

Topical Manuscript

Launching! to Adulthood: A Group Counseling Initiative for Young Adults With Neurodevelopmental Differences Transitioning to Adulthood and Their Family members.

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Group therapy may help young adults with neurodevelopmental differences (NDDs; such as autism spectrum disorder [ASD] or attention deficit hyperactivity disorder [ADHD]) socialize and manage mental health difficulties such as anxiety and depression during the transition to adulthood (18-25 years old). Family members may also benefit from group therapy during this transition period. Despite this need, few group therapy programs in a virtual/telehealth format have been developed to help young adults with NDDs and their families during the transition to adulthood. The present study sought to provide initial feasibility and acceptability data for a parallel young adult and family member group treatment program for young adults with NDDs transitioning to adulthood. *Launching! to adulthood* is an 8-week program utilizing evidence-based interventions to reduce distress and support the transition to independence for young adults with NDDs and their family members. Measures of well-being were collected pre- and post-intervention. Brief qualitative interviews were conducted post-intervention. From our pilot study, we found that the *Launching!* program was acceptable and feasible for both family members and young adults, with high ratings of satisfaction. Three themes were shared by young adults and family members, including gaining group connection and support from others in a similar life circumstance, learning the importance of self-care, and gaining new skills. Barriers to attendance included work conflicts and internet difficulties. This pilot trial of the *Launching!* program is novel in that few existing therapies have addressed challenges of the transition to adulthood for individuals with NDDs. *Launching!* has the potential to help young adults with NDDs prepare for postsecondary goals and may be utilized by businesses to support employees with NDDs.

Note: Terminology preferred by the autism community with respect to intellectual ability is used throughout this paper (Bottema-Beutel et al., 2021).

The transition to adulthood is a distinct and critical period of development characterized by a progression toward independence by attending to educational, as well as physical and mental health, needs (Arnett, 2000; Schulenberg et al., 2004). Young adults with neurodevelopmental differences (NDDs) are at an elevated risk of maladjustment across multiple domains of daily life during this period (Kuriyan et al., 2013; Shattuck et al., 2011, 2012; Taylor & Seltzer, 2011). NDDs such as autism spectrum disorder (ASD) or attention deficit hyperactivity disorder (ADHD) arise from

variations in neurodevelopment and are associated with maturational delays or difficulties related to social functioning, attention, self-regulation, and adapting to stress, factors that are crucial for successful transition to adulthood (Fossum et al., 2021; Hartman et al., 2016; Magiati et al., 2014; Thapar & Rutter, 2015). In addition to high co-occurrence, ASD and ADHD share many common features including difficulties in attention, executive functioning, communication with peers, impulse control, and various degrees of restlessness or hyperactivity (Leitner, 2014; Margari et al., 2016). Accordingly, autistic young adults, young adults with ADHD, or young adults with co-occurring ASD and ADHD may experience greater difficulties during the transition to adulthood than their typically developing peers due to social and executive functioning deficits. This

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situation can be especially true for autistic individuals without co-occurring intellectual disability, given that many of these individuals are able to “mask” or hide characteristics associated with autism; this can lead to other potentially higher expectations placed on this group to achieve and gain independence, coupled with a greater likelihood of burnout (Raymaker et al., 2020). Thus, it is critical to develop interventions and programs that can support autistic young adults and/or young adults with ADHD during this crucial period of development.

In addition to executive functioning and social difficulties, many autistic young adults and/or young adults with ADHD experience co-occurring mental health conditions that can make the transition to adulthood even more challenging (Katzman et al., 2017; Lord et al., 2018; McMorris et al., 2019; Rong et al., 2021). For autistic individuals, especially those without co-occurring intellectual disability, the cost of masking one’s autistic traits in adulthood can lead to increased anxiety and depression (Hull et al., 2021). For individuals with ADHD, difficulties with inattention and impulsivity can impede factors such as thinking processes, concentration, and memory, leading to increased risk of anxiety and depression as well (Harrison et al., 2013). This confluence of executive functioning difficulties, social challenges, and internalizing problems sometimes leads autistic individuals and those with ADHD to experience significant impairments in adaptive functioning as compared to their same-age peers (Barkley et al., 2006; Howlin et al., 2004; Matthews et al., 2015; Willoughby, 2003). Although interventions are available for social skills and activities of daily living for those with intellectual disabilities, there are few interventions designed specifically for autistic individuals, ADHD, and/or young adults with ADHD with no co-occurring intellectual disability who experience such difficulties with executive functioning, social interactions, and internalizing mental health conditions such as anxiety who struggle to become independent (Davis & Kollins, 2012). Thus, there is a need for novel interventions designed to support this population, especially during the transition to adulthood.

