al., 2022). Person-first language aims to lead with the person rather than the disability to reduce stereotypes and discrimination (Dunn & Andrews, 2015) and highlight the person's individualistic characteristics, strengths, and needs (Vivanti, 2020). Advocates for identity-first language argue that "autism, as a central and identity-defining feature, cannot be separated from the individual, and using person-first language might perpetuate stigmatizing views" (Vivanti, 2020, p. 691). The preference for identity-first language coincides with an adolescent desire for individualism and hyperfocus on self-image (Rathus & Miller, 2015). Studies have shown that individuals who prefer identity-first language (e.g., "autistic person") perceive it as affirming and validating their identity, fostering a sense of belonging and acceptance within their communities (Kenny et al., 2016; McMillian, 1996). While identity-first seems to be preferred by the autistic community in the United States (Taboas et al., 2022), this is not necessarily the case in other non-English-speaking cultures (Buijsman et al., 2022). With a mindful acknowledgment of the nuanced nature of language, it is essential to recognize that terminology preferences may vary depending on age, culture, and context. In clinical writing, this researcher intends to utilize person-first language when referring to the diagnosis of autism spectrum disorder. However, when creating workshop materials or

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working directly with the autistic population and their families, the researcher will use identity-first language when appropriate and preferred, hence employing the term "autistic."

Background of the Problem

Extensive research conducted over several decades has contributed significantly to our understanding of ASD. ASD, which was once perceived as a rare disorder limited to children, is now recognized as a common neurodevelopmental disability that encompasses a broad spectrum ranging from mild to severe. It is attributed to early altered brain development and neural reorganization (O'Reilly et al., 2017).

Diagnosis of ASD is based on the presence of specific behaviors characterized by two core symptoms: (a) deficits in social communication and interactions, and (b) restricted and repetitive behavior, interests, and activities. The characteristics of ASD, as highlighted by the American Psychiatric Association (APA, 2013), prominently include severe difficulties in social interaction and communication. Consequently, these behaviors significantly contribute to the additional challenges faced by individuals with ASD in their daily lives.

Challenges and Concerns in ASD Adolescents

It is essential to recognize that the experiences and challenges faced by adolescents with ASD can vary widely. Each individual is unique, and their specific concerns may be influenced by factors such as the level of support they receive, their strengths, and environmental factors. According to the Pew Research Center (2019), significant problems among youth aged 13 to 17 include anxiety, depression, bullying, and drug and alcohol use, with mental health concerns ranking at the top. Adolescents with ASD are particularly susceptible to anxiety and depression (Siminoff et al., 2008; Strang et al., 2013). In addition, transitioning to and coping with middle or high school, establishing personal boundaries, maintaining hygiene routines, navigating social

interactions, addressing sex-specific puberty issues, and managing sexual vulnerabilities (Cridlant et al., 2014) are among the concerns adolescents with ASD commonly face. The specific cognitive, emotional, or behavioral profiles associated with ASD place adolescents at risk of experiencing stigma, social isolation, and difficulties forming interpersonal relationships (Mazumder & Thompson-Hodgetts, 2019). Adolescence is characterized by significant physical, hormonal, psychological, and emotional development, which increases the likelihood of developing disorders (Costello et al., 2011) and facing higher-risk social and life challenges.

Interpersonal Dysregulation and Autism

Social communication and interaction difficulties are inherent characteristics of individuals with ASD (APA, 2013). Within social interactions and relationships, a significant challenge experienced by individuals with ASD is interpersonal dysregulation. Interpersonal dysregulation refers to difficulties regulating emotions, behaviors, and responses within interpersonal contexts (Ruthus & Miller, 2015). Individuals with ASD often struggle to understand and appropriately respond to social cues, interpret nonverbal communication, and navigate the complexities of social interactions.

Interpersonal dysregulation in individuals with autism can manifest in various ways. For example, they may experience difficulties in initiating and maintaining conversations, expressing empathy, understanding social norms, and establishing reciprocal relationships. These challenges can result in social isolation, limited opportunities for social engagement, and a sense of not fitting in with their peers. The underlying mechanisms contributing to interpersonal dysregulation in ASD are complex and multifaceted. Theory of Mind allows individuals to make inferences about others' behaviors, understand their intentions, and predict their actions based on

their mental states. It plays a crucial role in social interactions, empathy, and understanding the minds of others. For example, impairments in social cognition, through the lens of Theory of Mind (the ability to understand others' thoughts, beliefs, and intentions) and emotional processing, play a role in the difficulties individuals with ASD face in accurately interpreting social situations and responding appropriately (Baren-Cohen, 2000). Additionally, sensory sensitivities and atypical sensory processing in individuals with ASD can contribute to interpersonal dysregulation.

Adolescents with ASD commonly encounter struggles in social interactions and communication skills. They may face challenges understanding social cues, maintaining friendships, and engaging in reciprocal conversations. These challenges can lead to social isolation and feelings of loneliness (Autism and Developmental Disabilities Network, 2014). The difficulties and lack of social interactions can impact the ability of individuals with ASD to develop meaningful friendships (Petrina et al., 2014), increasing their vulnerability to social rejection and bullying (Symes & Humphry, 2010; Sterzing et al., 2012). Adolescents with ASD express concerns about their reputation (Cage et al., 2016), striving to maintain self-respect while seeking approval from others. This desire for social connections and peer relationships can prompt them to conform to fit in and avoid peer rejection. Peer pressure is considered one of the primary reasons adolescents engage in risky behaviors, and such behaviors often occur within the peer context (Crosnoe & McNeely, 2008; McLeod, 2018). Social nuances during adolescence are intricate and further complicated by rapidly changing social expectations (Tierney et al., 2016). Adolescents with ASD struggle with socialization (Cridland et al., 2014), expressing their needs to teachers, and interacting with peers, resulting in a high degree of loneliness and low perceived

social support from classmates, parents, and close friends (Bauminger et al., 2003; Lasgaard et al., 2010).

In a study by Bauminger and Kasari (2000), children aged eight to fourteen with ASD reported a heightened and more frequent experience of loneliness compared to neurotypical children. Interestingly, children with ASD tend to perceive and understand loneliness differently, often failing to associate it with emotional states such as sadness. The researchers proposed that this increased loneliness among children with ASD may be attributed to the poor quality of their friendships, which fails to provide them with the essential sense of security and companionship needed to alleviate feelings of loneliness. The presence or absence of quality friendships is associated with internalizing symptoms such as anxiety and depression among children and adolescents with ASD and having at least one reciprocal friendship is associated with lower levels of internalizing symptoms (Mazurek & Kanne, 2010), which also persists into adulthood (Mazurek, 2014).

Loneliness, a subjective experience characterized by a sense of disconnection from others rather than mere solitude, has significant implications for individuals' psychological and physical well-being and is prevalent among the ASD population (Mazurek, 2014). The repercussions of loneliness can manifest in various ways for individuals with ASD, including an increased contemplation of self-harm and long-lasting effects on psychosocial and emotional development that extend into adulthood (Bauminger & Kasari, 2000 & Caspi et al., 2006). Social isolation, a distressing state experienced by adolescents, has detrimental consequences in both the physical and mental health domains. These consequences include reduced sleep efficiency, compromised immune function, and a higher susceptibility to depressive symptoms. Furthermore, individuals grappling with loneliness and social isolation are more prone to risky behaviors, particularly

substance abuse. Research findings consistently support the notion that the peak incidence of loneliness occurs during the formative years of adolescence and early adulthood (Cigna et al., 2018).

ASD and Early Intervention

The initiation of intervention for ASD has occurred at earlier ages since the early 2000s due to improved diagnoses (Charman, 2010). Signs of social and communication difficulties in children typically become apparent around two (Turner, 2007). However, research indicates that many adolescents and adults with ASD continue to face challenges in achieving independence and establishing social connections, with early impairments in communication and social interaction having long-term consequences into adulthood. For instance, longitudinal studies examining adult outcomes in ASD have demonstrated that early childhood language and joint attention skills predict adaptive social functioning and independence in adulthood (Gillespie-Lynch et al., 2012). Early interventions targeting social communication are essential, considering the importance of early childhood for development. Although there have been improvements in access to early interventions for children and adolescents with ASD (Matson & Kozlowski, 2011), it is crucial to recognize that ongoing support is still necessary to develop social interaction skills in this population (Paul & Sutherland, 2005). Unfortunately, access to such support remains a persistent challenge (Carr & Lord, 2016; Straiton et al., 2021). Focusing on social skills and interpersonal relationships in early ASD interventions is of utmost importance. Individuals diagnosed with ASD often do not acquire social behaviors naturally from social cues alone. They typically benefit from explicit instruction and specific treatment programs that aim to teach social knowledge and understanding rather than relying solely on motivational efforts to

engage socially (Bauminger & Kasari, 2000). Assisting parents in developing strategies and skills to support their child's social abilities is a path to early intervention and ongoing support.

Challenges in ASD Services and Treatment Options

Transitioning from pediatric to adult services during adolescence is a significant milestone for individuals with ASD and their families. However, this phase poses considerable complexities and challenges, primarily due to the lack of continuity in care and limited awareness and understanding of the specific needs of adolescents with ASD within adult service systems (Cheak-Zamora et al., 2013; Cheak-Zamora et al., 2020; Taylor & Seltzer, 2011). It also entails significant long-term economic costs.

While not all individuals with ASD require lifelong assistance, many do, and this support is typically provided by family members, especially parents (National Alliance for Caregiving [NAC], 2020). In addition, although routine screening for ASD has become more common and treatment needs have increased due to higher prevalence, issues of access to adequate and cost-effective treatment remain barriers (Jensen & Spannagel, 2010). Furthermore, ongoing challenges related to treatment retention, skill development, skill maintenance, and generalization of interventions impact both adolescents and parents (Hong et al., 2018). Finally, a lack of trained specialists, particularly in rural and underserved areas, contributes to the difficulty in implementing empirically supported interventions (Belfer & Saxena, 2006; World Health Organization, 2007). For example, a Stanford University School of Medicine study revealed a significant shortage of autism treatment centers. The results showed that the demand for treatment nationwide is approximately 18 times greater than the available supply of caregivers (Digitale, 2017). This highlights the substantial imbalance between the need for autism treatment options and available resources.

Several factors influence parents' decision-making regarding intervention choices. For example, language barriers can hinder parents' access to services, leading them to opt out if the service provider or treatment program is unavailable in their language (St. Amant et al., 2017). In addition, the availability, accessibility, cost of interventions, and lack of connections with service providers also heavily influence parents' decisions regarding their child's participation in treatment (Carlon et al., 2013; Helkkula et al., 2020).

Given the scarcity of specialists in many low-resource settings, delivering interventions through parents has emerged as an accessible alternative. The suggested solution to overcome these barriers is parent training programs. A review of parent training methods for children with developmental disabilities found that parent training is cost-effective, may reduce the need for psychopharmacological interventions, and has the potential to generalize behavior to other areas of life (Matson et al., 2009).

Theoretical Framework

Parent Development Theory

Parent Development Theory (PDT), closely aligned with social learning and cognitive developmental theories, explores how individuals construct and modify their parenting perspectives over time based on developmental stages within the parent's social role (Mowder, 2005). PDT highlights the significance of understanding children's and parents' developmental stages. As children develop, parents' perception of their parenting role evolves, as they are defined as "individuals who recognize, accept, and perform the parent role" (Mowder, 2006, p. 81). Research indicates that parents generally perceive the parent role as encompassing six primary characteristics: bonding, discipline, education, general welfare, protection, responsivity,

and sensitivity (Mowder, 2005). Education, for instance, involves transmitting information to children through advising, role modeling, counseling, preparing, and demonstrating by example.

Parents' understanding of their role becomes more complex as they gain experience in the parent-child relationship, acquire education, and interact within their family and broader cultural environment. Societal and cultural factors, including religion, also influence parenting. As individuals progress through the stages of parenting, they develop their unique perspectives on what it means to be a parent. In addition, when a child has a disability, a person's understanding of the parent's role must be adjusted to accommodate the child's specific developmental needs (Sperling, 2003).

Involving parents in their child's treatment is standard practice, and professionals, such as counselors, must understand the parenting role to work with parents effectively. Without this awareness, child-oriented services may be well-intentioned but less optimal (Mowder, 2005). This theory underscores the uniqueness of each parent's perspective and the need for tailored approaches to meet their child's needs. Practitioners should consider the factors influencing the parent's role in optimizing treatment outcomes. The parent role encompasses parental characteristics, child characteristics, parent-child interactions, family dynamics, and the social/cultural environment.

Parent training programs can teach parents about typical child development, helping them establish realistic expectations and respond appropriately to their child's needs. Reflective parenting, which involves parents understanding their thoughts, emotions, and behaviors in relation to their child's needs, can be incorporated into parent training programs. By integrating Parent Development Theory into parent training programs, practitioners can offer a comprehensive understanding of child development, promote reflective parenting practices,

support parental growth and well-being, foster secure parent-child attachments, and tailor interventions to individual and developmental needs. This integration enhances the effectiveness and impact of parent training, benefiting both parents and their children.

Working Alliance

The framework of Bordin (1979) is often used to conceptualize the working alliance, which comprises three interconnected components: (1) agreement between the client and counselor on treatment goals, (2) agreement on the strategies to achieve those goals, and (3) the development of a personal bond between the client and counselor. The term "alliance," whether referred to as therapeutic, working, or helping, captures the collaborative and holistic nature of the counselor-client relationship. In their work, Chan and colleagues (2004) described the components of a working alliance as the affective relationship, motivation and ability, empathic responsiveness, and goal/task agreement. Numerous studies examining the efficacy of psychotherapy consistently demonstrate that the working alliance, regardless of theoretical orientation, predicts positive treatment outcomes (Flückiger et al., 2018; Lustig et al., 2002; Stagg et al., 2019). Wampold (2001) even indicated that the effect of the working alliance on client outcomes could account for a substantial portion of the overall effect size, ranging from .75 to .85. Therefore, the significance of relationships and intentional collaboration between clients and counselors cannot be overstated, with the working alliance serving as a fundamental element in the counseling process.

The concept of a working alliance can be applied to parent training programs to enhance their effectiveness. For positive outcomes, it is crucial to establish a strong working alliance between the parent and the trainer, the trainer and the child, and between the parent and child. This alliance involves creating a supportive and non-judgmental space where parents feel

comfortable expressing their concerns and asking questions. Regular communication and feedback between the parent and the trainer are vital for maintaining the working alliance. This communication may involve discussing progress, addressing challenges, and adapting intervention strategies as necessary. In addition, the trainer should empower parents by equipping them with the knowledge, skills, and resources needed to implement the training program at home effectively. By fostering a strong working alliance, parent training programs can promote active engagement, motivation, and commitment from parents, leading to better adherence to the program and improved outcomes for the child.

Teaching Alliance

Counselor educators are responsible for teaching future practitioners the significance of harnessing the power of the working alliance (Connor & Leahy, 2017, p. 374) and utilizing the teaching alliance as a pedagogical tool. The concept of the working alliance extends beyond therapeutic contexts and can be applied to any interaction or collaborative process involving change, including teaching. Ursano and colleagues (2007) describe the teaching alliance as the working relationship between teachers and students, characterized by shared goals and tasks. It entails a collaborative effort with mutual responsibilities, where the teacher commits to imparting knowledge and acting in the student's best interest. In response, the student agrees to put in the effort to learn. This relationship is built on mutual respect, responsibility, empathy, and understanding. Like the working alliance, the teaching alliance is an ongoing process requiring regular maintenance.

The impact of the teacher-student relationship is evident in various aspects, such as high school dropout rates, student engagement, and persistence (Noble et al., 2020; Quin, 2017). In addition, positive teacher-student relationships also contribute to students' social, behavioral, and

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academic adjustment (Baker, 2006; Berry & O'Connor, 2010; Toste et al., 2010), as well as greater academic competence and school satisfaction for students with disabilities compared to their peers (Toste et al., 2014).

Effective instructional strategies should be employed to promote active learning and skill acquisition. These strategies involve providing clear instructions, using practical examples and demonstrations, offering opportunities for practice and feedback, and employing various teaching methods to accommodate different learning styles. In the context of parent training programs, the teaching alliance is further reinforced using the OARS Model. The OARS Model is a communication framework derived from motivational interviewing, a client-centered counseling approach. It consists of Open-ended questions, Affirmations, Reflective listening, and Summarizing (Westra & Aviram, 2013). Open-ended questions encourage parents to express themselves and explore their thoughts and feelings. Affirmations acknowledge their strengths and efforts. Reflective listening involves actively listening and restating or paraphrasing to demonstrate understanding. Finally, summarizing brings together essential points and provides a concise discussion overview. The OARS Model aims to create a collaborative and non-judgmental environment that enhances parents' motivation and autonomy in making positive changes.

Applying the teaching alliance to parent training programs emphasizes the collaborative relationship, shared goals, and effective instructional strategies between the trainer and the parent. Clear communication of the training goals and objectives is essential, ensuring a shared understanding between the trainer and parent regarding the desired outcomes. When designing and delivering the training materials, the trainer should also consider the parent's unique learning needs, preferences, and cultural background. By applying the teaching alliance in parent training

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programs, trainers can establish a positive and empowering learning environment, facilitate effective skill acquisition, and support parents' successful implementation of new parenting strategies.

Purpose of Study

The study's main objective was to assess the feasibility of implementing a newly developed parent training program focused on enhancing interpersonal effectiveness skills for adolescents with ASD, drawing inspiration from the DBT Skills Manual for Adolescents (Rathus & Miller, 2015). Feasibility was determined by evaluating the program's consistent and effective delivery. Additionally, the study aimed to measure the program's acceptability through parent ratings of satisfaction, knowledge, parenting confidence, and program acceptability.

By investigating feasibility and acceptability, the study aimed to contribute to advancing treatment accessibility, maintenance, and generalizability for adolescents with ASD. The program's goals were also to enhance parent-child relationships, improve parent-child communication, boost parenting confidence, and reduce parental stress. By targeting these areas, the study sought to support the development of interpersonal effectiveness skills in adolescents with ASD, fostering positive outcomes for parents and their adolescents.

Research Questions and Hypotheses

1. Research Question 1. Is the Interpersonal Effectiveness Skills Training for adolescents with ASD feasible to be implemented by parents as a parent training program?

   1.1 Research Hypothesis. By the end of the program, parents will rate the program to be acceptable at least an average rating (measured by the Acceptability of Intervention Measure).

1.2 Research Hypothesis. By the end of the program, parents will rate the program to be appropriate at least an average rating (measured by the Intervention Appropriate Measure).

1.3 Research Hypothesis. By the end of the program, parents will rate the program to be feasible with at least an average rating (measured by the Feasibility of Intervention Measure).

1.4 Research Hypothesis. Throughout the program, parents will rate each session to be good in each of the 7 items: (a) felt engaged; (b) understood content; (c) learned something useful; (d) felt confident in teaching the materials to their adolescent; (e) felt their questions/concerns addressed; (f) felt satisfied; and (g) felt materials was useful of at least an average rating (measured by the Parent Training Checklist and Parent Training Checklist-Observation).

1.5 Research Hypothesis. By the end of the program, parents will rate the program to be satisfactory at least an average rating (measured by the Program/Consumer Satisfaction Scale)

1.6 Research Hypothesis. By the end of the program, parents will have on average high fidelity across all four sessions as rated by a trained independent research assistant.

2. Research Question 2. Does the Interpersonal Effectiveness Skills Training for adolescents with ASD have additional secondary outcomes?

2.1 Research Hypothesis. Compared to before the training, parents of adolescents with ASD, and adolescents will show a statistically significant increase in knowledge (measured by the Knowledge Scale) of interpersonal effectiveness skills after the training.

2.2 Research Hypothesis. Compared to before the training, parents of adolescents with ASD will show a statistically significant increase in overall confidence in parenting (measured by the BASC-3 PRQ) after the training.

2.3 Research Hypothesis. Compared to before the training, parents will show a statistically significant decrease in the overall parental stress (measured by the Parental Stress Scale) after the training.

2.4 Research Hypothesis.

    2.4.1   Research Hypothesis 2.4a. Compared to before the training, parents will show a statistically significant increase in parent-adolescent shared activities (measured by the Parent-Adolescent Relationship Scale) rated by the parent.

    2.4.2   Research Hypothesis 2.4b. Compared to before the training, parents will show a statistically significant increase in parent-adolescent connection (measured by the Parent-Adolescent Relationship Scale) rated by the parent.

    2.4.3   Research Hypothesis 2.4c. Compared to before the training, parents will show a statistically significant decrease in parent-adolescent hostility (measured by the Parent-Adolescent Relationship Scale) rated by the parent.

2.5 Research Hypothesis. Compared to before the training, adolescents with ASD will show a statistically significant increase in social skills (measured by the Social Skills subscale of BASC-2) rated by the parent after parent training.

2.6 Research Hypothesis. Compared to before the training, adolescents with ASD will

show a statistically significant increase in communication (measured by the

BASC-3 PRQ) rated by the parent after parent training.

2.7 Research Hypothesis. Compared to before the training, adolescents with ASD will

show a statistically significant increase in interpersonal skills (measured by the

Interpersonal Skills Scale) rated by the parent after parent training.

Brief Summary of Study Methodology

Upon receiving approval from the Institutional Review Board (IRB), the researcher

emailed school directors and agency administrators to extend an invitation to participate in the

program. The invitation letter provided detailed information about the study's purpose, inclusion

criteria, and research methods. Along with the letter, an online-based screening survey was

emailed to potential participants. All parents completed an informed consent process before

commencing the parent training, administration, and observation.

To address the research questions, participants were asked to complete a demographic

form and a set of surveys, including the following measures: (a) Behavior Assessment System

for Children-3-Parent Rating Scale (social skills subscale) (Reynolds & Kamphaus, 2015), (b)

Knowledge Scale, (c) Behavior Assessment System for Children –3- Parent Relationship

Questionnaire Child/Adolescent (confidence in parenting and adolescent communication

subscale) (Kamphaus & Reynold, 2015), (d) Parental Stress Scale (Berry & Jones, 1995), (e)

Parent-Adolescent Relationship Scale (Burke et al., 2021), and (f) Interpersonal Skills Scale

(ISS). The parent training program consisted of three components: (a) asynchronous training, (b)

in-person workshop, and (c) home observations. First, the asynchronous online portion provided

an overview of adolescents' DBT skills, focusing on interpersonal effectiveness. The second part,

a four-hour workshop, took place at the University campus and was conducted in four 50-minute sessions, including three 10-minute breaks, covering Interpersonal Effectiveness Skills based on the DBT Skills Manual for Adolescents (Rathus & Miller, 2015).

In the third part, researchers scheduled two home visits with each participant. The Principal Investigator (PI) or a trained research assistant arranged mutually convenient times to visit each parent's home and observe two sessions where the parent instructed their adolescent child in a quiet home setting. The PI or the research assistant observed either in person or virtually, using a fidelity checklist developed by the researchers to assess the fidelity of the parent's implementation of each module. Another round of home visits occurred to observe the last two modules, either in person or virtually, based on the parent's preference and accessibility. Following program completion, each parent completed the following measures: (a) Acceptability of Intervention Measure, Intervention Appropriateness Measure, and Feasibility of Intervention Measure (Weiner et al., 2017), (b) Program/Consumer Satisfaction Scale (researcher-developed, 2023), (c) Behavior Assessment System for Children-3-Parent Rating Scale (social skills subscale) (Reynolds & Kamphaus, 2015), (d) Knowledge Scale (researcher-developed, 2023), (e) Behavior Assessment System for Children –3- Parent Relationship Questionnaire Child/Adolescent (confidence in parenting and adolescent communication subscale) (Kamphaus & Reynold, 2015), (f) Parental Stress Scale (Berry & Jones, 1995), (g) Parent-Adolescent Relationship Scale (Burke et al., 2021), and (h) Interpersonal Skills Scale (researcher-developed, 2023).

In addition to the measures above, data on feasibility outcomes were collected at the end of each session, capturing the program's progress using the Parent Training Checklist. At the end of the parent workshop, parents rated seven 1-item ratings to monitor their experience, including

engagement, understanding of the content, usefulness of the learned material, confidence in teaching the material to their adolescent, addressing of their questions/concerns, overall satisfaction, and usefulness of materials. After each home observation, parents completed the Parent Training Checklist-Observations, rating their training experience based on similar 1-item ratings.

Furthermore, parent satisfaction with the program was quantified using a measure developed by the researchers, and the preliminary efficacy of the program was assessed based on the social skills and communication skills subscales of the BASC-PRS. Finally, treatment adherence was measured by evaluating fidelity, rated by a trained research assistant.

Data analysis was conducted using IBM SPSS Statistics version 28, following established protocols. The study employed a convergent parallel mixed methods approach, which involved the simultaneous collection and analysis of qualitative and quantitative data (Creswell & Clark, 2017). The findings from both approaches were comprehensively compared and integrated. Survey data was collected using Qualtrics and paper forms and securely saved in a designated server.

Definition of Terms

To ensure veracity and clarify concepts, the definitions of terms are as follows:

DBT skills training on interpersonal effectiveness – DBT skills on interpersonal effectiveness are one component of DBT skills training for adolescents. Its main goal is to develop relationship skills to build and maintain positive relationships (Rathus & Miller, 2015).

Interpersonal dysregulation – Characteristics of interpersonal dysregulation are unstable relationships, interpersonal conflict, chronic family disturbance, social isolation, efforts to avoid

abandonment, and difficulties getting wants and needs met in relationships, and maintaining

one's self-respect in relationships (Rathus & Miller, 2015).

Mindfulness – Mindfulness is an "awareness of one's internal states and surroundings.

Mindfulness is to help people avoid destructive or automatic habits and responses by learning to

observe their thoughts, emotions, and other present-moment experiences without judging or

reacting to them" (APA, 2015, p. 655).

Wise Mind – Wise mind is the synthesis of emotional mind and reasonable mind to make

optimal decisions and choices on how to act (Rathus & Miller, 2015).

Reasonable mind – Reasonable mind is when one acts or thinks without emotions present or

considering feelings. It may involve problem-solving, thinking logically, planning, or

considering consequences (Rathus & Miller, 2015).

Emotion mind – Emotion mind is the opposite of reasonable mind. It is when emotion consumes

a person and makes it difficult to think rationally about consequences (Rathus & Miller, 2015).

CHAPTER 2: LITERATURE REVIEW

The American Psychiatric Association (2013) categorizes autism spectrum disorder

(ASD) as a neurodevelopmental disorder defined by diagnostic criteria, including persistent

deficits in social communication and social interaction across multiple contexts and restricted,

repetitive patterns of behavior, interest, or activities. Symptoms are usually present within two

years after birth, and severity is based on social communication impairments and restricted

repetitive behavior patterns. The Diagnostic and Statistical Manual of Mental Disorders, 5th

Edition (DSM-5) versus the DSM-IV includes all subcategories such as Asperger's disorder and

pervasive developmental disorder not otherwise specified under one umbrella of diagnosis of

ASD. ASD is generally a lifelong condition beginning in childhood and with pathological

outcomes in adulthood. Outcomes are often described as difficulties or issues in finance,

employment, and socialization (Fountain et al., 2012).

Autism Spectrum Disorder and the Importance of Interpersonal Relationships

Prevalence of ASD

Developmental Disabilities Monitoring (ADDM) Network most recently estimated that

approximately one in 36 children have been diagnosed with ASD (Maenner et al., 2023).

Moreover, data from the 2009-2017 National Health Interview Survey indicated that males were

four times more likely to be identified with ASD than females. In addition, specific populations,

including non-Hispanic white and non-Hispanic black children, children residing in rural areas,

and children with public health insurance, have shown higher rates of ASD diagnosis (Zablotsky

et al., 2019).

The increased observed prevalence of ASD within a relatively short period has sparked

considerable debate. Rice et al. (2012) explored various potential explanations for this rise,

which include advancements in analytic tools, improved screening methods, revisions in

diagnostic criteria through successive editions of the Diagnostic and Statistical Manual of Mental

Disorders (DSM), heightened awareness among parents and clinicians, environmental and

biological risk factors, as well as the possibility of an actual increase in the prevalence of ASD.

Characteristics of ASD

Individuals with ASD exhibit shared characteristics; however, each person is unique, and

the symptoms can vary in severity and presentation. The Diagnostic and Statistical Manual of

Mental Disorders (5th ed; DSM-5; American Psychiatric Association [APA], 2013) outlines

seven criteria divided into two broad areas of impairment: (a) deficits in social communication

and social interaction and (b) restricted, repetitive patterns of behavior, interests, or activities.

These core symptoms of ASD can impact individuals throughout their lives. The impact of

autism can range from severe to mild, affecting skills, behavior, and cognitive abilities to varying

degrees. Challenges faced by individuals with autism include difficulties with social cues,

engagement in repetitive behaviors, struggles with verbal and nonverbal communication, sensory

sensitivities, resistance to change, and difficulties with executive functioning.

Comorbidities of ASD

Children with ASD frequently experience various physical, medical, neurological, and

mental health conditions (Al-Beltagi, 2021). Common comorbidities of ASD include epilepsy,

psychiatric/behavioral complaints, and gastrointestinal (GI) disorders. Epilepsy, for instance,

affects a significant portion, ranging from 25% to 40% of individuals with ASD, posing a

notable concern for families (Spence, 2009). Another prevalent comorbidity in children with

ASD is Attention-Deficit/Hyperactivity Disorder (ADHD), with a prevalence rate of

approximately 42% (Kaat et al., 2013; Joshi et al., 2017). Children with comorbid ASD and

ADHD often face challenges in social interactions with peers (Taurines et al., 2012), exhibit a heightened risk of anxiety and mood disorders (Gordon-Lipkin et al., 2018), and experience a higher incidence of other comorbid symptoms compared to those with ASD or ADHD alone (Jang et al., 2013). While ASD and ADHD have distinct differences, the two disorders overlap in behavioral, biological, and neurological aspects (Kern et al., 2015). Healthcare providers often become aware of a child's ASD when they present with conditions such as anxiety, depression, or attention-deficit/hyperactivity disorder, which are more prevalent among individuals with ASD than those without ASD (Centers for Disease Control and Prevention [CDC], 2022). These comorbidities can significantly impact the well-being of the child, adolescent, and family, often necessitating adjustments to intervention strategies.

ASD and Interpersonal Relationships

Adolescence represents a period of heightened stress and transition, bridging the gap between childhood and adulthood. For individuals with ASD, this phase involves navigating the challenges of middle and high school while grappling with new social expectations and a desire for independence (Hume, 2014; Kipke, 1999). Adolescence also coincides with critical stages of physical maturation and brain development, further adding to the complexities faced by individuals with ASD.

Studies have shown that social challenges persist into adolescence for individuals with ASD, making it difficult to develop and maintain friendships, communicate effectively with peers and adults, and understand expected behaviors in academic and social settings (CDC, 2022). In addition, social impairments directly hinder meaningful interpersonal interactions, as individuals with ASD may struggle with understanding and expressing emotions, exhibit intense focus on specific topics, and lack conversational reciprocity (Wing, 1981). Consequently,

deficits in empathizing and connecting with others hinder forming and maintaining friendships, often leading to experiences of social exclusion and bullying (Petrina et al., 2014; Sterzing et al., 2012; Symes & Humphry, 2010).

The consequences of social interaction deficits and interpersonal dysregulation are significant for individuals with ASD. The lack of meaningful relationships puts them at risk of loneliness, anxiety, depression, increased aggression, academic underperformance, low employment rates, high dropout rates, sleep problems, higher rates of suicidality and substance use, and challenges related to sexuality (Caspi et al., 2006; Espen & Sissel, 2006; Fleury et al., 2014; Kern et al., 2015; Shattuck et al., 2012; Volkmar et al., 2017). Furthermore, individuals with ASD often desire social relationships but face barriers such as limited peer interaction, poor social support, and increased feelings of loneliness (Bauminger & Kasari, 2003; Kern et al., 2015).

While challenges persist, positive interactions with peers and teachers and engagement in extracurricular activities can contribute to the academic well-being of individuals with ASD (Kort-Butler & Hagewen, 2011; Savi Cakar & Karatas, 2012). Understanding and supporting friendships in individuals with ASD is crucial, even if the nature and quality of these friendships may differ from those of neurotypical individuals. ASD friendships often revolve around shared interests, routines, and sensory experiences. Interventions to enhance social skills, promote shared interests, and foster inclusive environments can play a vital role in forming and maintaining friendships among individuals with ASD. Social support and positive peer relationships significantly contribute to the well-being and happiness of adolescents with ASD (Cheung & Datu, 2022).

ASD Early Intervention Research

 With advancements in early diagnosis and the implementation of evidence-based interventions, the overall outcomes for individuals with ASD have gradually improved (Volkmar et al., 2017). Over the years, there has been a noticeable increase in the number of individuals with ASD who have achieved significant milestones, such as developing practical communication skills, acquiring literacy, driving, completing their education, and living independently within the community.

 The introduction of timely interventions has played a pivotal role in enhancing the autonomy attained by individuals with ASD. Extensive research underscores the critical importance of early intervention in fostering language and communication abilities, facilitating social interactions, promoting adaptive behaviors, and mitigating the severity of autism symptoms (Corsell, 2005; Makismovic et al., 2023; MacDonald et al., 2014; Pellecchia et al., 2022). Among the various interventions available, early behavioral intervention has emerged as a widely utilized and practical approach to improving outcomes for children with ASD (Matson & Konst, 2013).

 These findings highlight the significance of early intervention strategies and their positive impact on the lives of individuals with ASD. By addressing their specific needs early, practitioners can empower individuals with ASD to achieve greater independence and enhance their overall quality of life.

Applied Behavior Analysis

 Applied Behavior Analysis (ABA) is widely recognized as an evidence-based intervention for individuals with ASD. This systematic and data-driven approach analyzes and modifies behaviors to improve social, communication, and adaptive skills while reducing

challenging behaviors. ABA interventions involve breaking down complex skills into manageable steps and utilizing reinforcement strategies to encourage desired behaviors. Extensive research supports the effectiveness of ABA in producing significant improvements across a wide range of skills, making it a highly recommended intervention for individuals with ASD (Estes et al., 2015; Gitimoghaddam et al., 2022; Peters-Scheffer et al., 2011). Rooted in the principles of operant conditioning as outlined by Skinner (1938), ABA also includes parent training models that empower parents to deliver effective behavioral interventions within the home environment (Dillenberger et al., 2012). In addition, Lavarias (2021) explored the lived experiences of parents of children receiving ABA treatment within their homes. The discoveries underscore the significance of the therapeutic working alliance, parents' comprehension of the treatment, and the importance of consistent, transparent communication.

While ABA has demonstrated its effectiveness, it is important to acknowledge some concerns and challenges. For example, few studies have evaluated the long-term effects of behavioral intervention programs (Posar & Visconti, 2019). Researchers have also questioned the potential imbalance in ABA's focus on behavior correction and the need to promote individual autonomy and self-determination (Sandoval-Norton et al., 2019). In response, individuals with ASD who have undergone ABA therapy have expressed concerns about a perceived lack of control over their lives and using reward systems as a means of control (Anderson, 2022). Furthermore, there are ongoing debates regarding the ethical nature of ABA as a treatment (Wilkenfeld & McCarthy, 2020).

These discussions highlight the importance of adopting a more balanced approach that promotes independence, self-determination, and individual rights alongside therapeutic goals. It

is crucial to continually evaluate and refine interventions like ABA to address these concerns and ensure the well-being and autonomy of individuals with ASD.

Social Skills Intervention

Social Skills Intervention is a popular evidence-based approach to enhancing social communication skills and interactions for individuals with ASD. This intervention explicitly targets challenges related to social cues, perspective-taking, nonverbal communication, and social reciprocity (Dean & Chang, 2021). Various structured methods are employed within social skills interventions, including social stories, role-playing, video modeling, virtual reality, peer-mediated interventions, and explicit instruction (Dean & Chang, 2021; Dechsling et al., 2021; Radley et al., 2020; Wolstencroft et al., 2018). It is worth noting that interventions involving parents and parent groups tend to have longer durations and yield larger effect sizes (Wolstencroft et al., 2018).

While social skills interventions for young children with ASD have received considerable attention, there has been relatively less focus on the adolescent population (Rosenthal et al., 2013; Fuller & Kaiser, 2020; Reichow & Volkmar, 2010). Additionally, there need to be more studies targeting middle and high school populations (Carter et al., 2010). Laugeson et al. (2012) introduced the UCLA PEERS program to address these gaps. This evidence-based intervention specifically targets the social needs of adolescents with ASD and involves active parent participation. The PEERS program encompasses various aspects, including conversation skills, friendship development, conflict resolution, and social media etiquette (Moulton & Laugeson, 2020). Evaluating and developing effective interventions that address the social and relational needs unique to adolescents with ASD is needed. Focusing on this critical stage of development

can enhance the social well-being and quality of life of individuals with ASD as they navigate the complexities of adolescence and beyond.

Dialectical Behavioral Therapy

Dialectical Behavior Therapy (DBT) is a cognitive behavioral treatment developed by Marsha Linehan in 1987. Initially designed for suicidal and parasuicidal adults, it has since evolved into a highly effective treatment for individuals with borderline personality disorder (BPD) and emotion dysregulation (Linehan, 1987; Ward-Ciesielski et al., 2020). At the core of DBT lies the biosocial and dialectical theory of psychological disorders, with a central focus on emotional regulation and cognitive behavior treatment.

The term "dialectic" in DBT refers to synthesizing two opposing ideas. DBT recognizes that a person can hold simultaneously opposing views, such as the desire to live and die. The fundamental principle of DBT is to create a therapeutic dynamic that promotes two opposed goals for patients: change and acceptance. The dialectical philosophy and biosocial theory underlie the framework of DBT (MacPherson et al., 2013) and its application for individuals dealing with suicidal ideation, BPD, and emotion dysregulation.

Through several randomized controlled trials, DBT has demonstrated its efficacy as an evidence-based practice and has been adapted to effectively treat various clinical disorders involving emotion dysregulation. These disorders include substance dependence (Dimeff & Linehan, 2008), binge eating in both adolescents and adults (Courbasson et al., 2012; Safer et al., 2007; Safer et al., 2009), anorexia nervosa (Lynch et al., 2013), comorbid personality disorder and depression (Lynch et al., 2007), bipolar disorder (Van Dijk et al., 2013), depressed and suicidal adolescents (McCauley et al., 2018), depressed elderly individuals (Lynch et al., 2003),

attention-deficit/hyperactivity disorder (ADHD) (Fleming et al., 2015), post-traumatic stress disorder (PTSD) (Harned et al., 2014), and intellectual disability (McNair et al., 2017).

A systematic review has shown that DBT has been culturally adapted, implemented, and accepted among several racial, ethnic, and cultural groups (Haft et al., 2022). In addition, DBT has been successfully implemented across various treatment settings, including inpatient and partial hospitalization, forensic settings, and family-based interventions (Panos et al., 2014). Its versatility and evidence-based nature have contributed to its widespread adoption and effectiveness in helping individuals with various emotional and behavioral challenges.

History of Dialectical Behavior Therapy

During the late 1970s and 1980s, when there was a lack of empirically supported treatments for individuals with suicidal and self-injurious behaviors, DBT emerged as a groundbreaking intervention. Initially, DBT was developed to address the complex challenges faced by chronically suicidal individuals. Linehan and Wilks (2015) focused on reducing suicidal behaviors and later integrated the treatment approach with BPD.

In the early stages of DBT research, Linehan conducted her first randomized control trial, explicitly focusing on studying the most severely suicidal individuals she could recruit (Ward-Ciesielski et al., 2020). However, due to federal funding requirements that mandated research to specify a diagnosis, the study evaluated the effectiveness of DBT in treating chronically parasuicidal women who met the criteria for BPD (Linehan et al., 1991). This pivotal study marked an important milestone in establishing the effectiveness of DBT for individuals with BPD and paved the way for further research and clinical applications of the therapy.

By targeting the specific needs of individuals struggling with chronic suicidal ideation and self-injurious behaviors, DBT filled a significant gap in treatment options and provided a

comprehensive and evidence-based approach to address these complex challenges. The subsequent integration of DBT with BPD expanded its scope and applicability, leading to the development of specialized interventions that address emotional dysregulation, interpersonal difficulties, and other core symptoms associated with the disorder.

Framework of Dialectical Behavior Therapy

DBT is an integrative, multifaceted, multimodal treatment approach combining cognitive and behavioral techniques. It is rooted in a dialectical and biosocial theory of psychological disorders. DBT integrates individual psychotherapy with structured skills training to provide a comprehensive treatment framework (Linehan, 1993).

DBT recognizes the complex interplay between biological predispositions and psychosocial risk factors, such as emotional vulnerability, impulsivity, and environmental influences (Crowell et al., 2009; Linehan, 2015). By addressing these factors, DBT aims to assist clients in gaining insight and acquiring skills to effectively manage their thoughts, emotions, and behaviors, ultimately helping them develop a "life worth living."

The foundation of DBT lies in the combined capability deficit and motivational model of BPD. This model suggests that individuals with BPD often lack essential interpersonal, self-regulation (including emotional regulation), and distress tolerance skills. Moreover, personal and environmental factors can hinder utilizing existing behavioral skills while reinforcing maladaptive behaviors (Dimeff & Linehan, 2008). DBT incorporates behavior therapy elements and mindfulness practices inspired by Eastern traditions to address these challenges. The overarching dialectical worldview of DBT emphasizes the synthesis of opposites, encouraging clients to integrate acceptance and change in their lives.

Standard DBT typically involves weekly individual therapy sessions and weekly group skills training. This combination allows for individualized therapeutic support and the development of practical skills within a supportive group setting. The individual therapy sessions provide a space for addressing personal challenges, while the group skills training offers opportunities for learning and practicing new coping strategies in a collaborative environment.

Dialectical Philosophy

The development and foundation of DBT heavily relies on the principles of dialectical philosophy. This philosophical perspective encompasses three core characteristics that form the basis of DBT's approach (Linehan, 2015).

Firstly, dialectical philosophy emphasizes the wholeness of reality, suggesting that a comprehensive understanding of reality can only be achieved when individual parts are viewed in relation to the whole. In other words, analyzing isolated aspects without considering their interconnectedness may lead to limited insights.

Secondly, dialectical philosophy recognizes that reality comprises opposing forces. It acknowledges that seemingly contradictory truths can coexist and reflect different aspects of reality. This understanding allows for a more nuanced and inclusive perspective that embraces the complexity of human experiences.

Thirdly, dialectical philosophy views reality as an ongoing process of change. Both individuals and their environments are in a constant state of transition. This dynamic nature of reality underscores the importance of adaptability and recognizing that personal growth and transformation are integral to leading a fulfilling life (Linehan, 1993).

In line with these philosophical principles, DBT aims to help clients cultivate a "life worth living" by promoting change and acceptance. DBT recognizes that change and acceptance

are not mutually exclusive but interconnected and interdependent. Therefore, skills and techniques employed in DBT facilitate both change and acceptance, with the understanding that attempting to address opposing forces in isolation may yield limited results.

As Rathus and Miller (2015) observed, the dialectical therapeutic position within DBT involves constantly combining acceptance with change, flexibility with stability, nurturing with challenging and focusing on capabilities with acknowledging deficits. This balanced approach allows individuals to navigate the complexities of their lives, promoting personal growth while fostering self-acceptance and resilience.

Dialectical Behavior Therapy Skills Training

The underlying assumption of DBT is that individuals engaging in suicidal behaviors often do so to escape a life they perceive as not worth living. Consequently, these individuals require skills to better tolerate emotional distress and create a life worth living (Robins & Rosenthal, 2011). The skills training component of DBT alone has shown promise as an intervention for various problems. In a component analysis conducted by Linehan and colleagues (2015), three scenarios were compared: standard DBT, which includes skills training and individual therapy; DBT without skills training but with an activities group; and skills training combined with case management. While all three scenarios were compelling, the two involving skills training demonstrated greater effectiveness than DBT alone.

DBT skills are organized into five modules: (1) general skills, which focus on orientation and behavior analysis; (2) mindfulness skills; (3) interpersonal effectiveness skills; (4) emotion regulation skills; and (5) distress tolerance skills. These skills are taught in a structured classroom format, and participants must complete homework and practice the skills weekly. In the DBT treatment hierarchy, targets are addressed in the following order: (1) life-threatening

behavior, such as suicide; (2) therapy-interfering behavior, such as dishonesty or lateness; and (3) quality-of-life interfering behavior, including depression and substance use. DBT skills training as a standalone treatment for adults has been applied to numerous conditions, and multiple randomized controlled trials (RCTs) have been conducted over the past two decades to assess the effectiveness of skills training. The research is presented in Table 2.1 and 2.2.

Dialectical Behavior Therapy for Adolescents (DBT-A)

Modifications to DBT have been developed to cater to the specific characteristics of adolescents. Adolescents differ from adults in terms of their emotional and cognitive development within the context of their lives (e.g., spending significant time in school and at home) and variations in cognitive processing and capabilities. DBT for Adolescence (DBT-A) incorporates the family and utilizes family-based programs. The initial adaptation of DBT for adolescents was a shorter version that involved including the family in the intervention, primarily focusing on addressing self-harm and suicidal ideation (Miller et al., 1997; Miller et al., 2017). The adapted version of DBT for adolescents (Miller et al., 2007) is designed for outpatient settings and typically consists of weekly individual therapy sessions alongside concurrent skills groups that involve parent participation.

DBT-A has demonstrated efficacy in treating adolescents who engage in repeated suicidal and parasuicidal behaviors, self-harm, oppositional defiant disorder, bipolar disorder, binge eating disorder, anorexia nervosa, and trichotillomania (Fleischhaker et al., 2006; 2011; Goldstein et al., 2007; McCauley et al., 2018; Mehlum et al., 2014; Rathus & Miller, 2002; Reilly et al., 2020). Kothgassner and colleagues (2021) conducted a systematic review and meta-analysis of the literature on DBT-A for treating self-injury in adolescents aged 12 to 19. Their findings indicated that DBT-A is an effective treatment in reducing self-harm and suicidal

ideation in adolescents. Additionally, research has shown that DBT-A can significantly improve emotion regulation, depression, borderline symptoms, and coping strategies among sexual minority adolescents who identify as gay, lesbian, bisexual, or questioning (LGBQ) (Poon et al., 2022). While there is limited research on DBT and the population with ASD, a few studies have reported on its application in this context (Bemmouna et al., 2022; Lee, 2021; Ritschel et al., 2022).