The need for interventions during the transition to adulthood is especially pertinent given that many autistic young adults and/or young adults with ADHD, especially those without co-occurring intellectual disability, tend to lose services and supports following completion of high school (Islam et al., 2016; Young et al., 2011). With this abrupt loss of services, many neurodiverse young adults struggle to transition to next steps (e.g., higher education, employment) due to factors such as difficulties with adaptive functioning and a lack of skills for managing mental health difficulties. Often, family members, including parents, siblings, and significant others, work to help their neurodiverse young adult during these life changes (Cadman et al., 2012; Ni & Gau, 2015; Taylor & Seltzer, 2011; Van Steijn et al., 2014; Vasilopoulou & Nisbet, 2016; Young-Southward et al., 2017). The parent-child relationship is particularly critical during this time for autistic individuals and/or individuals with ADHD, but many parents of young adults with these difficulties report feeling over-

whelmed by the demands of providing such support (Ced-erlund et al., 2008; Lee et al., 2022). Moreover, families of autistic young adults may have difficulty calibrating the type and amount of supports they should provide, although both over-supporting and under-supporting young adults can lead to difficulty during the transition to adulthood (Francis et al., 2018). Accordingly, there is a need for interventions that support neurodiverse young adults directly while simultaneously supporting their family members (Söderqvist et al., 2017).

Therefore, a group-based intervention that incorporates neurodiverse young adults and their families may provide a good solution. Group interventions for autistic individuals specifically have been shown to be effective for adults and high school students but do have some limitations (Chancel et al., 2022; DaWalt et al., 2018; Jonsson et al., 2021; Laugeson et al., 2015; Leifler et al., 2022; Wentz et al., 2012). Most group interventions developed for autistic young adults focus on social skills, omitting factors such as deficits in executive functioning and adaptive functioning (challenges experienced by young adults with ADHD, as well) that can greatly impact the transition to adulthood (Chancel et al., 2022; Laugeson et al., 2015). In addition, existing group interventions rarely include family members. Those that do sometimes encourage them to act as therapists or social skill “coaches” for their young adults, and in doing so, may cause young adults to become even more reliant on family members, detracting from the goal of increased independence (Karst et al., 2015; Laugeson et al., 2015). Finally, these groups rarely take a values-based lens to help young adults identify and connect with their values during the transition to adulthood. In sum, although a group intervention that incorporates both neurodiverse individuals and their families may be useful for helping transition-aged young adults gain independence, no such intervention yet exists.

Launching! to Adulthood Program and Behavioral Theories

The *Launching!* to adulthood program was originally developed by the third author to help autistic young adults gain independence and manage co-occurring mental health conditions. Though originally developed for autistic young adults specifically, as the program targets areas of difficulty commonly experienced by individuals with ADHD as well (such as executive functioning, adaptive behavior, internalizing difficulties, and social communication), the program was later opened to autistic young adults and/or young adults with ADHD to adopt a neurodiversity lens (Dwyer, 2022). Furthermore, the program is delivered virtually. The program provides evidence-based interventions (EBIs) for transition-aged autistic young adults and their families. Specifically, the program utilizes cognitive behavioral therapy (CBT) and acceptance and commitment therapy (ACT; Beck, 2021; Hayes & Strosahl, 2004). Both CBT and ACT are grounded in a theoretical understanding of the relationship between behaviors and thoughts, called Relational Frame Theory in ACT (Hayes et al., 2001). CBT approaches (e.g., “act as if”, cognitive continuum, thought logging) are

utilized during group sessions (Beck, 2021). ACT theories guide progress toward goals that are in line with young adults' values (Hayes & Strosahl, 2004). While past research has quantified successful transition to adulthood in terms of "possession of skills needed for success in college" (p. 7; White et al., 2021), young adults in the *Launching!* program are encouraged to develop their own archetype of what it means to be an adult and the values associated with that archetype—in other words, what being an adult means to them. Instead of prescribing goals (i.e., college attendance, gaining full-time employment), the *Launching!* program is designed to include activities that target specific skills (e.g., emotion regulation) and individualized goals focused broadly on difficulties related to executive functioning, adaptive behavior, and mental health. ACT encourages individuals to develop actionable steps (called SMART goals, described further below) that can help them connect with their values (O'Neill, 2006).

Similarly, the family member group was designed to increase communication skills within the family, knowledge of ASD and/or young adults with ADHD, and provide suggestions for ways to support transition-aged young adults through these same CBT/ACT theories. The family member group is designed to help family members and young adults develop independence, while reminding family members that each young adult may require differing levels of support. This includes providing family members with various cognitive strategies towards the development of healthy boundaries and family communication skills. Overall, the *Launching!* program focuses on helping autistic young adults and/or young adults with ADHD and family members develop and make progress towards actionable, value-driven goals to improve quality of life for all involved.

Substantial literature has demonstrated the significant barriers that young adults with NDDs experience, including significant co-occurring mental health conditions (Katzman et al., 2017; Lord et al., 2018; McMorris et al., 2019; Rong et al., 2021). In addition, family members experience significant distress during this critical period, as school supports are frequently removed when the young adult turns 18 years old (Islam et al., 2016; Young et al., 2011). *Launching!* is a group therapy program that is responsive to these needs. It is designed for autistic young adults and/or young adults with ADHD (18-25 years old) and their family members. Young adults attend eight group sessions for one hour per week and are provided with homework to complete as they make progress toward personalized goals. Likewise, family members separately attend eight group sessions for one hour per week and are provided with homework to complete as well. The goal of the program is to help young adults develop skills to improve adaptive functioning, communication, executive functioning, and overall quality of life, while helping family members learn techniques for better communication with and support of their young adults as they gain independence.

While the diagnosis and treatment of NDDs continues to improve in children, concerns continue to exist on how to help individuals with NDDs as they enter adulthood (Dufault et al., 2023; Maenner et al., 2023). Maladjustment dur-

ing the transition to adulthood can lead to negative outcomes in employment, education, and relational outcomes (Kuriyan et al., 2013; Shattuck et al., 2011, 2012; Taylor & Seltzer, 2011). The *Launching!* program was developed in a large department that houses an APA-accredited psychology internship program, allowing for exceptional training and supervision. Many individuals with NDDs report significant difficulties with driving, especially in metropolitan areas where this intervention was developed and pilot tested (Jerome et al., 2006; Lindsay, 2017). Telehealth has been shown to be an effective platform for those with NDDs but less is known about how this format performs in a group context for this population, providing further interest in the present study (Ellison et al., 2021; Valentine et al., 2021). The program was also tested during a telehealth revival, which led to its quick adoption by a young adult generation well-acquainted with virtual healthcare.

The following aims were addressed in the pilot trial:

- Aim 1:** to describe the feasibility of the program through participant attendance and participant-reported ease of and barriers to participation,
- Aim 2:** to examine the acceptability of the program through semi-structured interviews and participant-rated satisfaction, and
- Aim 3:** to examine a preliminary signal of effect through measures of well-being and quality of life before and after the intervention.

Methods

Participants

Participants of this study were part of the development for the *Launching!* program for transition-aged young adults with neurodevelopmental disabilities (ASD and/or ADHD) and their family members that was approved by the Committee for the Protection of Human Subjects, Quality Improvement Projects division at the University of Texas Health Science Center, Houston. Participants consented for their de-identified data to be utilized for the purposes of this treatment development project. Eligible participants were aged 18-25 years in the normative intellectual range with a DSM-5 diagnosis of ASD (F84.0, F84.1, F84.5, or F84.9) and/or ADHD (F90.0) according to clinical records (American Psychiatric Association, 2022). Exclusion criteria were insufficient English proficiency, intellectual disability (IQ < 70), and severe mental health disorders that might jeopardize full participation or safety of the participants (e.g., substance use disorder, suicidality).