Dialectical Behavior Therapy and ASD

A handful of studies have investigated the potential of DBT as an intervention for individuals with ASD. For example, Bemmouna et al. (2022) conducted a feasibility and preliminary efficacy study involving seven adults with ASD, aged 19 to 56, who exhibited self-harm and suicidal behaviors. The researchers implemented a standard DBT intervention, including skills training, individual therapy sessions, access to telephone coaching, and weekly therapist consultation. The findings indicated that DBT was feasible and highly acceptable to adults with ASD who experience emotion dysregulation.

In a preliminary study, Lee (2021) examined the feasibility and efficacy of a modified DBT skills training program targeting emotion regulation in young adults with ASD aged 18 to 26. The participants engaged in a 90-minute weekly group intervention for eight weeks. The results demonstrated preliminary evidence of significant improvement in psychological flexibility, adaptive emotion regulation strategies, and reduced emotion dysregulation. The study also revealed decreased psychological inflexibility and experiential avoidance, increased DBT skill use and cognitive reappraisal, and reduced emotion dysregulation and dysphoria.

Ritschel et al. (2022) conducted a study to assess the feasibility and acceptability of DBT for adults with ASD, without intellectual disability (ID), and co-occurring mental conditions,

aged 19 to 68. Participants with suicidal ideation were excluded from the study. The intervention

involved 24 weeks of DBT skills training delivered in a group setting. Similar to the studies

mentioned above, Ritschel et al. (2022) provided preliminary evidence supporting the feasibility

of DBT for this population. Feasibility was evaluated based on participant attendance and

retention rates across the 24 sessions, while acceptability was assessed through participant

satisfaction. Participants reported high confidence in the helpfulness of the intervention, finding

the DBT skills group intervention acceptable and beneficial.

Hartman et al. (2012) explored the potential of DBT for emotion regulation in individuals

with ASD and proposed specific adaptations of DBT for this population. Through a literature

review, they presented a rationale for why DBT could be an effective treatment for individuals

with ASD and offered suggestions for adaptations. For instance, they recommended shorter

treatment durations, a focus on social skills training, and involving family members in the

therapy process. Recognizing that many individuals with ASD live at home and interact with

family members, they highlighted the importance of incorporating family participation and

applying learned skills in real-life situations through planned reinforcers (Hartman et al., 2012).

Sakdalan and Maxwell (2023) conducted a case vignette to explore of the applications of

Dialectical Behavior Therapy (DBT) concepts and skills in the treatment of individuals with

ASD who exhibit challenging or offending behaviors. Their findings concluded that DBT can be

regarded as a highly effective, integrated, strengths-based approach for this population.

These studies collectively contribute to the growing body of research investigating the

feasibility, acceptability, and potential efficacy of DBT as an intervention for individuals with

ASD, addressing emotion dysregulation and related challenges specific to this population.

Dialectical Behavior Therapy Skills Training for Adolescents

DBT skills training has demonstrated effectiveness as a standalone intervention (Neacsiu et al., 2014), and DBT for Adolescence (DBT-A) is also emerging as a promising standalone treatment. However, DBT-A skills training has primarily been implemented in school-based settings as a social-emotional learning program, such as DBT Skills Training for Emotional Problem Solving for Adolescents (DBT STEPS-A) developed by Mazza et al. (2016), along with a few other settings.

While DBT-A skills training incorporates the four components of standard DBT skills training (Rathus & Miller, 2015), the adolescent manual introduces a unique addition called "Walking the Middle Path." This module aims to educate parents and adolescents about dialectics, exploring polarized and non-dialectical thinking patterns and behaviors commonly experienced by families with emotionally dysregulated teenagers. This module places a greater emphasis on validation and the application of dialectical principles to oneself and others. It delves into adolescent-family conflicts and how families can become polarized. The DBT skills training modules for adolescents typically include the following components: (1) orientation to the multifamily skills training group, (2) mindfulness skills, (3) distress tolerance, (4) walking the middle path, (5) emotion regulation skills, and (6) interpersonal effectiveness skills. Table 2.1 shows research on DBT skills training in adolescents, and Table 2.2 shows DBT skills training in adult populations.

Table 2.1

RCTs/Non-RCTs of Dialectical Behavior Therapy – Skills Training (DBT-S) Adolescent Population

Age (12-18)		
Targeted Skills	**Diagnosis/population**	**Outcomes**
DBT-S	Behavioral problems	Increased skills, intrapsychic changes
Walking the Middle Path Skills	& Family	High ratings of Middle Path skills, improved family function
Adapted DBT Skills (Linehan's, 1993b)	ODD	Decreased negative behavior and depression. Increased positive behavior.
DBT-S Emotional Problem Solving for Adolescence (DBT STEPS-A)	Low income	Feasibility & implementation for teachers
DBT STEPS-A	Rural 9th grade students	Feasibility & implementation for teachers
DBT STEPS-A	Female 15-16 years of age	Decreased emotion symptoms and internalizing problems
Brief DBT-S	Middle school	Feasibility, decreased risky behavior
Family therapy and DBT-S	Eating Disorders	Gained weight, decrease disordered eating
DBT-S	Binge-eating	Decreased binge- eating
DBT-Informed Skills	Depressed perinatal females	Decreased depression
DBT-S and Navajo healing traditions	Case study – Navajo female with major depressive disorder and psychotic features	Initial reduction in depression and suicidality was complicated by an increase in homicidal ideation.
DBT principles and skills	Suicidal and self-injuring adolescent & family	Decreased depression, anger, dissociative symptoms, and functional difficulties. Family decreased depression.

Table 2.2

RCTs/Non-RCTs of Dialectical Behavior Therapy – Skills Training (DBT-S) Adult Population

Adults (18 +)		
Targeted Skills	**Diagnosis/Population**	**Outcomes**
DBT-S	BPD	Decreased depression, anxiety, irritability, anger, affective instability, treatment drop-out
DBT-S	BPD	Increased DBT knowledge, confidence in skills, decreased emotional intensity
DBT-S	Bulima Nervosa/women	Decreased binging purging, depression
DBT-S	Binge Eating disorder/women	Decreased binge eating
DBT-S	Major Depressive disorder	Decreased anger, weight, shape, and eating concerns. Increased abstinence from binging
DBT-S	Major depressive disorder	Decreased depression. Increased remission of depressive symptoms
DBT-S	Major depressive disorder	Increased emotional processing
DBT-S	Bipolar disorder	Decreased depression. Increased mindfulness awareness, emotional regulation
DBT-S	ADHD	Decreased ADHD symptoms
DBT-S	Problem drinking	Decreased depression, drinking related problems. Increased emotion regulation, positive mood.
DBT-S	Vocational rehab for severe mental illness	Decreased depression, hopelessness, anger. Increased job satisfaction and hours worked.
DBT-S	Intimate partner violence. men	Decreased intimate partner violence potential, anger expression.
DBT-S	Incarcerated women with histories of trauma	Decreased PTSD, depression, and problems in interpersonal functioning
DBT-S	Inmates	Decreased aggression, impulsivity, and psychopathology.
DBT-S	Family members of individuals with BPD	Decreased grief, burden. Increased mastery
DBT-S	Family members of suicide attempters	Decreased anxiety, perceived family member burden, emotional overinvolvement. Increased psychiatric health
DBT-S	Self-injurious behavior	Decreased number of inpatient hospitalizations, outpatient appointments, general psychopathology.
DBT-S	Convicted offenders with intellectual disability	Decreased dynamic risk. Increased relative strengths, coping skills, and global functioning.
DBT-S	ODD	Decreased depression, negative behaviors. Increased positive behaviors.

Table 2.2 (cont'd)

DBT-S	ADHD	Decreased ADHD symptoms and depression.
DBT-S	Victims of interpersonal violence. women	Decreased depression, hopelessness, general distress. Increased social adjustment.
DBT-S	ASD with co-occurring mental illness	Feasibility, satisfaction, confidence and helpfulness
Modified DBT-S emotion regulation	ASD	Feasibility. Increased psychological flexibility, adaptive emotion regulation strategies, and reduction in emotion dysregulation

Note. Adapted from Lineham (2015).

The Importance of Parent Involvement and Engagement

From decades of research, it is well-established that involving parents in treating children with disabilities yields significant benefits for treatment outcomes (Bijou, 1984; Cridland et al., 2014; Rutter & Schloper, 1978). The role of parents is crucial, particularly when the child has a disability, as they play a vital role in the child's overall development. In addition, parent involvement is valuable because it allows for teaching opportunities tailored to the family's values, routines, the child's strengths and preferences, and specific language needs (Buschbacher et al., 2004).

The importance of the family's role should not be underestimated. Parental engagement has improved skill maintenance and generalization while enhancing family functioning and well-being for children with ASD (Garbacz et al., 2016). Research indicates that family participation in intervention predicts better outcomes, such as increased IQ, achievement, adaptive skills, and a greater likelihood of independence (Anderson et al., 2014). In addition, this participation in early intervention consistently predicts positive adult outcomes, including increased IQ, achievement, adaptive skills, and a higher probability of complete independence (Anderson et al., 2014).

Parent involvement is underscored by research showing the beneficial effects of engagement and strong family connections. For example, Woodman et al. (2015) discovered that increased maternal praise and a positive mother-child relationship in children with ASD were linked to improved social reciprocity, enhanced non-verbal communication, and reduced maladaptive behaviors in adulthood.

Parent Training

Family support services are critical in providing comprehensive care and assistance to children with ASD. These services aim to enhance the well-being of the child with ASD and their family members by offering information, guidance, counseling, and practical assistance. They encompass a range of resources, including parent training programs, support groups, respite care, counseling services, and access to community resources. These services create a supportive network that fosters understanding, acceptance, and emotional well-being by providing families with essential knowledge and skills to support their child's development effectively. This comprehensive support addresses families' specific needs and challenges, improving the overall quality of life for children with ASD and their families while promoting a nurturing and inclusive environment.

Caring for a child with a disability involves multifaceted responsibilities requiring a significant investment of time, energy, and resources (Anderson et al., 2007; National Caregiving Alliance, 2020). Parent training programs are evidence-based interventions encompassing various treatment modalities and are crucial in supporting families. These programs are designed to equip parents with the necessary skills and knowledge to implement behavioral interventions within the familiar context of their homes (Bearss et al., 2015; Kazdin, 1997).

Home-based interventions, facilitated through parent training programs, offer advantages for children with ASD and other developmental disabilities. They allow for promoting and reinforcing positive and prosocial behaviors in a natural setting. Parent training programs typically focus on reducing maladaptive behaviors, such as physical aggression, and replacing them with more functional behavior. Parent-delivered teaching techniques, such as modeling, skill-building, and home practice, are used to achieve these goals (Patterson et al., 2016). Parent-mediated interventions aim to teach parents how to deliver interventions directly or indirectly and are increasingly used to target skill deficits. Qualified trainers provide parents with education, training, and coaching to maximize their children's learning by increasing opportunities to practice skills.

Parent training programs can take various modalities, including group sessions, individual sessions, workshops, telehealth, and hybrid approaches combining telehealth and in-person sessions. Telehealth variants and web-based versions of parent training also show promising results of parent improvement in managing the problem behaviors of their child (Enebrink et al., 2012; Hinton et al., 2017; Sanders et al., 2014).

These programs cover various topics, from improving social and communication skills and accessing services to mindfulness and managing disruptive behavior (Harrop, 2015; Hong et al., 2018; Sofronoff et al., 2004; Wainer & Ingersoll, 2015). Regardless of the specific modality, most program participants demonstrate clinical improvement. The existing literature on parent training interventions for children with ASD suggests that these interventions can be viewed as complementary and potentially viable alternatives to clinic-based interventions (Scahill et al., 2016).

Parent and Adolescent Outcomes

Caring for a person with a disability comes with various physical and mental health risks (National Caregiving Alliance, 2020), emphasizing the need to recognize the direct benefits that parents receive through their participation in parent training programs. Extensive research on early intervention consistently highlights the significance of family involvement and support. Parent training programs and interventions that empower and educate parents to implement strategies at home have consistently shown positive effects on child outcomes and parent-child interactions. Notably, parents themselves report reduced stress levels, improved mental health, increased parental self-efficacy, enhanced knowledge of teaching strategies, and an overall improved quality of life (Brookman-Frazee & Koegel, 2004; Kashinath et al., 2006; Lichtle et al., 2020; Musetti et al., 2021; Schrott et al., 2019; Vismara et al., 2009). Iadarol and colleagues (2017) compared the impact of parent training vs. psychoeducation on parent outcomes. They found that parent training had greater improvements in reducing parent stress and improving parent competence and child behavior.

Furthermore, the literature highlights the benefits of parent training programs on family functioning and relationships. These programs have shown efficacy in improving parent-child interaction and relationships (Elder et al., 2003; Nefdt et al., 2010; Peishi, 2008), enhancing family social support, and reducing family isolation (Lucyshyn et al., 2007). Factor and colleagues (2019) systematically reviewed caregiver-administered interventions for individuals with ASD, focusing on family functioning and relationships. Their findings indicated that interventions where caregivers learned specific strategies for working with their child with ASD through professional instruction, resulted in improved family outcomes. These outcomes included decreased family chaos, increased family empowerment, emotional availability,

positive parent-child interactions, relationship quality, and enhanced family functioning. The review findings highlight the significant impact of family involvement in interventions on family functioning and relationships.

The effectiveness of parent training for the ASD population is influenced by several factors, such as the severity of the disability, cognitive functioning, additional psychopathology, access to intervention programs and services (Levy & Perry, 2011), parent socioeconomic status (SES), single-parent status, and parental age (Lundahl et al., 2006). However, parent-involved interventions have consistently shown positive outcomes for adolescents with ASD, including improved knowledge, peer interactions, and overall social skills (Laugeson et al., 2009), as well as an increase in functional verbal utterances by the child (Coolican et al., 2010). Skotarczak and Lee (2015) conducted a meta-analysis to determine the effects of parent training on disruptive behaviors in children with developmental disabilities and found significant effects. Their analysis revealed that a combined home and site delivery setting substantially impacted child behavior more than parent training conducted at an agency. Additionally, the level of education of the trainer conducting the program played a role, with trainers holding a graduate degree showing a more robust effect size than those without a graduate degree.

Overall, the evidence strongly supports the benefits of parent training interventions in ASD, highlighting improvements in child outcomes, parent-child interactions, family functioning, and relationships. In addition, these findings underscore the importance of involving parents and equipping them with practical strategies to support their children.

According to Matthews and Hudson (2001), specific guidelines should be followed to evaluate a parent training program: (a) effectively should include components of evaluation before, during, and after implementation of training programs, (b) the content and training

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methods employed should be based on sound theoretical principles and evidence of effectiveness, and (c) there should be multiple indirect and direct measures of parent and child behavioral outcomes. These efforts are to support appropriately, educate and train parents on how to assist their child in building the necessary skills and having the correct information to achieve positive outcomes in various settings, tasks, and behaviors. The services provided are valuable to the family - service providers can demonstrate that the intervention has not caused any harm to the family. The program is easily replicated, and service providers have efficient guidelines.

Parent training guidelines should encompass several important components. Firstly, it is crucial to recognize the uniqueness of each family and child, adapting the intervention to their specific needs and circumstances. This requires a thorough assessment of the family's strengths and challenges to develop a personalized intervention plan (Koegel et al., 2006; Osborne et al., 2009; Rogers et al., 2010). Building a collaborative and supportive relationship with parents is essential, grounded in mutual respect and trust. Encouraging open communication, active listening, and empathy fosters a positive working and teaching alliance between the parents and practitioners.

Providing parents with accurate and comprehensive information about their child's developmental needs, behaviors, and any specific challenges related to their disability is a vital aspect of parent training. Key objectives include helping parents understand the underlying factors contributing to their child's behaviors and equipping them with effective strategies to address these challenges (Sanders et al., 2014). Teaching parents' evidence-based and practical strategies to enhance their skills is crucial. It is important to offer opportunities for parents to practice these strategies and receive constructive feedback to facilitate their learning and growth.

Feasibility

Feasibility research focuses on the intervention process and addresses whether the intervention can be done (Gadke et al., 2021). It is a critical component of intervention development because it zooms in on the implementation process. Feasibility and pilot studies are essential for building the foundation of large randomized controlled trials (RCTs) (Tickle-Degnen, 2013). However, feasibility research is often confused with pilot research (Arian et al., 2018). Feasibility studies are concerned with the process that indicates a project can be implemented. "In contrast, pilot studies are best characterized as small-scale versions of what could become a large-scale study, retaining a focus on outcomes (effectiveness) and, most often, incorporating all aspects of a larger study" (Gadke et al., 2021, p. 3).

Bowen and colleagues (2009) conceptualize intervention development with three questions. First, can it work, does it work, and will it work? Is there evidence that it will work, that the intervention will be efficacious under ideal or actual conditions, and whether it will be effective in a real-life context and for cultures and populations that might adopt the intervention as practice? Feasibility studies have been defined as increments of research before the main study to answer the first question, 'Can it work?' (National Institute for Health Research, 2012). Gadke and colleagues (2021) propose ten dimensions measures as a framework for feasibility trials (1) recruit capability, (2) data collection procedure, (3) design procedures, (4) social validity (acceptability), (5) practicality, (6) integration into existing systems, (7) adaptability, (8) implementation, (9) effectiveness, and (10) generalizability. Feasibility research is conducted to determine whether a proposed research study or intervention is possible, practical, and suitable for further development.

Figure.1.1
Intervention Feasibility Dimensions

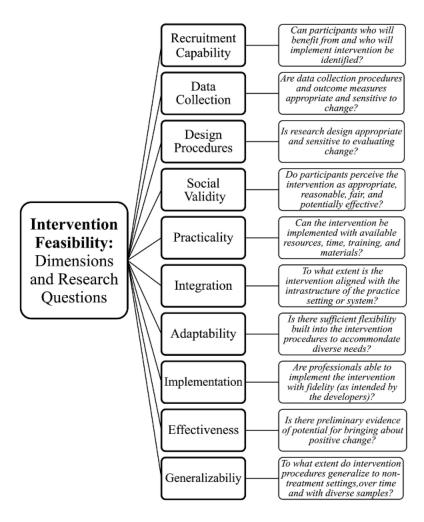| Recruitment Capability | *Can participants who will benefit from and who will implement intervention be identified?* |
Data Collection	*Are data collection procedures and outcome measures appropriate and sensitive to change?*
Design Procedures	*Is research design appropriate and sensitive to evaluating change?*
Social Validity	*Do participants perceive the intervention as appropriate, reasonable, fair, and potentially effective?*
Practicality	*Can the intervention be implemented with available resources, time, training, and materials?*
Integration	*To what extent is the intervention aligned with the infrastructure of the practice setting or system?*
Adaptability	*Is there sufficient flexibility built into the intervention procedures to accommondate diverse needs?*
Implementation	*Are professionals able to implement the intervention with fidelity (as intended by the developers)?*
Effectiveness	*Is there preliminary evidence of potential for bringing about positive change?*
Generalizabiliy	*To what extent do intervention procedures generalize to non-treatment settings, over time and with diverse samples?*

Figure credit: Gadke et al. (2021)
https://doi.org/10.1016/j.jsp.2020.11.004

CHAPTER 3: METHODOLOGY

Research Design

A convergent parallel mixed methods approach was implemented, which entails the concurrent collection and analysis of qualitative and quantitative data, followed by a comprehensive comparison and integration of the respective findings (Creswell & Clark, 2017). The primary aim of this study is to evaluate the feasibility of implementing a newly developed parent training program titled "Relationship & Interpersonal Skills Training for Autistic Adolescents (RISTA) Parent Training," which is based on the DBT Skills Manual for Adolescents (Rathus & Miller, 2015). The study examined changes in parenting stress, parent-adolescent relationship, parenting confidence, adolescent communication, parent knowledge of skills, and adolescent interpersonal effectiveness skills. Quantitative data played a critical role in measuring changes and feasibility; qualitative data assessed parental feedback, challenges, and support.

The parent training program was delivered using a hybrid model (online and in-person) with three components. (1) An asynchronous online portion provided an overview of the DBT Skills for Adolescents for interpersonal effectiveness through a narrated presentation. (2) A 4-hour Relationship and Interpersonal Effectiveness Skills Training for Autistic Adolescents (RISTA) parent workshop was conducted at the university campus, followed by (3) two rounds of home observations.

Table 3.1

Data Collection Points and Measures Implemented

Pre- Survey	Parent Workshop	Home Observation #1: Sessions 1 & 2	Home Observation #2: Session 3 & 4	Post- Survey
-Demographics **Parent variables:** -PSS (stress) -PARS (relationship) -BASC PRQ (confidence in parenting) -BASC PRQ (communication) -KS (knowledge) **Adolescent variables:** -BASC 3 (social skills) -ISS Interpersonal Skills	-Parent Checklist on Feasibility -Open-ended Feedback on feasibility	-Fidelity Checklist (completed by RA) -Parent Checklist on feasibility -Open-ended Feedback	-Fidelity Checklist (completed by RA) -Parent Checklist on feasibility -Open-ended Feedback -Implementation scale	**Parent variables:** -PSS (stress) -PARS (relationship) -BASC PRQ (confidence in parenting) -BASC PRQ (communication -KS (knowledge) -Program/Consumer Satisfaction Scale **Adolescent variables:** -BASC 3 (social skills) -ISS Interpersonal Skills

Research Questions and Hypotheses

1.Research Question 1. Is the Interpersonal Effectiveness Skills Training for adolescents with ASD feasible to be implemented by parents as a parent training program?

1.1 Research Hypothesis. By the end of the program, parents will rate the program to be acceptable at least an average rating (measured by the Acceptability of Intervention Measure).

1.2 Research Hypothesis. By the end of the program, parents will rate the program to be appropriate at least an average rating (measured by the Intervention Appropriate Measure).

1.3 Research Hypothesis. By the end of the program, parents will rate the program to

be feasible with at least an average rating (measured by the Feasibility of

Intervention Measure).

1.4 Research Hypothesis. Throughout the program, parents will rate each session to

be good in each of the 7 items on: (a) felt engaged; (b) understood content; (c)

learned something useful; (d) felt confident in teaching the materials to their

adolescent; (e) felt their questions/concerns addressed; (f) felt satisfied; and (g)

felt materials was useful; of at least an average rating (measured by the Parent

Training Checklist and Parent Training Checklist-Observation).

1.5 Research Hypothesis. By the end of the program, parents will rate the program to

be satisfactory at least an average rating (measured by the Program/Consumer

Satisfaction Scale)

1.6 Research Hypothesis. By the end of the program, parents will have on average

high fidelity across all four sessions as rated by a trained independent research

assistant.

2   Research Question 2. Does the Interpersonal Effectiveness Skills Training for adolescents

with ASD have additional secondary outcomes?

2.1 Research Hypothesis. Compared to before the training, parents of adolescents

with ASD, and adolescents will show a statistically significant increase in

knowledge (measured by the Knowledge Scale) of interpersonal effectiveness

skills after the training.

2.2 Research Hypothesis. Compared to before the training, parents of adolescents with ASD will show a statistically significant increase in overall confidence in parenting (measured by the BASC-3 PRQ) after the training.

2.3 Research Hypothesis. Compared to before the training, parents will show a statistically significant decrease in the overall parental stress (measured by the Parental Stress Scale) after the training.

2.4 Research Hypothesis.

    2.4.1   Research Hypothesis 2.4a. Compared to before the training, parents will show a statistically significant increase in parent-adolescent shared activities (measured by the Parent-Adolescent Relationship Scale) rated by the parent.

    2.4.2   Research Hypothesis 2.4b. Compared to before the training, parents will show a statistically significant increase in parent-adolescent connection (measured by the Parent-Adolescent Relationship Scale) rated by the parent.