Patients who were evaluated at an outpatient clinic specializing in the diagnosis of NDDs consented to be contacted for future clinical and quality improvement opportunities. Thirty participants were initially contacted. Two participants did not have family members available for the family member group. One family member was enrolled in the family member group as the young adult was still in high school and under 18 years old. However, the parent indicated a need for the group and support. As a result, there was a final total of 8 young adults (YA) and 9 family members (FM) in the two separate groups (YA and FM). Three

family members in the FM group (mother, father, and sister) who attended together were for one young adult. In the FM group, 78% were mothers; more than half (56%) were Asian. In the YA group, half were female and 25% identified as nonbinary. The ages in the YA group ranged from 18 to 25 years old ($M = 22.5$; $SD = 2.40$). Nearly all (87.5%) of the young adults were diagnosed with autism spectrum disorder in adulthood ($M = 21.63$, $SD = 2.87$). One participant was diagnosed with ADHD-Inattentive Subtype and did not meet cutoff on the Autism Diagnostic Observation Schedule, Second Edition (ADOS-2) for a diagnosis of ASD. However, because this participant displayed many features of ASD across several measures, it was determined (in consultation with the family and participant) he could benefit from the intervention. Given the similar challenges experienced by autistic young adults and those with ADHD, the inclusion of this participant made clinical and empirical sense (Aydin et al., 2022). All participants had a diagnosis of ADHD-Inattentive Subtype (6) or ADHD-Combined Type (2). Other co-occurring mental health conditions, including generalized anxiety disorder ($n = 7$), major depressive disorder ($n = 6$), substance use disorder in remission ($n = 1$), and obsessive-compulsive disorder ($n = 1$) were common. All but one participant was prescribed psychotropic medication and three young adults were receiving concurrent individual psychological treatment. All participants were considered stable and able to participate.

Procedures

The *Launching!* program was originally developed in 2015 by the third author (KAL) and involves eight weekly, separate family member and young adult groups. Group sessions lasted one hour and were delivered over telehealth. During implementation, study staff monitored participant safety and attendance by checking in with participants weekly to assess any psychological distress and barriers to study participation. Group rules included the following: confidentiality of discussion, attending the group regularly and on time, using the raise hand feature (or physically raising your hand) to share, communicating in their preferred method (unmuting yourself or using the chat), keeping the chat on the topic, being respectful and allowing others to share if they wish, and coming to the group with take-home activities completed.

During the initial part of each group session, young adults or family members were greeted by research staff and were given the space to discuss anything that occurred during the week related to the last sessions' topic until all participants arrived. A separate member of the staff contacted any participants that did not arrive within 10 minutes of the session's start time. Session days and times were selected based on separate surveys that were sent out to family members and young adults. Participants who did not attend were called after the session concluded and were emailed the session materials and provided a brief summary of the topic discussed. The eight topics for the family member group included: defining adulthood, the impact of NDDs on adulthood, barriers and roadblocks, advantages and disadvantages of failure, boundaries, communication,

emotions, and goal setting. The eight topics for the young adult group included: defining adulthood, the impact of NDDs on adulthood, barriers and roadblocks, change, thoughts, communication, emotions, and goal setting. See [Table 1](#) for content of each session.

Treatment Fidelity. Several steps were taken to ensure treatment fidelity and ethical implementation. All intervention staff reviewed study goals and procedures, curriculum, and issues to be addressed from the previous session for the family member and young adult groups. Family member groups were facilitated by one pre-doctoral psychology intern, two PhD-level psychologists, and one graduate student; the young adult groups were also facilitated by one pre-doctoral psychology intern, two PhD-level psychologists, and one graduate student. At the conclusion of each group session, the supervising psychologist led the other intervention staff in a debriefing meeting so staff could share feedback, ask questions, and problem-solve any issues that may have arisen during the group session. Group facilitators also had weekly supervision meetings to discuss specific participants, troubleshoot problems, or review resources and referrals for group members. Continuous staff training and supervision is an important mechanism for treatment fidelity and assuring participants receive the best care (Borkowski et al., 2007). No adverse events were reported during the intervention for young adults or family members.