    2.4.3   Research Hypothesis 2.4c. Compared to before the training, parents will show a statistically significant decrease in parent-adolescent hostility (measured by the Parent-Adolescent Relationship Scale) rated by the parent.

2.5 Compared to before the training, parents will show a statistically significant increase in the overall parent-adolescent relationship (measured by the Parent-Adolescent Relationship Scale).

2.6 Research Hypothesis. Compared to before the training, adolescents with ASD will

show a statistically significant increase in social skills (measured by the Social

Skills subscale of BASC-3) rated by the parent after parent training.

2.7 Research Hypothesis. Compared to before the training, adolescents with ASD will

show a statistically significant increase in communication (measured by the

BASC-3 PRQ) rated by the parent after parent training.

2.8 Research Hypothesis. Compared to before the training, adolescents with ASD will

show statistically significant increase in interpersonal skills (measured by the

Interpersonal Skills Scale) rated by the parent after parent training.

Participants

The sample for this study consists of 15 parents who completed the RISTA Parent

Workshop and 11 who went on to complete the remaining part of the training, which consisted of

two home observations. The participants were parents of adolescents with ASD without

intellectual disability aged 12 to 18. Inclusion criteria for caregivers: (a) primary caregiver

(providing at least 50% of the week or living with the adolescent); (b) having the adolescent with

a formal diagnosis of ASD or autism under the special education or the DSM criteria (asking for

verification from caregivers) without intellectual disability; (c) be able to understand and interact

in English. Inclusion criteria for an adolescent: (a) age 12 - 18; (b) with a formal diagnosis of

autism or ASD without intellectual disability; (c) without significant psychiatric or behavioral

issues at the time of participation; (d) be able to understand and interact in English.

Procedures

Before the study began, ethical approval was obtained from the Institutional Review

Board (IRB). Participant recruitment was initiated through various means, including email

outreach to schools, community directors, and relevant staff, as well as distributing flyers and utilizing social media platforms. The recruitment materials provided comprehensive information about the study, including its purpose, eligibility criteria, and details regarding the research methods.

RISTA Parent Training Program

The RISTA parent training consists of three components: (a) asynchronous training, (b) in-person workshop, and (c) observations. The workshop was delivered using a hybrid model (online and in-person). The asynchronous online portion provides an overview of the DBT Skills for Adolescents for interpersonal effectiveness. The second portion was a four-hour workshop at the University campus. Three workshops were run (Sunday morning, Monday evening, and Monday morning). The observations were two visits to the participants' homes to observe the parents taking their adolescents through the training.

Component 1: Asynchronous Training of Parents

First, the asynchronous online portion provided an overview of the DBT Skills for adolescents for interpersonal effectiveness, which consisted of the following components:

Asynchronous Online (30 minutes)

- Orientation of Trainer to DBT
- Orientation of Trainer to Skills and Their Rationale
- Goals of Interpersonal Effectiveness
- Factors That Interfere with Interpersonal Effectiveness
- Teaching Skills
- Review of Session 1-4
- Goal setting

The principal investigator (PI) created PowerPoint, narrated the 30-minute instruction, and sent the PowerPoint to each of the parents via e-mail to view one week prior to the in-person training. This asynchronous portion goal was to have the parents obtain an overview of the training and the primary content of the four sessions covered in the in-person workshop.

Component 2: In-Person Workshop

The second part of the training was a 4-hour workshop at the University campus, which was run three times. The workshop covered four 50-minute sessions, two 10-minute breaks, and one 20-minute break. The workshop material was based on Interpersonal Effectiveness Skills using the DBT Skills Manual for Adolescents (Rathus & Miller, 2015). The content of each of the four sessions is as follows:

In-Person Workshop (4 hours)

Session 1 (50 minutes)
- Mindfulness Skills – mindfulness exercise
- Orientation of Clients to Skills and Their Rationale
- Goals of Interpersonal Effectiveness
- Factors That Interfere with Interpersonal Effectiveness
- Adolescent Behavior
- Maintaining Positive Relationships: GIVE Skills
- Practice Exercises
- Review Homework

Handouts and other Materials
- Interpersonal Effectiveness Handout 1, "What Is Your Goal and Priority?"
- Interpersonal Effectiveness Handout 2, "What Stops You from Achieving Your Goals?"
- Interpersonal Effectiveness Handout 3, "Building and Maintaining Positive Relationships: GIVE Skills"
- Interpersonal Effectiveness Handout 4, "Practice Exercise: Give Skills"

★ 10-minute break

Session 2 (50 minutes)
- Mindfulness Exercise
- Getting Someone to Do What You Want: DEAR MAN Skills
- Practice Exercises
- Review Homework

Handouts and other Materials
- Interpersonal Effectiveness Handout 5, "Getting Someone to Do What You Want: DEAR MAN Skills"

★ 20-minute break

Session 3 (50 minutes)
- Mindfulness Exercise
- Maintaining Your Self-Respect: FAST skills
- Challenging Worry Thoughts and Interfere with Interpersonal Effectiveness
- Practice Exercises

- Review Homework

Handouts and other materials
- Interpersonal Effectiveness Handout 7, "Maintaining Your Self-Respect FAST Skills"
- Interpersonal Effectiveness Handout 8, "Worry Thoughts and Wise Mind Self-Statements"
- Interpersonal Effectiveness Handout 9, "Practice Exercise: FAST Skills"

★ 10-minute break

Session 4 (50 minutes)
- Mindfulness Exercise
- Factors to Consider When Deciding How Intensely to Ask or Say "No"
- THINK Skills
- Using Multiple Interpersonal Effectiveness Skills at the Same Time
- Practice Exercises
- Review Homework
- Home observation teaching agenda: (a) Mindfulness exercise, (b) discuss and explain skill, (C) practice skill, (d) explain and assign homework

Handouts and other materials
- Interpersonal Effectiveness Handout 10, "Factors to Consider in Asking for What You Want"
- Interpersonal Effectiveness Handout 11, "Practice Exercise: Factors to Consider in Asking or Saying "No"
- Interpersonal Effectiveness Handout 12, "Practice Exercise: Using Skills at the Same Time"
- Interpersonal Effectiveness Handout 13, "THINK Skills"
- Interpersonal Effectiveness Handout 14, "Practice Exercise: THINK Skills"

Description of Skills

The skill set highlights obtaining four essential goals based on the DBT-A skills for interpersonal effectiveness: (a) Maintaining relationships and reducing conflict (GIVE skills: [be] gentle, [act] interested, validate and use an easy manner), (b) Getting what you want or saying no -- negotiate (DEAR MAN skills: describe, express, assert, reinforce, [be] mindful and appear confident, negotiate), (c) Keeping self-respect/boundaries (FAST skills: [be] fair, [no] apologizes, stick to your values, [be] truthful), and techniques to compact worry thoughts, and (d) Factors to consider when deciding how intensely to ask or say "no," and reducing conflict

and negative emotions (THINK skills: think, have empathy, interpretations, notice, and [be] kind.)

The sessions cover how to use the skill sets through scenarios of role-playing, discussions, and feedback. Participants also took turns practicing teaching skills. In each of the sessions, the facilitator reiterated the specific skills in terms of (a) the goals, (b) the content, (c) the steps in teaching the materials, (d) the assignment of homework, and (e) the general concept of pedagogical skills. The facilitator used PowerPoint and a didactic format that supplied the above content information in each session. The facilitator visited each pair during the practice exercises to observe and provide feedback if needed.

Component 3: Observation

After completion of the intervention, researchers scheduled two home visits with each participant. The home visit was for research assistants to observe each parent instructing their adolescent sessions 1 and 2. This was conducted in person but occasionally via Zoom to accommodate participants' needs. During observations, a researcher-developed fidelity checklist was used to evaluate the fidelity of the parent administrating each session. A second round of home observations was made to observe the instruction of sessions 3 and 4. Each home visit took approximately 1 hour to complete (20-30 minutes to instruct each session broken up by a 5–10-minute break). The parents teaching agenda for each session included: (a) mindfulness exercise, (b) describe and explain the skill, (c) practice the skill, (d) explain and assign the homework.

After completing the program, each parent completed the following measures. (a) Acceptability of Intervention Measure, Intervention Appropriateness Measure, and Feasibility of Intervention Measure; (b) Program/Consumer Satisfaction Scale; (c) Behavior Assessment System for Children-3-Parent Rating Scale (social skills scale); (d) Knowledge Scale; (e)

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Behavior Assessment System for Children – 3- Parent Rated Questionnaire (parenting confidence scale and communication scale); (f) Parental Stress Scale; (g) Parent-Adolescent Relationship Scale; and (h) Interpersonal Skills Scale.

Additionally, feasibility outcomes at the end of each session were also recorded by the Parent Training Checklist, which consisted of 7 items that measured progress on a 5-point scale (1=*Strongly Disagree*, 2=*Disagree*, 3= *Neutral*, 4=*Agree*, and 5=*Strongly Agree*) on different aspects of feasibility on (1) felt engaged; (2) understood content; (3) learned something useful; (4) feel confident in teaching the material to their adolescent; (5) felt their questions/concerns were addressed;(6) felt satisfied; and (7) felt materials were useful. For each home observation, the parent completed the Parent Training Checklist-Observations. Each parent-rated 1-item ratings to monitor their training experience: (1) felt engaged; (2) child understood content; (3) felt confident in teaching the material to the child; (4) felt materials were useful; (5) felt questions/concern were addressed; (6) felt satisfied; and (7) felt materials were useful. In addition, fidelity was rated by either the PI or a trained RA on the adherence to the parent training sessions using the Implementation Fidelity Checklist.

Measures

Demographic Form

The parent completed basic demographic information on both the parent and the adolescent. Information on the parent included age, gender, race, ethnicity, education, income/socioeconomic status, marital status, living arrangement, and employment status. Parents also completed demographic information on their adolescent, including the relationship with the adolescent (e.g., mother, father), professionals making the diagnosis (e.g., psychiatrist, medical doctor), gender, ethnicity, perceived severity, and age.

Regarding feasibility, the construct was measured based on Weiner's three

implementation domains on the program's perceived acceptability, appropriateness, and

feasibility. Since the sample size was relatively small and the number of sessions was relatively

short, we collected data on three data points on feasibility outcomes (three program progress

checklists). Furthermore, parent satisfaction with the program was quantified based on a

researcher-developed measure, and the preliminary efficacy of the program was measured based

on the subscales of the social skills and communication skills of the BASC-PRS. Finally,

implementation in terms of treatment adherence was measured based on fidelity rated by a

trained research assistant.

Feasibility Surveys

Acceptability of Intervention Measure (AIM)*, Intervention Appropriateness Measure*

(IAM)*, and Feasibility of Intervention Measure* (FIM; Weiner et al., 2017; post-program rated by

each parent) are each four-item measures (12 total) of implementation outcomes that are often

considered "leading indicators" of implementation success (Proctor et al., 2011). These

assessment tools can be utilized with various individuals, such as parents. Their purpose is to

evaluate the degree to which parents perceive the RISTA parent training program intervention as

acceptable, appropriate, and feasible. These measures can be employed individually or in

combination to gather comprehensive feedback and insights. For the current study, the four

measures were all employed. The AIM is a four-item measure that assesses various dimensions

of intervention acceptability: "intervention meets my approval," "intervention is appealing to

me," "I like the intervention," and "I welcome the intervention," rated on a 5-point Likert scale

(1=*Completely Disagree*; 2=*Disagree*; 3=*Neither Agree nor Disagree*; 4=*Agree*; 5=*Completely*

Agree). IAM is a four-item measure that assesses various dimensions of the appropriateness of

the intervention. Participants rated on the same 5-point Likert scale the level the intervention was "fitting," "suitable," "seems applicable," and "seems like a good match." FIM assessed the intervention's feasibility through implementation by asking participants to rate the degree to which the intervention seems "implementable," "possible," "doable," and "easy to use." High scores indicate individuals' perception of the intervention's acceptability, appropriateness, and feasibility. The measures demonstrated strong psychometric properties in previous studies (Weiner et al., 2017). The current study's internal consistency for AIM was $\alpha = .69$, IAM was $\alpha = .94$, and FIM was $\alpha = .96$.

RISTA Implementation Fidelity Checklist

RISTA Implementation Fidelity Checklist (Research-developed; after each home observation, rated by an independently trained research assistant). Program adherence and quality were assessed for each home session by an independently trained research assistant using a 3-point scale (2=*Completely Adhere*; 1=*Partially Adhere*; 0=*Does Not Adhere At All*) to rate 14 items. The fidelity checklist encompassed four key components of the home observation, namely: (a) structure and setting, (b) dialectical instruction, (c) experiential activity, and (d) intervention content. The structure and setting pertained to the parents' management of the session duration to ensure adequate content coverage—the strategic sequencing of session components and the provision of an intervention space conducive to minimizing potential distractions. Dialectical instruction encompassed the parents' capacity to deliver the curriculum clearly while actively engaging their adolescents. The experiential activity involved the parents' adeptness in explaining procedural steps clearly, facilitating practice exercises, consistently checking in with their adolescents, and fostering discussions around observations made during instructional sessions. Lastly, intervention content directly referred to the specific skills

addressed in the session (e.g., GIVE, DEAR MAN, FAST, THINK Skills). The incorporation of mindfulness practices and the assignment of homework tasks. In the current study, we approached the analysis by treating each item as independent rather than composing subscales. Therefore, internal consistency values were not calculated for the descriptive analysis.

Parent Training Checklists

Parent Training Checklist (Researcher-developed; after each program session, rated by parent). By the end of the RISTA parent workshop, parents completed the seven-item survey to assess the parents' perception of the workshop's effectiveness: (a) felt engaged; (b) understood content; (c) learned something useful ; (d) felt confident in teaching the materials to their adolescent; (e) felt their questions/concerns addressed; (f) felt satisfied; and (g) felt the materials were useful--all rated using a 5-point scale (1=*Strongly Disagree*, 2=*Disagree*, 3=*Neutral*, 4=*Agree*, and 5=*Strongly Agree*). " Since each of the items is treated as independent items, no internal consistency is reported. In addition, an open-ended question asked for "any additional comments or concerns.

Parent Training Checklist – Observation (Researcher-developed, after each home observation session rated by the parent. By the end of each home session, the parent completed the 7–item survey to assess program (home observations) effectiveness: (a) the child was engaged; (b) the child understood the content; (c) felt confident in teaching the material to the child; (d) felt materials were useful; (e) felt questions/concerns addressed; (f) felt satisfied; and (g) felt the materials were useful -- all rated using a 5-point scale (1=*Strongly Disagree*, 2=*Disagree*, 3=*Neutral*, 4=*Agree*, and 5= *Strongly Agree)*. Since each of the items is treated as independent items, no internal consistency is reported. In addition, an open-ended question asked for "any additional comments or concerns."

Program/Consumer Satisfaction Scale

Program/Consumer Satisfaction Scale (Researcher-developed; post-program only, parent-rated). The Program/Consumer Satisfaction Scale is a comprehensive survey of 30 items designed to assess the level of program and consumer satisfaction related explicitly to the RISTA parent training program. Participants rate each item on a 5-point scale (1=*Strongly Disagree*, 2=*Disagree*, 3=*Nuetral*, 4=*Agree*, and 5=*Strongly Agree*), capturing their perceptions and attitudes towards the program. The scale encompasses three distinct categories: Components, Facilitators, and Overall Program Experience. The Components section comprises four items, focusing on the specific elements of the program. The Facilitators section encompasses seven items, assessing the role and effectiveness of the program facilitator. The most extensive section, Overall Program Experience, consists of 19 items exploring various aspects of the program as a whole. Since each of the items is treated as independent items, no internal consistency is reported Also, the survey includes an open-ended question that allows participants to provide constructive feedback or share any additional aspects of their intervention experience they deem relevant.

Knowledge Scale

Knowledge Scale (KS; researcher-developed; pre- and post-program rated by each parent on self). The KS assesses the parents' proficiency in the specific knowledge required to implement the four interpersonal effectiveness skill areas successfully. Each item within the survey inquires about the extent of knowledge possessed in each area: "How much do you know in each of the knowledge areas?" and is rated based on a 5-point Likert scale (0=*None*; 1=*A Little*; 2=*Some*; 3=*A Lot*; 4=*Extremely*). Higher scores on the survey reflect a greater level of comprehension and mastery of interpersonal effectiveness skills among the participating parents. Cronbach's alpha at pre-survey was .92; post-survey was. 93 showing high internal consistency.

Behavior Assessment System for Children - 3 – Parent Rating Scale

Behavior Assessment System for Children - 3 – Parent Rating Scale. (Reynolds & Kamphaus, 2015; pre- and post-program, parent-rated). The BASC-3 PRS is a multidimensional, multi-method system for child and adolescent behavior, including internalizing and externalizing symptoms and several adaptive behaviors. Different forms (Teacher Rating Scales, Parent Rating Scales, and Self-Report) exist for different age ranges. The Parent Rating Scale (PRS) of adolescents (aged 12-21) will be used for this study. Only the eight items of Social Skills will be used to measure interpersonal skills assessing the skills necessary for interacting successfully with peers and adults in the home, school, and community. The BASC-3 PRS is rated on a four-point Likert scale of frequency (0=*Never*, 1= *Sometimes,* 2=*Often*, and 3=*Almost Always*). BASC-3 PRS has demonstrated strong validity and reliability (see Reynolds & Kamphaus, 2015) manual for details. For this current study, Cronbach's alpha at pre-survey was .87; post- survey was .90 showing high internal consistency.

Behavior Assessment System for Children – 3 – Parenting Relationship Questionnaire
Child/Adolescent

Behavior Assessment System for Children – 3 – Parenting Relationship Questionnaire Child/Adolescent (BASC-3 PRQ-CA; Kamphaus & Reynolds, 2015; pre- and post-program rated by each parent). The BASC-3 PRQ-CA (age 2-18) is an 87-item assessment that measures eight dimensions of the parental-child relationship from the parent's perspective. The BASC-PRQ has several scales that assess attachment, communication, discipline practices, involvement, parenting confidence, satisfaction with school, and relational frustration. The Parental Confidence (12-items) and Communication (13-items) scales were used for the current study. The BASC-3 PRQ scale is rated on a 4-point Likert scale of frequency (0=*Never*, 1= *Sometimes*,

2=*Often*, and 3=*Almost Always*). Test-retest values for the subscales range from .70 to .86

(Kamphaus & Reynolds, 2015). The authors have reported robust evidence of content,

convergent, discriminant, and criterion-related validity (see Kamphaus & Reynolds, 2015)

manual for details. In this current study, the Cronbach's alpha for the Parental Confidence

subscale at pre-survey was .36, and post-survey was .46. The Communication subscale at pre-

survey was α = .84, and post-survey was α = .81 showing high internal consistency.

Parental Stress Scale

Parental Stress Scale (PSS; Berry & Jones, 1995; pre- and post-program, rated by each

parent). The PSS has 18 items that measure the stress experienced by parents, considering both

the positive and negative aspects of parenting. Each item is rated on a 5-point Likert scale

(1=*Strongly Disagree,* 2=*Disagree,* 3=*Undecided*, 4=*Agree*, and 5=*Strongly Agree*). Good

internal consistency was reported (e.g., Berry & Jones, 1995; Leung & Tsang, 2010) and test-

retest reliability (Berry & Jones, 1995). Evidence of convergent validity was reported with

family functioning, parental anxiety, and depression (Zelman et al., 2018), concurrent validity

with the Parenting Stress Index IV short form (Harding et al. (2020), as well as discriminant

validity (Zelman et al.,2018). In this current study, Cronbach's alpha at pre-survey was .77, and

post-survey was .72, indicating a moderate level of internal consistency.

Parent-Adolescent Relationship Scale

Parent-Adolescent Relationship Scale (PARS; Burke et al., 2021; pre- and post-program,

rated by each parent). The PARS has 15 items that measure the levels of parent-adolescent

relationships experienced by parents. Each item is rated on a 6-point Likert scale (0=*Not at all*

true, 1=*A little of the time*, 2=*Some of the time*, 3=*A lot of the time*, 4=*Most of the time*, and

5=*Nearly always or always true*). Good internal consistency and strong test-retest reliability

were reported. Convergent reliability was established via correlations between the PARS and established parent-adolescent measures (Burke et al., 2021). In this current study, Cronbach's alpha at pre-survey was .84; post-survey was .69.

Interpersonal Skills Scale

Interpersonal Skills Scale (ISS; researcher-developed; pre- and post-program rated by each parent on adolescent). The ISS evaluates the parent perception of the proficiency of their adolescent in the four specific interpersonal skills covered during the two home observation sessions. Each item within the survey assesses the extent to which the parent perceives the adolescent comprehends each skill area, with respondents indicating their level of understanding using a 5-point Likert scale (0=*None*; 1=*A Little*; 2=*Some*; 3=*A Lot*; 4=*Extremely*). Higher scores indicate a higher understanding of the interpersonal skills taught in the home by the parent to the adolescent.

Data Analysis

Data analysis was performed using IBM SPSS Statistics version 28 in accordance with established protocols. Prior to the primary analysis, data underwent thorough examination to identify outliers and missing values. Consequently, all data outliers were retained and included in the subsequent analyses. The study employed a convergent parallel mixed methods approach, which entails the concurrent collection and analysis of qualitative and quantitative data, followed by a comprehensive comparison and integration of the respective findings (Creswell & Clark, 2017).

Quantitative Data Analysis

Quantitative data was collected via Qualtrics and paper survey and entered by this researcher into an IBM SPSS Statistics version 28.0. Descriptive statistics were generated for the

demographics: (a) age; (b) gender; (c) race/ethnicity; (d) education; (e) income; (f) employment

status; (g) relationship status; (h) relationship to adolescent; Adolescent: (i) gender; (j) age; (k)

race/ethnicity; (l) diagnosed. Feasibility studies typically focus on determining an intervention's

practicality and potential effectiveness rather than assessing statistical significance or effect size.

This feasibility study uses descriptive statistics, such as means, standard deviations, and

percentages, to describe the study sample and outcomes. However, since we are also assessing

outcomes of a pre-and post-intervention, a paired sample t-test was used. Cohen's *d* was

computed by taking the difference between the mean of pre-measures and the mean of post-

measures, which was then divided by the pooled standard deviation to assess the practical

significance of the observed difference. Cohen's *d* values of .2 or greater are considered small, .5

or greater are considered medium, and values of .8 or higher are considered large, as per Cohen

(1988). When sample sizes are below 20, Hedges' g is utilized to report effect size. To compute

Hedges' g, the mean of pre-measures was subtracted from the mean of post-measures, and the

result was divided by the pooled weighted standard deviation multiplied by Hedges' correction

(Hedges & Olin, 1985). Since the sample size in this study was less than 20, both Hedges' g and

Cohen's d are reported. In multiple hypothesis testing, the Bonferroni correction is usually

employed to decrease false positives (type 1 error) by reducing the significance level through the

division of the alpha level by the number of comparisons (Armstrong, 2014; Dunn, 1961).

However, the Bonferroni correction was not applied in this study because RISTA was a

preliminary intervention study assessing the feasibility of parents of adolescents with ASD, and

little research has been conducted in this area. To investigate changes across the two-time points

for variables that compare before and after the program, a paired t-test was conducted. For

variables that measure post-program, only the average score was utilized. The intervention's

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fidelity was measured by the adherence percentage to the intervention protocol. In addition, inter-rater reliability was established early in the study using Cohen's kappa. Research assistants did observations in pairs. After inter-rater reliability was established, research assistants could conduct home observations individually.

Qualitative Data Analysis

The data was collected using open-ended survey responses "Please share any additional thoughts or concerns you may have" and "If there are other aspects of your experience during the intervention you want to share with us, please provide constructive feedback below." The data was then transcribed and organized into themes and relevant categories. The qualitative data was then integrated with the quantitative results.

CHAPTER 4: RESULTS

This study's main objective was to evaluate the feasibility of a newly developed RISTA (Relationship and Interpersonal Skills Training for Autistic Adolescents) parent training program, which consists of three components: (a) asynchronous parent training, (b) in-person workshop, and (c) observations. The RISTA parent training program was designed based on the DBT Skills Manual for Adolescents (Rathus & Miller, 2015). It was delivered in person three times based on the availability of participants. Fifteen parents participated in the RISTA parent workshop. However, four participants dropped out of the study for assorted reasons, such as their child's refusal to participate in home observation due to social anxiety, the child experiencing a difficult week at school, and the parent not wanting to add anything else to their schedule. A final number of eleven ($n = 11$) parents completed all components to report in this dissertation, while data fifteen ($n = 15$) parents reported on the part of the components.

Research Questions and Hypotheses

Research question one addresses if the interpersonal effectiveness skills training program, RISTA for adolescents with ASD is feasible to be implemented by parents as a parent training program? Specific research hypotheses are delineated as follows:

> 1.1 Research Hypothesis. By the end of the program, parents will rate the program to be acceptable at least an average rating (measured by the Acceptability of Intervention Measure).
>
> 1.2 Research Hypothesis. By the end of the program, parents will rate the program to be appropriate at least an average rating (measured by the Intervention Appropriate Measure).

1.3 Research Hypothesis. By the end of the program, parents will rate the program to

be feasible with at least an average rating (measured by the Feasibility of

Intervention Measure).

1.4 Research Hypothesis. Throughout the program, parents will rate each session to

be good in each of the 7 items: (a) felt engaged; (b) understood content; (c)

learned something useful; (d) felt confident in teaching the materials to their

adolescent; (e) felt their questions/concerns addressed; (f) felt satisfied; and (g)

felt materials was useful, of at least an average rating (measured by the Parent

Training Checklist and Parent Training Checklist-Observation).

1.5 Research Hypothesis. By the end of the program, parents will rate the program to

be satisfactory at least an average rating (measured by the Program/Consumer

Satisfaction Scale)

1.6 Research Hypothesis. By the end of the program, parents will have on average

high fidelity across all four sessions as rated by a trained independent research

assistant.

Research question two addresses if the interpersonal effectiveness skills training

program, RISTA, for adolescents with ASD has additional secondary clinical outcomes?

2.1 Research Hypothesis. Compared to before the training, parents of adolescents

with ASD, and adolescents will show a statistically significant increase in

knowledge (measured by the Knowledge Scale) of interpersonal effectiveness

skills after the training.

2.2 Research Hypothesis. Compared to before the training, parents of adolescents with ASD will show a statistically significant increase in overall confidence in parenting (measured by the BASC-3 PRQ) after the training.

2.3 Research Hypothesis. Compared to before the training, parents will show a statistically significant decrease in the overall parental stress (measured by the Parental Stress Scale) after the training.

2.4 . Research Hypothesis.

    2.4.1   Research Hypothesis 2.4a. Compared to before the training, parents will show a statistically significant increase in parent-adolescent shared activities (measured by the Parent-Adolescent Relationship Scale) rated by the parent.

    2.4.2   Research Hypothesis 2.4b. Compared to before the training, parents will show a statistically significant increase in parent-adolescent connection (measured by the Parent-Adolescent Relationship Scale) rated by the parent.

    2.4.3   Research Hypothesis 2.4c. Compared to before the training, parents will show a statistically significant decrease in parent-adolescent hostility (measured by the Parent-Adolescent Relationship Scale) rated by the parent.

2.5 Research Hypothesis. Compared to before the training, adolescents with ASD will show a statistically significant increase in social skills (measured by the Social Skills subscale of BASC-3-PR) rated by the parent after parent training.

2.6 Research Hypothesis. Compared to before the training, adolescents with ASD will

show a statistically significant increase in communication (measured by the

BASC-3 PRQ) rated by the parent after parent training.

2.7 Research Hypothesis. Compared to before the training, adolescents with ASD will

show statistically significant increase in interpersonal skills (measured by the

Interpersonal Skills Scale) rated by the parent after parent training.

Demographics

The demographic characteristics of the study participants were analyzed. The age

distribution showed that the majority of participants fell within the 45-54 age range (66.7%),

followed by the 35-44 age range (26.7%), and a single participant in the 65-74 age range (6.7%).

The racial/ethnic composition of the sample was homogeneous, with all participants identifying

as White (100%). Regarding gender, 12 participants were female (80%), while three were male

(20%).

Regarding employment status, the majority of participants were employed full-time

(40%), followed by non-employed (26.7%), part-time employment (6.7%), and non-paid work

(6.7%). Income levels ranged from $20,000 to over $250,000, with the majority (53.3%) in the

$75,000 - $150,000 range. There were variations in education levels, with the largest group

holding a 4-year college degree (40%), followed by master's degree holders (20%), Ph.D.

(13.3%), high school graduates (6.7%), technical/trade school graduates (6.7%), and individuals

with some college education (6.7%). Most participants were married (93.3%), and 80% of them

were mothers/stepmothers, while 20% were fathers/stepfathers.

The age of the adolescents ranged from 12 to 17, with the highest proportion being 12-

year-olds (46.7%), then 15- years old (20%), and 14 (13.3%). The majority of adolescents were

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male (93.3%), and the racial/ethnic distribution consisted of predominantly White participants (73.3%), with smaller percentages of Hispanic/Latino (6.7%), African American/Black (6.7%), and multiracial (13.3%) individuals. The diagnoses of the adolescents were made by various professionals, including clinical psychologists (26.7%), psychiatrists (26.7%), school psychologists (20%), and interdisciplinary teams (20%). The number of children each participant had varied, with the most common response being three children (33.3%), followed by two children (13.3%) and one child (20%). Five (33.4%) parents have two or more children with a disability. Table 4.1 shows the demographic information of the participants who attended the parent workshop and those who completed the intervention of the two home visits.

Table 4.1

Characteristic of Parents who Attended RISTA Parent Workshop and Completed Intervention

Participant Characteristics	RISTA Workshop		RISTA Training Program	
	n	%	*n*	%
Age				
35-44	4	26.7	3	27.3
45-54	10	66.7	7	63.6
65-74	1	6.7	1	9.1
Race/Ethnicity				
White	15	100.0	11	100.0
Gender				
Male	3	20.0	2	18.2
Female	12	80.0	9	81.8
Employment Status				
Full time	6	40.0	6	54.5
Part time	1	6.7	0	
Non-paid work	1	6.7	1	9.1
Not employed	4	26.7	3	27.3
Other:				
"Disabled"	1	6.7	0	
"retired, irregular self-employed"	1	6.7	1	9.1
Did not answer	1	6.7	0	
Income				
$20,000-75,000	5	33.3	3	27.3
$75,000-150,000	8	53.3	6	54.5
$250,000 and above	1	6.7	1	9.1
Prefer not to respond	1	6.7	1	9.1
Education				
High school	1	6.7	0	
Technical/tradeschool	1	6.7	1	9.1
Some college	1	6.7	1	9.1
2-year college degree	1	6.7	0	
4-year college degree	6	40.0	5	45.5
Master's degree	3	20.0	3	27.3
Ph.D.	2	13.3	1	9.1
Relationship Status				
Married	14	93.3	10	90.9
Single	1	6.7	1	9.1

Table 4.1 (cont'd)

Relationship to Adolescent				
Mother/Stepmother	12	80.0	9	81.8
Father/Stepfather	3	20.0	2	18.2
Adolescent Age				
12	7	46.7	5	45.5
13	1	6.7	1	9.1
14	2	13.3	2	18.2
15	3	20.0	2	18.2
16	1	6.7	0	
17	1	6.7	1	9.1
Adolescent Race/Ethnicity				
White	11	73.3	7	63.6
Hispanic/Latino	1	6.7	1	9.1
African American/Black	1	6.7	1	9.1
Multiracial	2	13.3	2	18.2
Adolescent Gender				
Male	14	93.3	10	90.9
Female	1	6.7	1	9.1
Diagnosed by				
Clinical psychologist	4	26.7	1	9.1
Psychiatrist	4	26.7	4	36.4
School psychologist	3	20.0	2	18.2
Interdisciplinary team	3	20.0	3	27.3
Other			0	
	1	6.7	1	9.1
How many children do you have?				
1-3	10	66.6	6	54.6
4-6	4	26.7	4	36.4
8 or more	1	6.7	1	9.1
Among all your children, how many have a disability?				
1	10	66.7	7	63.6
2	3	20.0	3	27.3
3	1	6.7	0	
4	1	6.7	1	9.1

Primary Research Question on Feasibility - Quantitative Results

Feasibility Outcomes of RISTA Parent Training

In the following section, the statistical analyses conducted to investigate the research

questions and hypotheses of the study are outlined.

Research Question 1. Is the interpersonal effectiveness skills training for adolescents with

ASD feasible to be implemented by parents as a parent training program?

Research Hypothesis 1.1. By the end of the program, parents will rate the program to be

acceptable, at least an average rating (measured by the Acceptability of Intervention Measure).

By the end of the program, the average rating on the acceptability of RISTA among the

eleven parents on the Acceptability of Intervention Measure was 4.80, with a range of 4.25 to

5.00. Thus, research hypothesis 1.1. was supported.

Research Hypothesis 1.2. By the end of the program, parents will rate the program to be

appropriate with at least an average rating (measured by the Intervention Appropriateness

Measure).

By the end of the program, the average rating on the feasibility of RISTA among the

eleven parents on the Intervention Appropriateness Measure was 4.55, with a range of 3.25 to

5.00. Thus, research hypothesis 1.2. was supported.

Research Hypothesis 1.3. By the end of the program, parents will rate the program to be

feasible with at least an average rating (measured by the Feasibility of Intervention Measure).

By the end of the program, the average rating on the feasibility of RISTA among the

eleven parents on the Feasibility of Intervention Measure was 4.43, with a range of 2.75 to 5.00.

Thus, research hypothesis 1.3. was supported.

Table 4.2 shows the breakdown of the Acceptability of Intervention Measure (AIM), Intervention Appropriateness Measure (IAM), and Feasibility of Intervention Measure (FIM) by the end of the full RISTA training.

Table 4.2
Results of the AIM, IAM, and FIM (N = 11)

Measure	Range	*M*	*SD*
Acceptability	4.25-5.00	4.84	.26
Appropriateness	3.25-5.00	4.55	.66
Feasibility	2.75-5.00	4.43	.78

Note: Rating ranges from 1= Completely Disagree to 5=Completely Agree

Because of the short duration of the intervention, we built in check-ins for each component of the training to monitor any progress, if any, to ensure we captured any potential changes. Thus, the last set of feasibility hypotheses used simple items to monitor changes.

Research Hypothesis 1.4. Throughout the program, parents will rate each session in each of the seven items with at least an average rating (measured by the Parent Training Checklist on the parent training workshop and measured by the Parent Training Checklist-Observation on the parent observation 1 and Observation 2).

For each of the three components of the in-person training workshop, parent observation 1 and observation 2, the same seven items were used to rate any incremental changes. Each item was rated on rated based on a scale from 1-5 (1= Greatly Disagree, 2=Disagree, 3=Neutral, 4=Agree, and 5=Greatly Agree) on the following feasibility areas: level of engagement, understanding of the content, usefulness of the learned material, confidence in teaching the

material to their adolescent, addressing of their questions/concerns, overall satisfaction, and usefulness of materials.

Tables 4.3, 4.4, and 4.5 address hypothesis 1.4 and list the ratings on each of the seven feasibility areas. Each item represents one domain of feasibility, reflecting incremental progress as parents move from the in-person training workshop to the implementation of the first and last two sessions.

Table 4.3

Feasibility Rating on Component 2: RISTA Workshop Training (n = 15)

Domain	Range	*M*	*SD*
I felt engaged and was able to participate in today's workshop.	4-5	4.60	.51
I could easily understand the content covered in today's workshop.	4-5	4.53	.52
I have learned something from today's workshop that I can apply to support my child.	4-5	4.80	.42
Feel confident in teaching the materials to my child.	3-5	4.20	.56
My questions and/or concerns regarding above topic were addressed in today's session.	4-5	4.47	.52
How satisfied are you with the workshop.	4-5	4.73	.46
Overall today's workshop was useful.	4-5	4.80	.42

Note: Rating ranges from 1= Completely Disagree to 5=Completely Agree

The workshop was well-received overall, with high mean ratings across various dimensions. Participants reported feeling engaged and able to participate (*M* = 4.60, *SD* = .51), indicating a strong level of involvement in the workshop. They also found the content to be easily understandable (*M* = 4.53, *SD* = .52), suggesting effective communication and clarity of

information. Participants expressed that they had learned something applicable to supporting

their child (*M* = 4.80, *SD* = .41), demonstrating the practical value of the workshop. Regarding

confidence in teaching the materials to their child, participants reported a moderately high level

(*M* = 4.20, *SD* = .56). Their questions and concerns were adequately addressed during the session

(*M* = 4.47, *SD* = .52), indicating effective facilitation and support from the workshop instructors.

Overall satisfaction with the workshop was rated highly (*M* = 4.73, *SD* .46), indicating that

participants found the workshop valuable and beneficial. These results suggest that the RISTA

workshop successfully engages participants, delivers understandable content, and equips them

with practical knowledge and confidence. Table 4.3 provides more information on participants'

responses to the RISTA workshop.

Table 4.4

Feasibility Rating on Component 3: RISTA Home Observation 1 (n = 11)

Domains	Range	*M*	*SD*
I felt engaged and was able to participate in today's session	1-5	3.82	1.83
My child seemed to learn something from today's session that they can apply with others	1-5	3.91	1.51
My child seemed to easily understand the content covered in today's session	1-5	3.82	1.54
I felt confident in teaching the materials to my child	1-5	3.73	1.49
My questions and/or concerns were addressed in today's session.	1-5	3.71	1.89
How satisfied are you with today's session?	4-5	4.82	.41
Overall, today's session was useful	4-5	4.73	.47

Note: Rating ranges from 1= Completely Disagree to 5=Completely Agree

Home Observation 1 indicates participants' responses to various fidelity of the session. On average, participants reported feeling moderately engaged and able to participate in the session (*M* = 3.82, *SD* = 1.83). They also perceived that their child learned something applicable to social interactions (*M* = 3.91, *SD* = 1.51). Similarly, participants indicated that their child moderately understood the session content (*M* = 3.82, *SD* = 1.54).

In terms of confidence in teaching the materials, participants reported a moderate level of confidence ($M = 3.73$, $SD = 1.49$). For the variable "My questions and concerns were addressed in today's session," the valid number of cases was 7 (4 participants selected not applicable), and the mean score was ($M = 3.71$, $SD = 1.89$).

The overall satisfaction with the session was high ($M = 4.82$, $SD = .40$), and participants perceived the session as useful ($M = 4.73$, $SD = .47$).

These findings suggest a generally positive experience during Home Observation 1. The results demonstrate participants' overall satisfaction and perceived usefulness, providing insights into the session's effectiveness in enhancing parent-child interactions and promoting skills development. Table 4.4 presents the participants' responses to Home Observation 1.

Table 4.5

Feasibility Rating on Component 3: RISTA Home Observation 2 (n = 11)

	Range	*M*	*SD*
I felt engaged and was able to participate in today's session	1-5	4.45	1.21
My child seemed to easily understand the content covered in today's session	3-5	4.36	.67
My child seemed to learn something from today's session that they can apply with others	3-5	4.45	.69
I felt confident in teaching the materials to my child	2-5	3.91	1.04
My questions and/or concerns were addressed in today's session.	1-5	4.17	1.60
How satisfied are you with today's session?	3-5	4.55	.69
Overall, today's session was useful	4-5	4.55	.52

Note: Rating ranges from 1= Completely Disagree to 5=Completely Agree

For Home Observation 2, participants also reported feeling engaged and able to

participate in the session (*M* = 4.45, *SD* = 1.21), indicating a high level of engagement.

Similarly, their children seemed to easily understand the content covered in the session (*M* =

4.36, *SD* = .67). Participants also indicated that their children learned something from the session that they can apply with others (*M* = 4.45, *SD* = .69).

Regarding participants' confidence in teaching the materials to their child (*M* = 3.91, *SD* = 1.04), suggesting a moderate level of confidence. For the variable "My questions and concerns were addressed in today's session," the valid number of cases was 6 (5 participants selected not applicable), and the mean score was 4.17 (*SD* = 1.60).

On the satisfaction measure, participants expressed overall satisfaction with the session (*M* = 4.55, *SD* = .69). Additionally, they found the session to be useful (*M* = 4.55, *SD* = .52). These findings provide insights into participants' experiences and perceptions during Home Observation 2, indicating positive engagement, understanding, and perceived usefulness of the session. Table 4.5 presents the results of Home Observation 2.

There are some notable observations upon examining the patterns across Home Observations 1 and 2. There was a slight increase in the first five items from Home Observation 1 to Home Observation 2, with ratings shifting from 3s to 4s, but a slight decrease in the last two items. In Home Observation 2, participants reported higher levels of engagement, with the mean score increasing from 3.82 to 4.45. Similarly, their children's understanding of the session content also improved, as indicated by the mean score increasing from 3.82 to 4.36. Participants perceived that their children learned something, with the mean score increasing from 3.82 to 4.45. Participants' perceptions of their questions and concerns being addressed increased, with a mean score increasing from 3.71 to 4.17. The participants' confidence in teaching the materials to their children increased slightly, with the mean score going from 3.73 to 3.91. However, a few items showed a slight decrease from Home Observation 1 to 2. The item regarding participants' satisfaction with the session had a slight decrease, with the mean score decreasing from 4.82 to

4.55, and a decrease in overall usefulness, with the mean score decreasing from 4.73 to 4.55.

While these decreases are minimal, they indicate a slight shift in participants' perceptions in

these areas from the first to the second home observation. However, they may not necessarily

represent any interpretable results.

Research Hypothesis 1.5. By the end of the program, parents will rate the program to be

satisfactory, at least an average rating (measured by the Program/Consumer Satisfaction Scale)

The results from the parent workshop evaluation and training intervention based on the

Program/Consumer Satisfaction Scale are shown below. Participants' responses indicate their

perception of various aspects of the workshop and intervention rated on a 5-point scale

(1=*Strongly Disagree*, 2=*Disagree*, 3=*Not Sure*, 4=*Agree*, and 5=*Strongly Agree*). Table 4.6

shows items on satisfaction with the various components of the program.

Table 4.6

Results for the Parent/Consumer Satisfaction Scale with RISTA

	Range	*M*	*SD*
Parent Workshop			
The PowerPoint with narration information was helpful (online portion)	3-5	4.64	.67
The PowerPoint information was helpful (in-person	4-5	4.82	.41
The group discussions were helpful (in-person portion)	4-5	4.82	.41
The practice of the skills was helpful (in-person portion)	4-5	4.73	.47
Facilitator			
The facilitator presentations were good	4-5	4.73	.47
The facilitator showed interest and concern in me and my child	4-5	4.64	.51
The facilitator was skilled in running the workshop	4-5	4.73	.47
The facilitator was professional in interacting with us	4-5	5.00	.00
The facilitator made the information in this intervention as interesting as possible	4-5	4.73	.47
The facilitator was good	4-5	4.90	.32
I like the facilitator	4-5	5.00	.00
Parent Training Intervention			
I felt motivated to participate in this intervention	4-5	4.82	.41

Table 4.6 (cont'd)

I felt connected with other participants	4-5	4.00	1.00
I would like to stay in touch with the participants as a support	4-5	3.55	1.51
I felt connected with the facilitator	4-5	4.36	.51
Each session of the intervention was implemented within the duration of the time as stated	4-5	4.82	.41
The information and materials covered in this intervention was appropriate and relevant to me	4-5	4.64	.51
The quality of instruction was good	4-5	4.82	.41
The amount of time required to participate in this intervention was reasonable	2-5	4.64	.92
The number of activities were reasonable and helpful	4-5	4.73	.47
I would need consultative support to participate in this intervention	1-5	2.64	1.29
The expectation of participating in this intervention was clear	4-5	4.55	.52
I have positive attitudes about participating in this intervention	4-5	4.82	.41
I could easily understand the content covered in this intervention	4-5	4.73	.47
I participated in this intervention with a good deal of enthusiasm.	4-5	4.82	.41

Table 4.6 (cont'd)

The strategies used for addressing the topics of this intervention were effective	3-5	4.36	.67
I have learned new information through participation in this intervention	4-5	4.73	.47
I would be interested in participating in an intervention similar to this one in the future	4-5	4.73	.47
Overall, the intervention was beneficial for me	4-5	4.73	.47
I would recommend this intervention to other families	4-5	4.82	.41

Note: Scale 1-5 (Strongly Disagree, Disagree, Not sure, Agree, Strongly Agree)

Satisfaction in Parent Workshop. In terms of the parent workshop, participants found the PowerPoint with narration information to be helpful during the online portion ($M = 4.64$, $SD = .67$) and the PowerPoint information to be helpful during the in-person portion ($M = 4.82$, $SD = .41$). Group discussions during the in-person portion were also rated as helpful ($M = 4.82$, $SD = .41$), as well as the practice of skills ($M = 4.73$, $SD = .47$).

Satisfaction in Workshop Facilitator. Regarding the facilitator, participants expressed positive perceptions of the facilitator's presentations ($M = 4.73$, $SD = .47$), interest and concern in participants and their children ($M = 4.64$, $SD = .51$), and skills in running the workshop ($M = 4.73$, $SD = .47$). The facilitator's professionalism in interacting with participants was highly rated ($M = 5.00$, $SD = .00$), as well as their ability to make the information in the intervention

interesting (M = 4.73, SD = .47). Participants also had a favorable opinion of the facilitator overall (M = 4.90, SD = .32) and liked the facilitator (M = 5.00, SD = .00).

Overall Satisfaction in Parent Training Program. Regarding the parent training intervention, participants reported feeling motivated to participate (M = 4.82, SD = .41) and connected with other participants (M = 4.00, SD = 1.00). The desire to stay in touch with other participants as a support varied (M = 3.55, SD = 1.51). Participants also felt connected with the facilitator (M = 4.36, SD = .51). The intervention was implemented within the stated duration (M = 4.82, SD = .41). The information and materials covered were considered appropriate and relevant (M = 4.64, SD = .51). The quality of instruction was rated positively (M = 4.82, SD = .41), and the time required to participate was generally seen as reasonable (M = 4.64, SD = .92). Participants found the number of activities to be reasonable and helpful (M = 4.73, SD = .47).

Participants expressed varying levels of need for consultative support to participate in the intervention (M = 2.64, SD = 1.29). The expectation of participating in the intervention was considered clear (M = 4.55, SD = .52). Participants had positive attitudes about participating (M = 4.82, SD = .41). They reported easily understanding the content covered (M = 4.73, SD = .47) and participating with enthusiasm (M = 4.82, SD = .41). The strategies used for addressing the topics were seen as effective (M = 4.36, SD = .67). Participants felt they had learned new information through participation (M = 4.73, SD = .47). They expressed interest in participating in similar interventions in the future (M = 4.73, SD= .47) and considered the intervention beneficial overall (M = 4.73, SD = .47). Participants overwhelmingly expressed positive sentiments regarding their willingness to recommend the parent training program to other families (M= 4.82 out of 5, SD = .41). This high level of recommendation demonstrates the

intervention's perceived value and potential impact on improving outcomes for families with ASD. Table 4.6 presents the results of the Parent/Consumer Satisfaction Scale.