Measures

Aim 1: Feasibility

Following past studies evaluating feasibility in group therapy, preliminary information about feasibility of participation was measured through attendance and participation (Taylor et al., 2022). Information about the feasibility of participation was collected qualitatively in the feedback session after the final session. In terms of ease of participation, young adults and family members were asked whether each of the aspects of *Launching!* program implementation "worked for me" or "did not work for me", including session length (1 hour), session day (Monday or Tuesday), session time (evenings), and number of sessions (8 sessions). If any component of the *Launching!* program did not work for them, participants were asked what would have worked better. Participants were also asked about barriers to participation with the following question, "If you were unable to attend one or more *Launching!* group sessions(s), what circumstances made attendance challenging?"

Aim 2. Acceptability

Family members and young adults provided qualitative feedback regarding the acceptability of the group. They also answered 14 items that assessed their satisfaction (see [Table 2](#)). Participants rated their answers on a 0 to 10 scale, in which a score of 0 indicated *strongly agree*, a 5 indicated *neutral*, and a 10 indicated *strongly agree*. Participants also provided feedback on whether they were satisfied with the online treatment modality. Finally, young adults were

Table 1. Outline of the Launching! Group Side-by-Side Curriculum

Week	Family member group	Young adult group
1	What is adulthood? Introductory session discussing family members' goals for the group. Psychoeducation about adulthood and the various goals adults may have, including independence, work, and school. <i>Homework:</i> Reflect on the young adult's strengths and difficulties as they relate to achieving adulthood.	What is adulthood? Introductory session, discussing common challenges in the transition to adulthood, including independence and gaining life skills. <i>Homework:</i> Think of a goal to work on during group.
2	NDDs and Adulthood. Discussed the effect of NDDs in the transition to adulthood, such as difficulties with inattention, social communication, adherence to routines, concrete thinking, and forgetfulness. Common questions (e.g., "can you outgrow NDDs?") were answered. <i>Homework:</i> Complete the adult inventory worksheet to identify young adult strengths and weaknesses.	Goal setting. Young adults learned how goal setting is a multi-step process. SMART goals were explained. Young adults learned strategies such as chunking by the smallest possible increment and visualization of long-term and short-term rewards. <i>Homework:</i> Work on SMART goal.
3	Barriers and roadblocks. Family members were guided on common barriers and roadblocks for young adults with NDDs (e.g., procrastination, difficulty with goal-setting, challenges with social communication, sensory differences) and why and how those barriers may occur. <i>Homework:</i> Reflect on and write down the barriers experienced by their young adult.	Barriers and roadblocks. Barriers and roadblocks to achieving goals were discussed, such as affective disorders, sleep, eating habits, and daily routine. The habit loop, reinforcements, the Premack principle, and the utility of accountability partners were discussed. <i>Homework:</i> A problem solving handout was provided to break down their SMART goal.
4	Advantages and disadvantages of failure. Family members completed a worksheet discussing goals (e.g., "I want to stop reminding my child to get to work on time") and discussed barriers related to making a change (e.g., "If I set boundaries with my young adult, I may feel less close to them"). Family members discussed what they can and cannot control when it comes to their young adult. Family members were reminded of the importance of allowing their young adult to fail in order for them to learn and succeed on their own. <i>Homework:</i> Set a goal for changing the environment to better support the young adult.	Change. A video on procrastination was presented with a subsequent discussion regarding the negative impact of perfectionism, high societal standards, and fear of failure on mental health and well-being. Discussed the importance of dealing with change and identifying what changes they would like to make, including the emotions, habits, and routines that need to be focused on to make those changes. <i>Homework:</i> Complete IDEAL worksheet.
5	Boundaries. Halfway point check in and review of group rules and goals. Defined boundaries as having a realistic awareness of where the family member ends, and the young adult begins. Discussed how boundaries with young adults involves letting go as well as drawing a line. Discussed how parents can practically set boundaries with young adults (e.g., allowing young adults to problem solve on their own rather than immediately acting to solve their problems). <i>Homework:</i> Use strategies discussed in session to set boundaries.	Emotional Regulation. Halfway point check in and review of group rules and goals. Young adults watched a video on the experience of anxiety, both cognitive and physiological. They completed a mindfulness activity together. The concept of dialectics was introduced as it relates to the transition to adulthood. Examples of dialectics were provided to young adults. <i>Homework:</i> Complete mindfulness and dialectic worksheet.
6	Communication. Pros and cons for each communication style (passive, passive-aggressive, assertive, and aggressive). Strategies taught included using "I" statements, remaining calm, speaking clearly, slowly, and simply, using concrete language and examples, and explicitly stating what they are thinking and feeling. Family members also discussed gaining self-awareness when it comes to their own reactions and why they happen. <i>Homework:</i> Practice using strategies discussed in session to encourage clearer communication.	Thoughts. A video on two-minute rules that can help with procrastination. Young adults learned about the CBT triangle and were introduced to various CBT concepts and strategies (e.g., thinking traps, four ways to "untwist" thinking, and "acting as if"). <i>Homework:</i> Complete thought-challenging exercises to use when struggling to manage their SMART goal.
7	Emotions. Family environment, including conflict and negative expressed emotion were discussed. The role of situations that can further exacerbate family conflict and raise the emotional temperature of a conversation was explained. Vignettes and role playing were used to illustrate healthy communication. <i>Homework:</i> Use coping ahead and spend quality with young adults ("special time") to help develop healthy conversations in the future.	Communication. Young adults were provided information on skills needed for effective communication (e.g., reading between the lines, understanding perspective, content, delivery, reciprocal conversation, and checking for understanding). <i>Homework:</i> Use communication strategies with family. Continue working on SMART goal.
8	Goal setting. SMART goals were discussed and what goals each family member had as it relates to their young adult. A resource list was provided that included national, state, and city resources available for families of individuals with NDDs. Group reviewed the treatment and evaluated treatment gains.	Progress Meter. Group reviewed all 7 topics discussed and evaluated treatment gains. Young adults discussed their future goals and the resources needed to support them. Group leaders them to use positive versus negative self-talk.