Research Hypothesis 1.6. By the end of the program, parents will have, on average high fidelity across all four sessions as rated by a trained independent research assistant.

Regarding the implementation of the RISTA by the parents, the fidelity scores were expressed as a percentage as an average across the two home observations (4 sessions). They indicated an average fidelity rate of 88% for home observation 1 and 87% for home observation 2, with an average overall of 88%. This supports that the intervention was implemented consistently based on Rathus and Miller's (2015) DBT skills for adolescents' guidelines.

Primary Research Question on Feasibility – Qualitative Results

Participants were given multiple opportunities to provide feedback throughout the various stages of the intervention, including the RISTA parent workshop (PW), Home Observation 1 (H1), Home Observation 2 (H2), and post-intervention (Post). All feedback was collected through open-ended questions through Qualtrics. A response rate of 40.0% was obtained for the RISTA PW, 36.3% for H1, 63.6% for H2, and 54.5%.

The qualitative data was systematically categorized into four categories: *Overall Positive Aspects, Content Improvement, Pedagogical Improvement, and Other Supports.* The Positive category encompasses the positive comments articulated by parents, exemplifying their favorable perceptions of the intervention. The Content category pertains directly to the workshop's content, encompassing comments regarding the materials utilized and suggestions for potential enhancements or modifications. The Pedological category pertains to the parents' perceived competency in instructing their children and overall teaching aptitude. Finally, the Support category encompasses suggestions provided by parents for additional forms of support that

would enhance their intervention experience and further optimize their teaching, engagement, and understanding of the materials.

Overall Positive Aspects

The majority of participants offered favorable feedback regarding their overall satisfaction and appreciation of both the workshop and the home observations. Furthermore, participants expressed the importance of the structured and designated time allocated for practicing and instructing their adolescents. They indicated that this dedicated time provided benefits regardless of the challenges encountered. The participants (names changed for confidentiality purposes) positive sentiments highlight their recognition of the value and utility of engaging in the intervention.

- *"In person workshop, Yay!* and *"Great workshop."* (PW)
- *"I am thrilled about this workshop because it has provided me with clarity on how to effectively teach this topic."* (The topic is referring to interpersonal effectiveness skills in general) (PW)
- *"Great workshop and very important."* (PW)
- **"It was very helpful to have dedicated scheduled time like this."* (H1)
- *"Great tools for communication."* (H2)
- *"He seemed to be understanding the concepts* (FAST and THINK skills) *and how applicable they were to the role play and examples, but I couldn't seem to get him focused. Other than that, the lesson went well."* (H2)
- *"It was a great training and highly useful." (*Post)

Content Improvement

Participants articulated their reflections regarding both the content of the workshop and training materials, highlighting challenges encountered, particularly in comprehending the concept of *Wise Mind*. Specifically, participants expressed the need for greater clarity surrounding this concept. Moreover, participants emphasized the necessity for the content examples to be more tailored to adolescents with autism and to align with their specific developmental stage and age:

- *"While I found the overall workshop to be beneficial, I have some uncertainties regarding the concept of Wise Mind."* (PW)

- *"A lot of the examples seemed to be for neurotypical teens. Also, my son is a young teen, so some examples seemed better suited for older teens."* (PW)

- *"Would like more examples of GIVE and DEARMAN so better understand."* (H1)

- *"I think Wiseman skills should be specific session"* (H2)

- *"It would be helpful with the worksheets if there were some teenager examples"* (H2)

- *"Having other examples/scenarios/ situations for younger kids to relate to would be helpful. This could help parents of kids ages 12-14 relate to the learning topic skills."* (Post)

- *"It would be helpful to have more topic examples that are specific to teenagers. Since my son is now 13, I'm new at working with my teenager."* (Post)

- *"Some examples didn't fit an autistic teenager well and were very neurotypical focused."* (Post)

Pedagogical Improvement

Participants shared their experiences related to teaching the materials to their adolescents, particularly during the home observation when parents need to practice the actual delivery of the concepts to their adolescents. This further highlights the various factors such as preparation, teaching experience, and any unique challenges specific to adolescents. Several statements captured these perspectives:

- *"I struggled on explaining how to use the info with Abe"* (FAST and THINK skills) (H1)

- *"I don't feel I prepared well for today but that had nothing to do with the program or the students."* (H2)

- *"It's hard to do scenarios with Abe, because of my explanation skills. But I will try to use some of these with him."* (H2)

- *Was neutral simply because my child had difficulty in staying focused and on task, so it was not the material that was the issue, he was less than willing in this session.* (H2)

- *It is difficult to gauge how much my child understands, as there is a lot of interference from his behaviors as he tries to distract or also in this case entertain the observers. This wasn't their fault, as it is just how my son is at 13. But I always go ahead and explain and model anyway. He says he understands it later."* (H2)

- *"This session was a bit more difficult because my child was very disengaged due to an earlier situation from the day (which I did not know about until after). He*

wasn't receptive because of it and it made the lesson harder to get through to him." (H2)

- *"Follow-up conversations and modeling will be important for us moving forward."* (H2)

- *"The homework was set up such that we should have gone over the lesson the week before, practiced it during the week, and then reported out. This didn't quite align with the observation schedule."* (Post)

Other Supports

Participants provided valuable feedback and recommendations regarding the workshop and intervention. Their suggestions encompassed various aspects, such as extending practice session duration during the workshop, incorporating "teacher's notes" to aid with additional information, clarifying training expectations earlier, and expanding the initial class time into multiple sessions for better skill comprehension. Additionally, participants expressed the desire for an online support group to facilitate ongoing guidance and a more comprehensive learning experience. Furthermore, they emphasized the necessity for strategies explicitly tailored to training teenagers with autism, particularly in the context of adaptive conversations. These insights highlight the participants' recognition of the importance of customized approaches for effectively addressing the unique needs and challenges of working with adolescents with autism.

- *"I believe the allocated time for practice with others during the workshop could have been longer."* (PW)

- *"It would be better if there were some "teacher's notes" to help with the extra info available in the slideshow"* (H1)

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- *"More clarity on the expectations for training need to be made earlier in the process as it wasn't until halfway through the in person, we realize the goals of this effort."* (Post)

- *"I think having longer time to learn the skills before using them would be beneficial. Maybe breaking up the initial class time into 2 sessions so we can ensure that we are on the right track after the first session."* (Post)

- *"I feel like an online support group of sorts might be useful. I felt a little rushed to learn & teach the material quickly when I didn't feel I'd mastered it yet."* (Post)

- *"It would be helpful to have strategies on training teenagers with autism. An additional adaptive conversation would be most helpful. The examples used in the training were pertinent to use as parents to understand the communicative strategies, but then there was a challenge to adapt to a teenager."* (Post)

Integration of Qualitative and Quantitative Data

The qualitative feedback from the parents reinforces their quantitative responses in many ways. It provides further context for the quantitative data by offering participants' subjective experiences and perceptions of the program.

Participants rated the intervention highly regarding acceptability, appropriateness, and feasibility. The mean ratings for these measures indicate positive perceptions of the program. The qualitative data then expands on these findings by describing participants' experiences and perceptions in more detail. Participants found the workshop engaging, understandable, and applicable to supporting their adolescent child. The qualitative data provides specific examples and anecdotes that support the quantitative findings and offer insights into participants' experiences.

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Similarly, participants reported high ratings for satisfaction with the workshop and intervention and positive perceptions of the facilitator and the program content. The qualitative data provide additional information on participants' experiences, such as their positive perception of the workshop, home observations, and the importance of the content area for adolescents with ASD. It also captures participants' overall attitudes and interests in the intervention. Furthermore, the quantitative data includes participants' willingness to recommend the program to other families, indicating their belief in its effectiveness and benefits. This reinforces the finding that most participants find the intervention useful and feasible.

Finally, the task of instructing their adolescents proved to be a notable challenge for participants. The Parent Progress Checklist administered after home observations revealed lower ratings for the statement "I felt confident in teaching the materials to my child," with average scores of 3.73 and 3.91. This finding was substantiated by qualitative feedback, as several participants articulated difficulties encountered while conveying the instructional content to their child, citing various factors such as the child's behavior, comprehension of the material, and instructional techniques. Parents recounted instances where their child's behavior impeded the teaching session, and notably, in Home Observation 2, a greater proportion (6 out of 8 comments) of participants shared instances where they encountered significant challenges during the teaching process, primarily attributed to their child's behavior.

Secondary Clinical Outcomes

The second research question explores whether RISTA is potent enough to exert secondary clinical outcomes for adolescents with ASD and their parents. The following hypotheses were set based on empirical supports. However, since the current study only focused on the development and initial feasibility of implementation of the program by parents, we still

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need to fully design and train the parents and adolescents to implement, practice and collect data systematically. Thus, the hypotheses were set as secondary hypotheses. In each of the hypotheses, a t-test was run to calculate the score difference before and after the intervention to detect any statistical significance. Furthermore, Cohen's d is used to estimate effect size. Due to the small sample size of the current study, Hedge's g is used, with .2 (small), .5 (medium), and .8 (large) effect size (Cohen, 1988; Hedges & Olkin, 1985) for clinical significance.

Hypothesis 2.1. Compared to before the training, parents of adolescents with ASD, and adolescents will show a statistically significant increase in knowledge (measured by the Knowledge Scale) of interpersonal effectiveness skills after the training.

The mean difference in the Knowledge Scale scores before and after the intervention was 2.45 (SD = 4.13). A statistically significant difference was found between intervention, t (10) = 1.97, p = .04. This shows that the RISTA workshop increased the interpersonal skills knowledge of adolescents with autism. The 95% confidence interval was -.32 to 5.23. In addition to statistical significance, Cohen's d was .59, indicating a medium effect size. Hedge's g estimated is .55 of a medium effect size. Therefore, hypothesis 2.1 is supported.

Research Hypothesis 2.2. Compared to before the training, parents of adolescents with ASD will show a statistically significant increase in overall parenting confidence (measured by the BASC-3 PRQ) after the training.

The mean difference in parenting confidence (BASC-PRQ) before and after the intervention was 4.45 (SD= 4.32). A statistically significant difference was found between intervention, t (10) = 3.42, p = .003. This shows that the RISTA training program increased parenting confidence. The 95% confidence interval was 1.55 to 7.36. In addition to statistical

significance, Cohen's d was 1.03, indicating a large effect size. Hedge's g estimated is .95 of a large effect size. Therefore, hypothesis 2.2 is supported.

Research Hypothesis 2.3. Compared to before the training, parents will show a statistically significant decrease in the overall parental stress (measured by the Parental Stress Scale) after the training.

The mean difference in Perceived Stress Scale (PSS) before and after the intervention was -3.55 (*SD*=3.67). A statistically significant difference was found between intervention, *t* (10) = -3.20, *p* = .005. This shows that the RISTA training program decreased parent's stress. The 95% confidence interval was -6.01 to -1.08. In addition to statistical significance, Cohen's d was .97, indicating a large effect size. Hedges' g estimated is .89 of a large effect size. Therefore, hypothesis 2.3 is supported.

Research Hypothesis 2.4a Compared to before the training, parents will show a statistically significant increase in parent-adolescent shared activities (measured by the Parent-Adolescent Relationship Scale) as rated by the parent.

The mean difference in Parent-Adolescent Relationship Scale (PARS) Shared Activities before and after the intervention was .20 (*SD* = .55). A statistical difference was not found between the intervention, *t* (10) = 1.24, *p* = .12. This shows that the RISTA training program did not significantly increase parent-adolescent shared activities. The 95% confidence interval was -.16 to .57. Cohen's d was .38, indicating a small effect size. Hedges' g estimated is .35 of a small effect size. Therefore, hypothesis 2.4a is not supported.

Research Hypothesis 2.4b Compared to before the training, parents will show a statistically significant increase in parent-adolescent connectedness (measured by the Parent-Adolescent Relationship Scale) as rated by the parent.

The mean difference in Parent-Adolescent Relationship Scale (PARS) Connectedness before and after the intervention was .30 (SD = .39). A statistical difference was found between the intervention, t (10) = 2.56, p = .01. This shows that the RISTA training program did increase parent-adolescent connectedness. The 95% confidence interval was .04 to .57. In addition to statistical significance, Cohen's d was .77, indicating a large effect size. Hedges' g estimated is .71 of a medium effect size. Therefore, hypothesis 2.4b is supported.

Research Hypothesis 2.4c. Compared to before the training, parents will show a statistically significant decrease in parent-adolescent hostility (measured by the Parent-Adolescent Relationship Scale) as rated by the parent.

The mean difference in Parent-Adolescent Relationship Scale (PARS) Hostility before and after the intervention was -.16 (SD = .50). A statistical difference was not found between the intervention was t (10) = -1.08, p = .15. This shows that the RISTA training program did not significantly decrease parent-adolescent hostility. The 95% confidence interval was -.50 to .18. The Cohen's d was .32, indicating a small effect size. Hedges' g estimated is .30 of a small effect size. Therefore, hypothesis 2.4c is not supported.

Research Hypothesis 2.5. Compared to before the training, adolescents with ASD will show a statistically significant increase in social skills (measured by the Social Skills subscale of BASC-2) rated by the parent after parent training.

The mean difference in Social Skills (BASC-2) before and after the intervention was 3.64 (SD = 5.80). A statistical difference was found between the intervention t (10) = 2.08, p = .03. This shows that the RISTA training program significantly increases adolescent social skills as perceived by the parent. The 95% confidence interval was -.26 to 7.53. In addition to statistical

significance, Cohen's d was .63, indicating a medium effect size. Hedges' g estimated is .58 of a medium effect size. Therefore, hypothesis 2.5 is supported.

Research Hypothesis 2.6. Compared to before the training, adolescents with ASD will show a statistically significant increase in communication (measured by the BASC-3 PRQ) rated by the parent after parent training

The mean difference in Communication (BASC-3 PRQ) before and after the intervention was 2.36 (*SD* = 3.38). A statistical difference was found between the intervention *t* (10) = 2.32, *p* = .03. This shows that the RISTA training program significantly increases adolescent communication as perceived by the parents. The 95% confidence interval was .09 to 4.64. In addition to statistical significance, Cohen's d was .70, indicating a medium effect size. Hedges' g estimated is .64 of a medium effect size. Therefore, hypothesis 2.6 is supported.

Research Hypothesis 2.7. Compared to before the training, adolescents with ASD will show a statistically significant increase in interpersonal skills: Maintaining Relationships, Negotiation, Boundaries, and Conflict Reduction (measured by the Interpersonal Skills Scale) rated by the parent after parent training.

The mean difference in Interpersonal Skills Scale (ISS) Relationship before and after the intervention was .18 (*SD* = .98). A statistical difference was not found between the intervention *t* (10) = .614, *p* = .276. This shows that the RISTA training program did not significantly increase adolescent interpersonal skills as perceived by the parent. The 95% confidence interval was -.478 to .841. Cohen's d was .19, indicating a small effect size. Hedges' g estimated is .17 of a small effect size.

The mean difference in Interpersonal Skills Scale (ISS) Negotiation before and after the intervention was .27 (*SD* = 1.1). A statistical difference was not found between the intervention *t*

(10) = .82, *p* = .216. This shows that the RISTA training program did not significantly increase

adolescent negotiation skills as perceived by the parent. The 95% confidence interval was -.469

to 1.01. Cohen's d was .25, indicating a small effect size. Hedges' g estimated is .23 of a small

effect size.

The mean difference in Interpersonal Skills Scale (ISS) Boundaries before and after the

intervention was .36 (*SD* = .81). A statistical difference was not found between the intervention *t*

(10) = 1.49, *p* = .083. This shows that the RISTA training program did not significantly increase

adolescent boundaries setting skills as perceived by the parent. The 95% confidence interval was

-1.20 to 3.56. Cohen's d was .45, indicating a small effect size. Hedges' g estimated is .41 of a

small effect size.

The mean difference in Interpersonal Skills Scale (ISS) Conflict Reduction before and

after the intervention was .37 (*SD* = 1.03). A statistical difference was not found between the

intervention *t* (10) = 1.17, *p* = .13. This shows that the RISTA training program did not

significantly increase adolescent interpersonal skills as perceived by the parent. The 95%

confidence interval was -.33 to 1.05. Cohen's d was .35, indicating small effect size. Hedges' g

estimated is .33 of a small effect size. Therefore, hypothesis 2.7 was not supported.

Table 4.7 shows the paired t–test results for all variables measured pre– and post–

intervention. The study participants exhibited noteworthy improvements across multiple

domains. Specifically, a significant increase in interpersonal skills knowledge was observed,

with mean scores rising from 11.27 to 13.73 (*d* = .59). Moreover, participants demonstrated a

significant boost in parental confidence, as evidenced by a mean increase from 32.73 to 37.19 (*d*

= .1.03). Concurrently, a significant reduction in parental stress levels was identified, with mean

scores declining from 42.37 to 38.82 (*d* = .97). Additionally, there was a significant enhancement

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in parent-adolescent relationship connectedness, reflected by an increase in mean scores from 4.47 to 4.77 ($d = .77$). Furthermore, parents reported significant improvements in their adolescents' social skills (mean increase from 40.00 to 43.64; $d = .63$) and communication abilities ($M = 38.19$ to 40.55; $d = .70$). These findings collectively indicate the positive impact of the RISTA program on various aspects of participant well-being, supporting its potential effectiveness as a parent training intervention for enhancing interpersonal skills in adolescents with ASD.

Table 4.7

Results of Paired Samples t-Test Pre and Post RISTA

Measures	Pre		Post		t (10)	One-sided p	Hedges' g	Cohen's d
	M	SD	M	SD				
KS	11.27	3.45	13.73	2.33	1.97	.039	.55	.59
BASC-PRQ PC	32.73	6.86	37.19	7.64	3.41	.003	.95	1.03
PSS	42.37	6.83	38.82	5.81	-3.20	.005	.89	.97
PARS								
Shared Act	3.34	.81	3.55	.68	1.24	.121	.35	.38
Connectedness	4.47	.53	4.77	.31	2.56	.014	.71	.77
Hostility	2.10	.60	1.95	.54	-1.08	.154	.30	.32
BASC-3-PR SS	40.00	9.44	43.64	9.30	2.08	.032	.58	.63
BASC-3-PRQ Comm	38.19	11.33	40.55	11.39	2.32	.033	.64	.70
ISS Relationship	2.27	.65	2.45	.93	.614	.276	.17	.19
ISS Negotiation	2.09	.70	2.36	1.02	.820	.216	.23	.25
ISS Boundaries	2.18	.60	2.55	.82	1.49	.083	.41	.45
ISS Conflict Reduction	2.09	.70	2.45	.82	1.17	.134	.33	.35

Note. $p < .05$ as significant was adopted

CHAPTER 5: DISCUSSION

Feasibility research is conducted to determine whether a proposed research study or intervention is possible, practical, and suitable for further development and is often carried out before a larger-scale study. In this study, the feasibility assessment aimed to determine the practicality and viability of implementing the research design and intervention within the intended population of parents with adolescents with autism spectrum disorder (ASD). In addition, this study looked at the secondary clinical outcomes of the intervention on parents. The study assessed the parent-adolescent relationship by considering parent-adolescent shared activities, connectedness, and hostility. Parent stress and confidence in parenting were assessed along with adolescent communication, social, and interpersonal skills.

Implementation

Research Question 1. Is the interpersonal effectiveness skills training for adolescents with ASD feasible to be implemented by parents as a parent training program?

The present study investigated the feasibility and the secondary outcomes of the RISTA (Relationship and Interpersonal Skills Training for Autistic Adolescents) parent training program. Parents' implementation of the RISTA was assessed using fidelity scores, represented as a percentage. The fidelity scores revealed an average rate of 88%, indicating a high level of consistency in implementing the intervention. These findings align with the implementation guidelines established by Rathus and Miller (2015) for Dialectical Behavior Therapy (DBT) skills training for adolescents.

RISTA holds promise for ease of implementation due to its user-friendly and adaptable nature. The intervention's straightforward design, structured materials, and comprehensive guidelines provide a solid foundation for parents to deliver the program effectively. Specific

DBT skills have been used in the parenting context with the application of emotional regulation (Ben-Poraths, 2010), modified skills training for the use of caregivers of infants and toddlers (Woods-Jaeger et al., 2018), and enhancing parenting skills (Renneberg & Rosenbach, 2016). All three studies used a small sample size of fifteen mothers.

The RISTA parent workshop proved to be a feasible and effective approach to support parents in enhancing their skills and knowledge related to interpersonal effectiveness skills for adolescents with ASD, as parents reported high program acceptability, appropriateness, and feasibility scores. The workshop materials, such as handouts and visual aids, were carefully designed to enhance comprehension and facilitate active engagement. During the experiential process, various strategies to meet the needs of parents more effectively were identified and are further discussed below.

Trained Facilitator

The workshop facilitator is a certified rehabilitation counselor (CRC) and limited licensed professional counselor (LLPC) graduate student with nearly twenty years of experience in teaching. Because of counseling and teaching experience, the facilitator effectively delivered the content and implemented pedological and counseling strategies to foster engagement, personalize approaches, and address parents' concerns and questions. This is evident by the fact that parents' satisfaction with the facilitator was very high on all levels. Therefore, it is essential to recognize the significance of well-trained facilitators in this process. Facilitators should possess the necessary knowledge and skills to deliver parent training programs effectively and provide parents with guidance, support, and expertise. With proper training, facilitators can create a collaborative and supportive environment, tailoring the intervention to meet the unique needs of each family. Facilitators must possess the necessary expertise and knowledge to create a

strong teaching and working alliance with the program participants. Research has consistently highlighted the significance of this alliance in achieving optimal outcomes (Connor & Leahy, 2017; Flückiger et al., 2018; Lustig et al., 2002; Stagg et al., 2019).

Participation in RISTA

The researcher successfully recruited fifteen individuals to participate in the 4-hour RISTA parent workshop, the first component of the whole program. The workshop was scheduled on multiple days and times to provide flexibility in accommodating schedules, and despite the interest expressed by numerous parents and family caregivers, a subset of individuals faced obstacles that prevented their participation. These challenges included time constraints, distance and cost of travel, preferred mode of participation (virtual vs in-person), stress from minor car accident, and family obligations.

Although these recruitment difficulties are consistent with those commonly encountered in research studies (Bower et al., 2014), researchers must understand recruitment capability fully, for it may directly impact research design (Gadke et al., 2021). Retaining participants is crucial for maintaining data integrity and ensuring the study's success. The study was able to retain 73% of its participants. Retention was accomplished through clear and regular communication among researchers, participants, and research assistants throughout the study. The researcher provided clear instructions, updates, and reminders regarding study activities (e.g., workshop time and date, home observations, and surveys). There was also a reasonable financial incentive of a $50 gift card to complete the study.