asked, on a 0 (*not confident at all*) to 10 (*extremely confident*) scale, how confident they were in their ability to transition to adulthood at pre-treatment and post-treatment. The acceptability of the *Launching!* program was measured by young adults' and family members' satisfaction, as reported in the final feedback session. Mean scores for each satisfaction item in the feedback session were calculated, in addition to the percentage who reported *agree* or *strongly agree* for each satisfaction statement. Finally, we used frequency counts to examine which modules young adults and family members considered most and least helpful from the *Launching!* program. Qualitative themes regarding acceptability were also coded and described by two researchers (pre-doctoral psychologists in their final year of training) using an inductive coding process based on applied thematic analysis (Thomas, 2006). The first and second author independently read through the qualitative data for emerging themes, particularly focusing on ideas related to feasibility, acceptability, and barriers. Specifically, the researchers independently read through the qualitative data using an essentialist paradigm—that is, we used inductive reasoning to extract participants' motivations and meanings from what they said (Braun & Clarke, 2006).

Aim 3: Initial Outcomes

Well-Being and Quality of Life. Quality of life focused on measuring initial outcomes of the intervention. As the *Launching!* program is designed to help young adults gain skills in a variety of areas based on individual needs, we chose to examine progress on each individuals' SMART goals, along with general measures of internalizing mental health difficulties (anxiety and depression) and overall quality of life.

Changes in Life Questions. Five questions were utilized at post-treatment to assess for ways in which participation in the group for family members and young adults may have improved their lives (Hesselmark et al., 2014). Questions included "Has anything in your life changed as a result of your participation in the group?", which was followed by the following options: (a) my ability to express my needs is improved, (b) I have a greater understanding of my own difficulties, (c) my self-acceptance has improved, (d) I feel happier, and (e) I have more social contacts than before. The responses were dichotomized into *agree* and *disagree*, with no neutral responses.