Can the intervention be implemented within the constraints of available resources, time, training, and materials (Gadke et al., 2021)? The data collection process for the RISTA parent training program involved multiple data collection points, encompassing both quantitative and

qualitative measures. Parents were responsible for supplying pre- and post-measure data and offering qualitative comments to capture their subjective experiences. In addition, researchers gathered observational data to enrich the understanding of the intervention's implementation. Completing the full intervention demanded a time commitment of seven to eight hours, which comprised a four-hour workshop, two one-hour home visits, and the completion of surveys. It is worth noting that this time requirement may be substantial for specific individuals, particularly those juggling busy schedules, work-related responsibilities, or familial obligations.

While limited resources may necessitate adaptation and customization, it is possible to implement the intervention effectively. RISTA, for instance, was successfully implemented while accommodating family and research needs by modifying the delivery format for home observations and opting for virtual sessions when faced with resource limitations. By creatively optimizing available resources and adapting the intervention to fit within the given constraints, successful implementation can be achieved while maintaining the core objectives and benefits of the intervention. Providing flexibility in scheduling, accommodating participants' preferences, and communicating the benefits and importance of the study can help alleviate perceived difficulties and increase participant engagement.

Program Adaptability

Adapting DBT interpersonal effectiveness skills training for adolescents as a parent training program for adolescents with ASD proved to be a worthy endeavor. Parents expressed high overall satisfaction with the RISTA parent training program and reported it as a feasible, acceptable, and appropriate intervention. They shared positive feedback about their experience with the program and valued the topic of interpersonal effectiveness for their adolescents. Participants' willingness to recommend the program to other families indicates their belief in its

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effectiveness and benefits. Participants' high approval of RISTA highlights the fact that it was successfully adapted to a parent training and reinforces the necessity of parent involvement (Anderson et al., 2014; Bijou, 1984; Cridland et al., 2014; Rutter & Schloper, 1978) and parents' role in parent training as a viable intervention (Bearss et al., 2015; Scahill et al., 2016; Shalev et al., 2020).

Parent involvement added a nuanced humility to the study. By embracing parents' insights and experiences, the study gained a deeper understanding of the lived realities of families with ASD within the intervention context. Even though most of the data collected was quantitative, communicating and working with the parents and offering moments for feedback and questions enhanced the authenticity and relevance of the research findings. The study aimed to empower parents by fostering their confidence and ownership of the intervention by recognizing their pivotal role as intervention partners to enhance outcomes for parents and adolescents (Anderson et al., 2014).

Not only did parents express their support for the program they also gained substantial knowledge of the content area. They shared that they found the asynchronous, in-person workshop and materials very useful and offered suggestions for slight improvements. To improve adaptability and effectiveness -- the intervention can be further customized to address the specific needs of parents. After the workshop, a personalized follow-up consultation session could be conducted with each parent. During this session, the facilitator can work with the parent to identify scenarios, examples and practice exercises that directly resonate with their adolescent's situation. This individualized approach will allow parents to apply the knowledge and skills gained from the workshop to suit their unique circumstances best. By tailoring the intervention to the parent's needs, the effectiveness and relevance of the strategies taught in the

workshop can be maximized, ultimately leading to better outcomes for both parents and their adolescents.

Home-Based Observations and Ongoing Support

Conducting studies in natural settings through home observations yields more authentic data than in clinical settings and enables participants to behave in a way that reflects their typical behavior. Incorporating the natural context of the home and involving parents or caregivers in the intervention process is to create a supportive and familiar environment that enhances engagement and reduces potential stressors. (Green et al., 2010; Hume et al., 2014); Lounds & Seltzer, 2011). Traditional clinical settings can be overwhelming and stressful for individuals with ASD. Home observations are cost-effective for the family, reducing travel time, transportation needs, and the financial burden of paying for services. Addressing these burdens could increase participation with a larger and more diverse sample size.

Incorporating home observation sessions into the parent training program also gave participants a valuable opportunity to reinforce and apply the key concepts and strategies learned during the intervention. These home observations allowed participants to revisit and review the content in moments of their daily lives, ensuring that the knowledge gained was retained and readily applicable. The participants particularly valued the allocated time for covering the material with their adolescents, as it provided a structured and focused approach to implementing the learned skills. This hands-on experience provided a deeper understanding and integration of the intervention principles. Participants reported that the home observations were highly beneficial in this regard. Follow-ups are essential for maintaining skills and long-term outcomes (Eyberg et al., 1988; Fenning et al., 2022; Wyatt Kaminski et al., 2008).

Although the home observations were successful, there were many unexpected challenges, such as adolescent unpredictable behavior, limited attention span, need for privacy, and "performing" for the observers. Similar behavioral challenges have been reported to impact home-based feasibility studies for children with ASD (Shamsudin et al., 2021). Also, flexibility in the timing of intervention is a key ingredient to adolescent learning. Most of the home observations were scheduled for after school, which caused parents to reschedule multiple times because of exhausting and stressful events with their adolescents during the school day. Many parents scheduled for this time because, with school, work, and extracurricular activities, this was what was most available. Nevertheless, because of adolescents' depleted energy levels and reduced attention span caused by a full school day, parents had to work harder to engage their adolescents in learning and activities. Additionally, the challenges related to changes in routine and difficulties in transitioning from school to home intervention led to increased anxiety for the adolescent when asked to engage in a session while being observed by strangers.

Adolescents with ASD may exhibit various behaviors and responses in social situations, including the tendency to show off or "perform" for others. While it is not a universal characteristic for all adolescents with ASD, some may demonstrate exaggerated actions or expressions. A range of factors can influence these behaviors, such as a desire for social acceptance, validation, sensory stimulation, or difficulties in understanding appropriate social interactions (Bowen, 2021). It is important to approach such behaviors with empathy and understanding, considering individual differences and unique challenges faced by adolescents with ASD.

To mitigate the effects of these challenges on the research process and parent experience, incorporating technological tools such as cameras, earpieces, and virtual observations may

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diminish the intrusive nature associated with home observations and offer greater flexibility in implementing the intervention. Also, the participants found the asynchronous component of RISTA useful and valuable, so further use of asynchronous training can help facilitate parent training (Irvine et al., 2015; Nelson & Plante, 2022). Moreover, this approach may enhance participant engagement (Casale et al., 2017). Asynchronous and synchronous versions of parent training also show promising results of parent improvement concerning managing their child's problem behaviors (Enebrink et al., 2012; Hinton et al., 2017; Sanders et al., 2014). Increasing accessibility and utilization of technology proved advantageous in accommodating participant needs within the context of the present study**.**

In addition, another way to increase its effectiveness is to provide ample opportunities for practice before the parents implement the strategies with their adolescents. The researcher can assist the parents by offering additional practice sessions or exercises that allow them to reinforce and internalize the concepts learned in the workshop. These practice sessions can include role-playing exercises, hypothetical scenarios, or simulated interactions with an adolescent. Parents can gain confidence and refine their skills in a controlled environment by engaging in these activities. The researcher can provide guidance, feedback, and suggestions for improvement during these practice sessions, helping parents fine-tune their approach. Increasing the practice dosage not only helps parents become more comfortable with the intervention techniques but also allows them to identify and address any potential challenges or obstacles. This proactive approach enhances the parents' preparedness and increases their chances of successfully implementing the strategies with their adolescents.

Effectiveness

Research Question 2. Does the Interpersonal Effectiveness Skills Training for adolescents with ASD have additional secondary or mediating outcomes?

The study participants exhibited noteworthy improvements across multiple interpersonal skills knowledge, parental confidence, and a significant reduction in parental stress. Additionally, there was a significant enhancement in parent-adolescent relationship connectedness, improvements in their adolescents' social skills and communication abilities. These findings collectively indicate the positive impact of the RISTA program on various aspects of participant well-being and skill building, supporting its potential effectiveness as a parent training intervention. Moreover, these results serve to fortify and enrich the preexisting body of literature in this field (Brookman-Frazee & Koegel, 2004; Kashinath et al., 2006; Lichtle et al., 2020; Musetti et al., 2021; Schrott et al., 2019; Vismara et al., 2009).

Parenting Confidence

The study results recognize parents' significant role in their child's development and aim to empower and educate them to implement effective strategies within the home environment. The positive effects of parent training programs have been consistently documented in the literature, supporting their efficacy in enhancing parenting confidence and overall family well-being (Iadarola et al., 2017).

The findings from the RISTA parent training program align with the existing body of research on the benefits of parent training interventions. By equipping parents with the knowledge and skills needed to support their child's development, these programs empower parents to take an active role in their child's growth and foster a sense of confidence in their parenting abilities. This increase in parenting confidence is of paramount importance, as it has

been shown to directly impact parental well-being, parent-child interactions, and child outcomes (Iadarola et al., 2017).

Parental Stress

The significant reduction in parental stress observed in the RISTA program underscores the importance and potential impact of parent-focused interventions. The challenges faced by parents of adolescents with ASD are well-documented, including heightened stress levels and the burden associated with caregiving responsibilities (Iadarola et al., 2017). By explicitly targeting parental stress as an outcome measure, the RISTA program recognizes and addresses the crucial role of parental well-being in promoting positive outcomes for parents and their adolescent children with ASD. The findings of this study contribute to the growing body of literature supporting the positive effects of parent training on parental stress reduction (Iadarola et al., 2017).

Parent-Adolescent Relationship

The results revealing enhanced parent-adolescent relationships, specifically in terms of connectedness, provide valuable insights into the effectiveness of interventions that equip caregivers with specific strategies for working with their child with ASD under professional guidance. These findings align with previous research highlighting the positive impact of such interventions on family outcomes (Factor et al., 2019). The RISTA parent training program and other programs have demonstrated efficacy in improving parent-child interaction and fostering stronger relationships (Elder et al., 2003; Nefdt et al., 2010; Peishi, 2008). The results pertaining to the parent-adolescent relationship of hostility and shared activities did not reach statistical significance; however, they showed a trending in the right direction.

Parent and Adolescent Interpersonal Skills

      The RISTA parent training program is a compelling example of the positive outcomes of parent-training interventions for individuals with ASD and their parents. First, this program fills a crucial gap in social skills intervention literature, specifically since most research is tailored toward younger children (Rosenthal et al., 2013; Fuller & Kaiser, 2020; Reichow & Volkmar, 2010). Notably, the RISTA program has demonstrated consistent positive outcomes in social skills and communication skill development, aligning with the existing research evidence on the efficacy of parent-training interventions in this domain (Laugeson et al., 2009).

      By emphasizing interpersonal effectiveness skills, the RISTA program addresses a critical area of need for adolescents with ASD, as identified in previous research (Carter et al., 2010; CDC, 2022; Crowe et al., 2011). By equipping adolescents with strategies to navigate social interactions, establish meaningful connections, and thrive in diverse social settings, this intervention holds promise for enhancing their social competence.

      While the adolescents did not significantly increase their knowledge of the specific interpersonal skills covered in the program, the observed improvements in communication and social skills suggest an overlap in acquired abilities. However, further investigation would be necessary to see to what degree. One explanation for child improvement in social skills and communication is that teaching interpersonal effectiveness skills within the RISTA program likely contributes to these gains as parents gain knowledge and apply specific strategies that promote open communication (Weinstein et al., 2021). Another potential explanation is that adolescents may demonstrate enhanced interpersonal skills, enabling them to effectively express their needs and emotions and engage in meaningful interactions with their parents (Rabin et al., 2018). To fully understand the lack of significance in the interpersonal effectiveness score,

multiple factors should be considered. First, it is essential to acknowledge that the researchers developed the interpersonal effectiveness measure used in this study, which may have influenced the results. Second, parents' perceptions of their adolescent's interpersonal effectiveness skills might be influenced by their biases or subjective judgments. Therefore, the complex interplay of parent-adolescent communication and interpersonal effectiveness warrants further investigation to help understand how these factors interplay.

Strengths

Major strengths of the current study are that RISTA is unique in several aspects: (a) the first attempt to systematically design and deliver training based on an existing evidence-based intervention; (b) focus solely on teaching individuals' adaptive interpersonal effectiveness skills through parent training, (b) use of fidelity checklist to test study fidelity, (c) use of mixed methods to corroborate feasibility results.

This study is critical because it is the first systematic design and implementation of a parent training program by adapting the evidence-based intervention, Dialectical Behavior Skills Training for Adolescents (DBT-A), and its interpersonal effectiveness skills module. An evidence-based approach provides a solid foundation for developing and evaluating the RISTA parent training program.

The body of research on ASD has primarily focused on young children. While numerous studies have investigated social challenges in young children with ASD, there is a scarcity of research that concentrates on adolescents' unique needs and experiences. Furthermore, the limited programs that address the adolescent age group operate within the school system, emphasizing classroom-based interventions rather than parent training. As a result, the

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innovative approach of implementing interpersonal effectiveness skills in parent training for adolescents with ASD represents a novel contribution to the field.

Third, incorporating fidelity checks in each session ensures consistency in the intervention's delivery and enhances scientific confidence in evaluating its effectiveness. Including fidelity checks, overseen by the researchers, provides a systematic mechanism for monitoring and assessing the extent to which the intervention faithfully adheres to its intended protocols. This increases the study's methodological rigor and enhances the findings' reliability, thus contributing to the intervention's effectiveness.

Fourth, it is noteworthy that the present study employed a mixed-methods research design, incorporating both quantitative and qualitative data collection methods. Utilizing a mixed-methods approach in research has numerous advantages, such as the ability to gather rich and comprehensive data and gain a deeper understanding of the research phenomenon (Creswell & Creswell, 2017). In the current study, integrating quantitative and qualitative data from the participants allowed for a thorough examination of the feasibility of the RISTA intervention. Moreover, this approach aligns with the conceptualization of feasibility (Bowen et al., 2009; Gadke et al., 2021), integrating quantitative and qualitative data to evaluate the intervention's feasibility comprehensively.

The RISTA parent training serves as a valuable tool aimed at facilitating the development of interpersonal effectiveness skills among adolescents diagnosed with ASD. Interpersonal skills training empowers parents and adolescents to establish positive relationships and navigate social situations competently. Adolescents who face challenges in these areas may encounter difficulties in communication, conflict resolution, and assertiveness, which can lead to unfavorable outcomes across multiple domains, including academics, relationships, and overall

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well-being. However, by equipping adolescents with these essential skills, the RISTA intervention holds the potential to nurture self-confidence, enhance self-esteem, and ultimately generate more favorable personal and family outcomes.

Limitations

There are several limitations to this study, including (a) small sample size, (b) lack of research rigor, (c) potential researcher bias, (d) reliance on self-reported measures and parent perception of adolescents, and (e) not using standardized diagnostic tests.

The first limitation of RISTA is that the study was conducted with a small number of participants, which limits the ability to draw definitive conclusions about the intervention's effectiveness. Additionally, a small sample size may not be representative of the larger population, which can limit the generalizability of the study's findings. Furthermore, a small sample size can result in limited diversity in the sample, limiting the ability to explore the intervention's effectiveness across different subgroups or populations. Determining the generalizability of findings from a small sample size can be challenging. However, there is potential for generalizability when considering similar feasibility studies (Bermmouna et al., 2022; Burrell et al., 2020; Lee, 2021; Radley et al., 2014; Ritschel & Maddox, 2022). DBT skills training is evidence-based practice and has demonstrated efficacy in working with various populations (Chugani et al., 2022; Martinez et l., 2022; Neacsiu et al., 2014; Pardo et al., 2020; Zapolski et al., 2017). The concepts underlying the intervention have a broader application beyond the specific sample. Replication studies with larger sample sizes and diverse populations can validate the generalizability of the initial findings.

In addition to considering sample size limitations, it is vital to acknowledge the impact of alpha correction and effect size. With a small sample size, the risk of Type II errors increases, so

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alpha correction alone may not effectively address this issue. In the case of small sample size, applying strict alpha correction (i.e., keeping the p level as .05 as significant instead of dividing by the number of comparisons such as .05/number of comparisons) may result in non-significant findings due to reduced statistical power. It becomes more challenging to detect significant effects with a smaller sample.

By reporting effect size, the power and importance of the findings are illustrated, despite failing to achieve statistical significance due to the limitations of a small sample size. This approach recognizes that a pilot study may not have sufficient statistical power to detect small or moderate effects accurately but still provides valuable preliminary information for future research. Reporting effect size can demonstrate the strength and power of the observed effects, even if they do not reach statistical significance, particularly in a pilot study to establish proof of concept.

The lower alpha coefficients for internal consistency of measures observed can also be attributed to the small sample size employed in the study. It is likely because participants responded in a very similar way, thus not having variability. Recognizing that larger sample sizes will likely yield more stable and reliable internal consistency estimates is essential.

The second limitation was the need for a more rigorous research design. Although the current study was designed and executed systematically, the need for a control group made this study a preliminary step to subsequent rigorous study designs. Interpreting the outcomes of the present study is challenging, as it is difficult to definitively determine whether the observed results are attributed solely to the intervention or if external factors played a role.

The third limitation of RISTA was the potential for bias. The study was conducted by the researcher who designed the intervention. The researcher has a vested interest in obtaining

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favorable results, which can influence data collection and interpretation. There was also potential for observer bias in the home observations of the intervention as researchers' expectations or beliefs may have influenced their observations or interpretations of participants' behavior or responses. Bias can lead to unintentional distortions in data collection or analysis, potentially affecting the reliability and validity of the findings. The study tried to mitigate this bias by first acknowledging and being cognizant of it and using multiple research assistants for observational data collection. However, regardless of efforts, the potential for bias is always possible.

The fourth limitation of the RISTA intervention study was the reliance on self-reported and parent-reported measures. Self-reported and parent-reported measures depend on individuals' subjective perceptions and interpretations of their child's behavior and skills. This subjective nature introduces potential sources of bias and influences, including the researchers' and participants' beliefs, expectations, and biases. These factors could impact the overall rigor and objectivity of the study (Morse et al., 2002). Furthermore, the phenomenon of social desirability can also influence participant responses, mainly when the topic being assessed is of a sensitive nature (Krumpal, 2013). Thus, the study's reliance on self-reported and parent-reported measures presents a limitation that should be considered when interpreting and generalizing the results.

The study's fifth limitation is the absence of standardized diagnostic tests to verify the diagnosis of ASD in adolescents. Using standardized diagnostic tests plays a crucial role in enhancing the validity and rigor of research in ASD. These tests are designed to provide a reliable and objective assessment of individuals with ASD, ensuring consistency and accuracy in the diagnostic process. By employing standardized diagnostic tests, researchers can establish a solid foundation for their study, reinforcing the credibility of their findings and contributing to the broader body of knowledge on ASD.

Implications

The current study results indicated that parent training for adolescents with ASD based on the DBT interpersonal skills training for adolescents is feasible. The RISTA parent training has substantial implications in practice, education, and research discussed below.

Implications in Practice

Several key implications arise that can significantly impact the effectiveness and relevance of interventions: (a) parent and family involvement, (b) strength-based approach, (c) parent support, (d) customized treatment, (e) community outreach, (f) integration into existing systems, and (g) professional development.

First, prioritizing parent and family involvement is crucial in counseling adolescents with ASD (Cridland et al., 2014). This feasibility study recognized the wealth of knowledge, experiences, and resources parents bring to support their children with ASD. Family plays an imperative role; parents offer unique insights into their child's strengths, challenges, and individual needs (Buschbacher et al., 2004). Most services are dealt with in the home (Matson et al., 2009) and by parents (MacDonald et al., 2014), so it is crucial to draw from parent knowledge of their child's behaviors and preferences.

Second, the study informs practitioners of individuals with disabilities of the importance of a strength-based approach and teaching positive skills. The RISTA parent training program took a positive psychology approach by focusing on gaining practical interpersonal skills rather than removing dysfunctional social behavior contributing to interpersonal dysregulation (Seligman & Csikszentmihalyi, 2000). By emphasizing the cultivation of skills, integrating the RISTA parent training program within the counseling context underscores its significance in promoting the development and overall well-being of adolescents with ASD. The study's

findings further support providing a specific type of counseling service that incorporates parent involvement (Burrell & Borrego, 2012), focusing on teaching brief and skill-oriented interpersonal effectiveness for adolescents with ASD.

Third, family support practices can assist parents throughout the process. Counselors should allocate sufficient time and provide opportunities for parents to practice and apply the skills learned during the intervention. Counselors should know the complexities of effectively delivering counseling strategies and incorporate follow-up conversations with parents. Adaptive strategies can help address challenges and support parents in teaching and reinforcing intervention skills at home.

Recognizing that learning and personal development are gradual processes that unfold over time, it is essential to consider the implementation of follow-up sessions or booster sessions as a valuable addition to the training program. These sessions would reinforce the training content, consolidate the knowledge gained, and address any emerging needs or challenges that parents may encounter along the process. By offering these follow-up sessions, participants would have the opportunity to revisit and review the key concepts and strategies, ensuring that the knowledge remains fresh and applicable in their daily lives. In addition to follow-up sessions, enhancing ongoing support and consultation opportunities would further benefit parents in effectively applying the strategies they have learned. Parents could be supported through periodic check-ins or individualized coaching sessions, where parents can receive personalized guidance, feedback, and encouragement. These sessions would provide a platform for parents to seek clarification on specific issues, share their progress, discuss any difficulties they face, and receive tailored recommendations. By extending such ongoing support and consultation, parents

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would feel supported and empowered to navigate challenges and adapt to their child's evolving needs.

Fourth, the intervention content and approach should be tailored to adolescents with ASD, considering their developmental stage and age. Counselors should receive instruction on tailoring counseling materials, examples, and strategies to the unique needs of this population. The development of age-specific interventions holds significant importance, as it addresses the considerable variation in developmental stages, experiences, and needs among adolescents within the broad age range of 12 to 18 years. Adolescents at different stages of this range exhibit distinct challenges, strengths, and responses to various types of interventions (Pew Research Center, 2019). By tailoring interventions to specific age groups, practitioners can effectively address adolescents' unique needs and developmental milestones in a more targeted manner. Furthermore, age-specific interventions ensure the content and strategies are developmentally appropriate and engaging for the intended population. The counseling process should incorporate practical experience in delivering interventions and receiving feedback from parents and adolescents. By being sensitive to the unique needs and challenges faced by adolescents with ASD and their parents and incorporating participant feedback, counselors can provide more effective interventions and support for this population.

Fifth, during the study, it was observed that parent training could have a ripple effect on the broader community. With knowledge and skills, parents can disseminate this knowledge and extend support to other family members, service providers, and other parents (Factor et al., 2019; Lucyshyn et al., 2007). Involving both parents in home sessions framed as a collective family endeavor demonstrates the importance of a collaborative and comprehensive approach to the intervention. Additionally, the study highlighted the significance of adopting a collaborative

approach by a mother who involved her other child, who did not have ASD, to mitigate the focus on her child with ASD. Community outreach from parents regarding knowledge learned from attending parent training refers to the proactive efforts of parents to share the information, skills, and insights they have gained through their participation in a parent training program with others in their community. It involves counselors cultivating parents as advocates and resources to others in the community. Counselors can help facilitate parents connecting with other parents, caregivers, and community members to disseminate the knowledge and support they have acquired.

Sixth, consider integrating existing systems to enhance accessibility through collaborative efforts among service providers, educational institutions, and community organizations. Service providers can refer families to appropriate educational and community-based services through coordinated efforts. In contrast, educational institutions can collaborate with counselors and families to ensure comprehensive and integrated support for adolescents with ASD. Community organizations can play a vital role by providing supplementary resources, organizing workshops, and offering ongoing assistance to parents, thereby augmenting the accessibility and effectiveness of interventions (Ellis & Dietz, 2017). Ultimately, these collaborative endeavors foster a holistic and inclusive approach to supporting individuals with ASD and their families. By incorporating family support services and fostering collaboration among various stakeholders, this collaboration can provide a foundation for sustainable and long-term support for families beyond the scope of the parent training intervention (Green et al., 2022). Furthermore, leveraging existing professionals working with the targeted population and actively involving parents can contribute to training and implementation efforts (Ellis & Dietz, 2017).

Finally, to ensure the highest quality of parent training programs, ongoing professional development and self-reflection are essential for counselors (Hensley et al., 2003). They must strive to continuously update their knowledge and skills based on the latest research and best practices in parent training. Counselors can provide the most effective strategies and approaches to support parents by staying informed and engaging in continuous learning. Their presence in parent training programs significantly enhances the overall quality and effectiveness of the intervention, leading to positive outcomes for parents and adolescents. Investing in the professional development of counselors and facilitators is vital to ensure that parents receive optimal support and guidance throughout their journey of enhancing their parenting skills.

Implications in Counselor Education

The implications for counselor education underscore the importance of several factors: (a) working alliance, (b) counseling ethics, (c) disability consideration, and (d) family systems. By incorporating these considerations into counselor education programs, future counselors can better support parents and caregivers and enhance their ability to promote positive outcomes for families with ASD.

The primary focus lies in establishing strong relationships. The influence of the counselor-client relationship, quality working alliance, and therapeutic outcomes in psychotherapy have been firmly established for decades (Horvath & Symonds, 1991). It is one of the most critical skills a counselor can build. The working alliance also predicts treatment outcomes in family-based treatment (Welmers-Van et al., 2017). Considering the influence of family on treatment outcomes and parental involvement in family treatment, counselors are tasked with developing a solid working alliance with the family community and each family member (Millington & Marini, 2015). With multiple stakeholders in family-based treatment,

there are added layers of complexity. Building a foundation of trust and open communication between counselors and clients is essential for developing a working alliance, encompassing the entire family in a collaborative partnership. Regularly assessing the working alliance throughout the process allows for capturing potential changes and gaining a comprehensive understanding of the family dynamics. Exploring the personal experiences of parents and caregivers becomes significant in identifying their preferences for a therapeutic relationship. A positive attitude toward treatment can be cultivated by promoting effective communication, providing skills training, and encouraging feedback among counselors, parents, and caregivers.

Next, ethical consideration of working with families with disabilities is necessary to have comprehensive training and positive treatment outcomes. Although parental and family involvement can complicate counselor efforts and bring new ethical challenges such as confidentiality, respecting boundaries, informed consent, and decision-making in treatment (Hill et al., 2023), their involvement is an integral component of child treatment outcomes. Both parent and provider acceptability of treatment is needed to ensure families view it positively (Stadnick et al., 2016). Guiding individuals with disabilities entails adhering to the ethical principles outlined in the American Counseling Association (ACA) Code of Ethics (2014) and the Commission on Rehabilitation Counselor Certification (CRCC) Code of Professional Ethics (2023) regarding working with families with disabilities. While the rehabilitation counseling literature has only recently begun addressing the ethical considerations associated with this field and family involvement (Barros-Bailey, 2015), it is crucial to acknowledge various, often nuanced, complex ethical factors.

Fourth, ensuring that families receive unbiased and just treatment is essential, promoting fairness and equity in the counseling process. Individuals with less visible ("hidden") disabilities,

such as ASD, are often more subject to misconceptions and stigma (Wolf, 2001) and experience

doubt about the legitimacy of the disability and accommodation needs (Cawthon & Cole, 2010).

Based on a program presented at the 2014 ACA Conference, Stuntzner and Hartley discuss the

importance of barriers encountered by individuals and families with disabilities and how a

counselor can enhance their understanding and knowledge of issues relevant to their needs:

> Of particular importance is for counselors to collaborate with their clients to (a) identify
> which barriers are most salient, (b) examine the ways the identified barriers inhibit their
> functioning or prevent them from coping more positively, (c) explore which ones are
> within their control to change, and (d) determine strategies they can use to cope with and
> move past them. This process is not always easy, nor is it particularly linear, and may
> require some time and effort to resolve. (p. 4)
> Additionally, adopting a family systems approach to treatment can aid in family stress

and understanding family dynamics (Haefner, 2014). The disability rights movement has long

emphasized the importance of including the voices and lived experiences of individuals with

disabilities and their families. Incorporating their perspectives is essential to ensure inclusivity.

According to Bowen (1978), individuals are best understood within the context of their

relationships. He conceptualizes the family as an emotional unit, a network of interconnected

relationships (Kerr & Bowen, 1988). Bowen's family systems theory focuses on identifying

patterns of interactions where each family member plays a specific role. As Kerr and Bowen

(1988) describe, "the thoughts, feelings, and behavior of each family member... contribute to and

reflect what is occurring in the family as a whole" (p. 11).

Employing counseling techniques that utilize a family systems approach enables family

members to recognize and understand their roles within the family unit. This approach offers

families the opportunity and tools to communicate, collaborate, resolve conflicts, and problem-

solve together. It fosters emotional expression and empathy and promotes the overall well-being

of both the family unit and individual members. It is worth noting that there are multiple types of

family counseling, and numerous approaches to systemic counseling exist (Bitter, 2020).

Counselors should receive education regarding the effectiveness of family counseling in diverse

settings, evidence-based approaches, and the cultural aspects of family systems, particularly

concerning disability experiences within the family. They should be equipped to identify

systemic issues and treat family problems.

Implications in Research

The results of the current study offer valuable insights into the fields of counselor

education and disabilities studies, paving the way for promising research directions. Firstly, this

study reinforces the evidence for stand-alone Dialectical Behavior Therapy (DBT) skills training

research. Standard DBT has accumulated substantial evidence supporting its effectiveness in

treating various conditions, and rigorous research has extensively explored its application among

diverse disability groups. However, there is a high demand for treatment in many community

settings while resources still need to be improved. In this context, the preliminary results of the

current study suggest that stand-alone DBT skills training holds promise as an intervention for

adolescents.

Secondly, the findings from RISTA support parent training as a viable option for

adolescents with ASD intervention. This study highlights and reinforces the potential benefits of

equipping parents with the necessary skills to support their adolescents.

Thirdly, the RISTA results demonstrate the effectiveness of family systems in facilitating

positive outcomes. Notably, the intervention not only benefited the adolescents but also had a

positive impact on the parents. This suggests that addressing familial dynamics and involving the

entire family in the therapeutic process can be beneficial in achieving desired outcomes.

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These findings provide valuable insights for researchers, practitioners, and stakeholders alike, supporting the development of evidence-based interventions and improving the overall well-being of individuals and families with ASD.

Future Research

The RISTA intervention research should continue to focus on exploring the intervention's practicality, acceptability, and potential effectiveness. This includes investigating the feasibility of scaling up the intervention and implementing it over a more extended time. Additionally, researchers should explore ways to optimize the intervention, such as examining delivery methods and modes of support. Offering training programs in various formats (e.g., in-person, online, group sessions, individual sessions) can cater to different preferences and support needs and overcome barriers related to location, transportation, and time constraints.

Future considerations may involve the implementation of additional DBT skills for adolescents with ASD. While the current study primarily emphasizes interpersonal effectiveness, which constitutes one component of the five-module DBT skills training for adolescents, incorporating other modules such as mindfulness, distress tolerance, walking the middle path, and emotional regulation has yet to be extensively explored in the present study. By including these supplementary skills, it is plausible that individuals with ASD could experience further improvements in emotional regulation and distress tolerance, which commonly present as challenges among young adults with ASD (Lee, 2021).

Assessing different modalities is essential for future research. Considering diverse ways to engage and support parents in acquiring new knowledge and skills should be assessed. By incorporating multiple modalities, such as asynchronous vs. synchronous, researchers can cater to different learning styles and preferences. It also enables researchers to explore the comparative

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effectiveness of different modalities and identify the most impactful and cost-effective approaches.

Moving forward, parent and adolescent focus groups would deeply enrich the intervention. By engaging parents and adolescents in discussions, researchers, counselors, and educators can gain a deeper understanding of the most important issues to parents, which can help refine research objectives, counseling practices, and curriculum design (Adler et al., 2019). Direct conversations with the parents vs. written feedback will allow nuance and deeper understanding.

In future research, it is crucial to incorporate a broader range of participants to ensure the appropriateness and effectiveness of the intervention across diverse populations. Customizing the content and delivery methods to align with the target population's specific needs, values, and practices can enhance acceptance and active participation. It is essential to consider various family dynamics and roles, such as siblings, adoption, and co-parenting, to capture a more comprehensive understanding (Feinberg et al., 2012; Haugaard et al., 2000).

Effectiveness is mainly examined using designs testing between-family differences (i.e., differences between families receiving an intervention and those who do not). Usually, one caregiver participates in parent training interventions, the mother (Cabrera et al., 2018; Panter-Brick et al., 2014). Hence, it is of utmost importance to identify and actively engage all family members, ensuring their inclusion and participation in the practice and research of parent training.

In addition, researchers must contemplate including longer-term follow-up assessments to evaluate the sustainability of observed changes after the intervention. By extending the evaluation period beyond the immediate post-intervention phase, researchers can gain valuable

insights into the durability and maintenance of the achieved outcomes. This longitudinal approach allows for a more comprehensive understanding of the intervention's impact and informs the development of effective strategies for long-term support and intervention refinement.

There is inherent flexibility embedded within the RISTA procedures, enabling it to accommodate a wide range of diverse needs and variations in format, duration, and modality. The foundational framework of DBT skills training, on which RISTA is built, lends itself to adaptations across multiple dimensions, including age, disability, culture, and family values (Accurso et al., 2018; Lee, 2021; Ramaiya et al., 2017), so future research needs to consider these diverse needs. The structured nature of skills training sessions, which target specific areas of interpersonal effectiveness, allows for tailored modifications aligned with individual needs and treatment objectives. Moreover, the intervention can be adjusted to employ developmentally appropriate language, content, and illustrative examples, ensuring accessibility across various age groups and disabilities. By incorporating culturally sensitive examples, language, and considerations, RISTA can further enhance its relevance and resonance within diverse cultural contexts (Haft et al., 2022). As a parent training program, RISTA has the potential to be adapted and personalized to address specific family needs, optimizing its effectiveness and impact on the adolescent and family.

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APPENDIX A: INTERPERSONAL EFFECTIVENESS HANDOUTS

Figure A1.1
Interpersonal Effectiveness Handout 1 ©

What Is Your Goal and Priority?

Keeping and maintaining healthy relationships (GIVE Skills)

Question: How do I want the other person to feel about me?

Example: If I care about the person or if the person has authority over me, act in a way that keeps the person respecting and liking me.

Getting somebody to do what you want (DEAR MAN Skills)

Question: What do I want? What do I need? How do I get it? How do I effectively say "no"?

Example: How do I ask for something, resolve a problem, or have people take me seriously?

Maintaining Your Self-Respect (FAST Skills)

Question: How do I want to feel about myself after the interaction?

Example: What are my values? Act in a way that makes me feel positive about myself.

Figure A1.2
Interpersonal Effectiveness Handout 2 ©

What Stops You from Achieving Your Goals?

I. Lack of skill

You actually *don't know* what to say or how to act.

II. Worry thoughts

You have the skill, but your worry thoughts interfere with your doing or saying what you want.
- Worries about bad consequences:
  - "They won't like me"; "He will break up with me."
- Worries about whether you deserve to get what you want:
  - "I'm such a bad person, I don't deserve this."
- Worries about being ineffective and calling yourself names:
  - "I won't do it right"; "I'm such a loser."

III. Emotions

You have the skill, but your emotions (anger, fear, shame, sadness) make you unable to do or say what you want. Emotion Mind, instead of skills, controls what you say and do.

IV. Can't decide

You have the skills, but you *can't decide* what you really want: asking for too much versus not asking for anything; saying "no" to everything versus giving in to everything.

V. Environment

You have the skill, but the environment gets in the way:
- Other people are too powerful (sometimes despite your best efforts).
- Other people may have some reason for not liking you if you get what you want.
- Other people won't give you what you need unless you sacrifice your self-respect.

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APPENDIX B: MEASURES

Figure B1.1
Parenting Stress Scale (page 1)

Parental Stress Scale

The following statements describe feelings and perceptions about the experience of being a parent. Think of each of the items in terms of how your relationship with your child or children typically is. Please indicate the degree to which you agree or disagree with the following items by placing the appropriate number in the space provided.

1 = Strongly disagree 2 = Disagree 3 = Undecided 4 = Agree 5 = Strongly agree

1	I am happy in my role as a parent	
2	There is little or nothing I wouldn't do for my child(ren) if it was necessary.	
3	Caring for my child(ren) sometimes takes more time and energy than I have to give.	
4	I sometimes worry whether I am doing enough for my child(ren).	
5	I feel close to my child(ren).	
6	I enjoy spending time with my child(ren).	
7	My child(ren) is an important source of affection for me.	
8	. Having child(ren) gives me a more certain and optimistic view for the future.	
9	The major source of stress in my life is my child(ren).	
10	Having child(ren) leaves little time and flexibility in my life.	
11	Having child(ren) has been a financial burden.	
12	. It is difficult to balance different responsibilities because of my child(ren).	
13	The behaviour of my child(ren) is often embarrassing or stressful to me.	

Range of Validated quantitative tools and scales that can be used to measure the outcomes of children's centre work 2013 **2**

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Figure B1.2 (cont'd)
Parenting Stress Scale (page 2)

14	. If I had it to do over again, I might decide not to have child(ren).	
15	I feel overwhelmed by the responsibility of being a parent.	
16	Having child(ren) has meant having too few choices and too little control over my life.	
17	I am satisfied as a parent	
18	I find my child(ren) enjoyable	

Figure B2.1
Weiner Acceptability, Appropriateness and Feasibility

Additional File 3. Final version of the Acceptability of Intervention Measure (AIM), Intervention Appropriateness Measure (IAM), and Feasibility of Intervention Measure (FIM)

GENERAL INSTRUCTIONS: These measures could be used independently or together. The IAM items could be modified to specify a referent organization, situation, or population (e.g., my clients). Please check and report the psychometric properties with each use or modification.

Acceptability of Intervention Measure (AIM)

	Completely disagree	Disagree	Neither agree nor disagree	Agree	Completely agree
1. (INSERT INTERVENTION) meets my approval.	①	②	③	④	⑤
2. (INSERT INTERVENTION) is appealing to me.	①	②	③	④	⑤
3. I like (INSERT INTERVENTION).	①	②	③	④	⑤
4. I welcome (INSERT INTERVENTION).	①	②	③	④	⑤

Intervention Appropriateness Measure (IAM)

	Completely disagree	Disagree	Neither agree nor disagree	Agree	Completely agree
1. (INSERT INTERVENTION) seems fitting.	①	②	③	④	⑤
2. (INSERT INTERVENTION) seems suitable.	①	②	③	④	⑤
3. (INSERT INTERVENTION) seems applicable.	①	②	③	④	⑤
4. (INSERT INTERVENTION) seems like a good match.	①	②	③	④	⑤

Feasibility of Intervention Measure (FIM)

	Completely disagree	Disagree	Neither agree nor disagree	Agree	Completely agree
1. (INSERT INTERVENTION) seems implementable.	①	②	③	④	⑤
2. (INSERT INTERVENTION) seems possible.	①	②	③	④	⑤
3. (INSERT INTERVENTION) seems doable.	①	②	③	④	⑤
4. (INSERT INTERVENTION) seems easy to use.	①	②	③	④	⑤

Pragmatic Qualities:
- Readability tested by substituting "This EBP" for "Insert Intervention." Flesch reading ease score (and grade level) is 95.15 (5th grade) for AIM, 99.60 (5th grade) for IAM, and 94.17 (5th grade) for FIM.
- No specialized training is needed to administer, score, or interpret the measures.
- Cut-off scores for interpretation not yet available; however, higher scores indicate greater acceptability, appropriateness, or feasibility.
- Norms not yet available.
- Scales can be created for each measure by averaging responses. Scale values range from 1 to 5. No items need to be reverse coded. Good measurement practice: assess structural validity to confirm the unidimensionality of each measure and calculate alpha coefficient to ascertain reliability.
- There is no cost to use these measures.
- Time to complete: less than 5 minutes per measure.

Figure B2.1
Parenting-Adolescent Relationship Scale (page 1)

THE UNIVERSITY
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PARENT-ADOLESCENT RELATIONSHIP SCALE (PARENT VERSION)

Please read each statement below and rate from 0 (Not At All True) to 5 (Nearly Always or Always True) how true the statements typically are of your relationship with your teenager.
There are no right or wrong answers. Do not spend too much time on any statement.

		Not At All True					Nearly Always or Always True
1.	We eat meals together	0	1	2	3	4	5
2.	We spend time together doing activities we each like	0	1	2	3	4	5
3.	We go to family events together	0	1	2	3	4	5
4.	I encourage my teenager to get support from me or others	0	1	2	3	4	5
5.	I show affection to my teenager (e.g., hugs, kisses, smiling, arm around shoulder)	0	1	2	3	4	5
6.	I comfort my teenager when he/she is upset	0	1	2	3	4	5
7.	I make negative comments about my teenager to others	0	1	2	3	4	5
8.	During stressful times in my teenagers' life, I check if he/she is okay	0	1	2	3	4	5
9.	I get upset when my teenager disagrees with me	0	1	2	3	4	5
10.	I play sport or do other physical activities with my teenager	0	1	2	3	4	5
11.	My teenager complains about me	0	1	2	3	4	5
12.	I encourage my teenager to do things he/she is interested in or enjoys	0	1	2	3	4	5
13.	I criticise my teenager	0	1	2	3	4	5
14.	I think my teenager needs to change his/her attitude	0	1	2	3	4	5
15.	I encourage my teenager to talk about their thoughts and feelings	0	1	2	3	4	5

Figure B2.2 (cont'd)
Parenting-Adolescent Relationship Scale (page 2)

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CREATE CHANGE

Scoring
Create a mean score for each subscale as follows:

Shared Activities (4 items)
(1 + 2 + 3 + 10)/4

Connectedness (6 items)
(4 + 5 + 6 + 8 + 12 + 15)/6

Hostility (5 items)
(7 + 9 + 11 + 13 + 14)/5

Instrument reference
Burke, K., Dittman, C. K., Haslam, D., Filus, A., & Ralph, A. (2020). Parent-Adolescent Relationship Scale. Parenting and Family Support Centre, The University of Queensland, Australia.

Validation references
Burke, K., Dittman, C. K., Haslam, D., & Ralph, A. (2021). Assessing critical dimensions of the parent–adolescent relationship from multiple perspectives: Development and validation of the Parent-Adolescent Relationship Scale (PARS). *Psychological Assessment*, *33*(5), 395–410. https://doi.org/10.1037/pas0000992

Figure B3.1

Knowledge Scale

Knowledge Scale

Overall, how much do you know in each of the knowledge areas?

Ratings: 0= None; 1= A little; 2= Some; 3= A lot; 4= Extremely

Statements	Ratings				
1.Skills on how to gain and maintain relationships	0	1	2	3	4
2.Skills on how to negotiate, get what you want and to say "no" in relationships	0	1	2	3	4
3.Skills on how to keep self-respect and create boundaries in relationships	0	1	2	3	4
4.Skills on how to reduce conflict in relationships and negative emotions	0	1	2	3	4

Figure B4.1
Program/Consumer Satisfaction Scale

Program/Consumer Satisfaction

Note: This is completed by all participants post intervention.

Instructions: The first part asks about the specific components of Parent Training. The second part asks about the facilitator and co-facilitator. The third part of the survey asks about your overall experience. Please rate to what extent you agree or disagree.

Ratings: 1= Strongly disagree; 2=Disagree; 3=Not sure; 4=Agree; 5=Strongly agree

Statements	Ratings
Part 1: Components of STT (4)	
1. The PowerPoint with narration information was helpful (asynchronous portion)	1 2 3 4 5
2. The PowerPoint information was helpful (in-person portion)	1 2 3 4 5
3. The group discussions were helpful (in-person portion)	1 2 3 4 5
4. The practice of the skills was helpful (in-person)	1 2 3 4 5
Part 2: Facilitator and Co-facilitator (7)	
1. The facilitator and co-facilitator's presentation were good.	1 2 3 4 5
2. The facilitator's and co-facilitator showed interest and concern in me/ my son/daughter.	1 2 3 4 5
3. The facilitator and co-facilitator were skillful in running the workshop.	1 2 3 4 5
4. The facilitator and co-facilitator were professional in interacting with us.	1 2 3 4 5
5. The facilitator and co-facilitator made the information in this intervention as interesting as possible.	1 2 3 4 5
6. The facilitator and co-facilitator were good.	1 2 3 4 5
7. I like the facilitator and co-facilitator.	1 2 3 4 5
Part 3: Overall STT Experience (19)	
1. I am motivated to participate in this intervention.	1 2 3 4 5
2. I felt connected with other participants.	1 2 3 4 5
3. I would like to stay in touch with the participants as a support.	1 2 3 4 5
4. I felt connected with the facilitator and co-facilitator.	1 2 3 4 5
5. Each session of the intervention was implemented within the duration of time as stated.	1 2 3 4 5
6. The information and materials covered in this intervention was appropriate and relevant to me.	1 2 3 4 5
7. The quality of instruction was good.	1 2 3 4 5
8. The amount of time required to participate in this intervention was reasonable.	1 2 3 4 5
9. The amount of activities was reasonable and helpful.	1 2 3 4 5
10. I would need consultative support to participate this intervention.	1 2 3 4 5
11. The expectation of participating in this intervention was clear.	1 2 3 4 5
12. I have positive attitudes about participating in this intervention.	1 2 3 4 5
13. I could easily understand the content covered in this intervention.	1 2 3 4 5
14. I participated in this intervention with a good deal of enthusiasm.	1 2 3 4 5

Figure B5.1

Behavior Assessment System for Children – 3 - Parent Rating Scale (Social Skills)

BASC-3 PRS – Social Skills Scale

2. Makes positive comments about others

13. Says, "please" and "thank you"

51. Shows interest in others' ideas

73. Compliments others

91. Makes others feel welcome

106. Tries to help others be their best

128. Accepts people who are different from his or her self

131. Offers help to other adolescents

147. Encourages others to do their best

170. Congratulates others when good things happen to them

Figure B6.1

Behavior Assessment System for Children – 3 - Parent Relationship Questionnaire (Parenting Confidence and Communication Scale)

BASC-3 Parenting Relationship Questionnaire Child/Adolescent

Parenting Confidence Scale

8. I make good parenting decisions.
13. I am scared of making mistakes in decisions about my child.
21. My child knows the house rules.
39. I am confident in my parenting ability.
53. I remain calm when dealing with my child's misbehavior.
56. I am good at balancing my parenting role with my other responsibilities.

63. I am proud of my relationship with my child.
70. I am in control of my household.
72. I am a good parent to my child.
76. I have the energy that I need to cope with my child.
79. The responsibility of being a parent seems like too much for me.
84. Being a parent scares me.

Communication

2. My child tells me about his/her day at school.

6. My child likes to talk to me.
20. My child tells me, "I love you."
28. My child tells me about his/her problems.
35. My child's opinions are important to me.
37. My child tells me about the things that he/she is doing with friends.

51. I tell my child, "I love you."
57. I listen to what my child has to say.
60. I feel others know my child better than I do.
66. My child tells me about activities at school.
68. My child tells me who his/her friends are.
80. My child is honest with me.
85. My child tells me what he/she has learned that day.

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