Autism Spectrum Quality of Life (ASQoL). The ASQoL is a 9-item measure of self-reported QoL designed specifically for use in autistic adults (McConachie et al., 2018). The measure was utilized for all young adults, including the young adult with ADHD only, as the validation sample in the McConachie et al. (2018) sample included neurodiverse individuals. The measure consists of eight items addressing specific facets of QoL, including barriers to accessing services, friendships, sources of support, and sensory issues. The "Global QoL" item (Are you at ease [OK] with 'Autism' as an aspect of your identity?) was omitted due to one participant not meeting full criteria for ASD. Items are rated on a 5-point Likert scale with varying response options, and three of the items are reverse scored. The eight-item

composite score (excluding the Global item, which correlates poorly with the remainder of the items) has demonstrated sound psychometric properties in this population ($\alpha = 0.82$), including convergence with other measures of health-related QoL (McConachie et al., 2018).

Patient Health Questionnaire (PHQ-9). The PHQ-9 is a screening measure used to measure current symptoms of depression in an individual and predict future symptoms of depression as well (Kroenke et al., 2001). The scores in PHQ-9 range from 0 = *not at all* to 3 = *nearly every day*. The PHQ-9 was completed by young adults and family members prior to weekly group meetings.

Generalized Anxiety Disorder (GAD-7). The GAD-7 is a questionnaire used to screen for symptoms of anxiety (Spitzer et al., 2006). The scores in the GAD-7 are measured on a scale ranging from 0 = *not at all sure* to 3 = *nearly every day*. The GAD-7 was completed by young adults and family members prior to weekly group meetings.

Shortened Seven-Item Screen for Caregiver Burden (SCB). The SCB includes 7 items assessing caregiver burden from 0 (*did not occur*) to 4 (*severe distress*). The SCB has demonstrated strong internal consistency ($\alpha = .86$) and has been utilized in studies with caregivers of individuals with autism (Hirschman et al., 2004; Kheir et al., 2012). The SCB was completed by caregivers weekly prior to each group meeting.

SMART Goals. A key component for young adults was the development of personalized SMART goals. SMART goals were written using the following guidelines: (a) Specific—define exactly what is being pursued?, (b) Measurable—is there a number to track completion?, (c) Attainable—can the goal be achieved?, (d) Realistic—is it doable from a business perspective?, and (e) Timely—can it be completed in a reasonable amount of time? (O'Neill, 2006). Young adults created a short-term goal that could be completed within the time frame of the group (i.e., 8 weeks) and a long-term goal that was related to a goal they had for the year. Young adults weekly rated their short-term SMART goal in the form of goal attainment scaling (GAS), a method for producing individualized, criterion-referenced measures of clinically relevant change, which emphasizes participant engagement in defining personally meaningful goals (Kiresuk et al., 2014; Ruble et al., 2012). Young adults rated their goal by answering "How much did you progress through your goal this week?" from -2 (*much less than expected*) to +2 (*much more than expected*). The "expected" level of outcome was self-determined by each young adult weekly. The GAS method has been utilized in past studies for young adults with NDDs (Jonsson et al., 2021).

Data Analysis Plan

For Aim 1, we examined treatment feasibility and used frequency counts to examine how feasible each component of the *Launching!* program was for each participant. For Aim 2, the acceptability of the *Launching!* program was measured by young adults' and family members' satisfaction, as reported in the final feedback session. Mean scores for each satisfaction item in the feedback session were calculated, in addition to the percentage who reported *agree* or

strongly agree for each satisfaction statement. Finally, the present study utilized frequency counts to examine which modules young adults and family members considered most and least helpful from the *Launching!* program. Qualitative themes regarding acceptability were coded and described by two researchers (first and second author). For Aim 3, we intended to measure changes in well-being and quality of life at post-treatment. This measure was calculated using descriptive statistics and *t*-tests for each outcome variable separately for the YA and FM groups. Specifically, the Reliable Change Index (RCI) was utilized to describe changes in all outcome measures (Jacobson & Truax, 1992). An RCI represents a ratio of the actual observed difference in scores between the pre and post measurements divided by the standard error of the difference between the two scores. An RCI cutoff of 1.96 or larger (in absolute value) signifies that, with a two-tailed alpha of .05, the change in scores was statistically greater than a difference that could have occurred due to random measurement error. The RCI remains a well-accepted and valid method to assess the reliability of pre-post change for scores of a specific individual and previous studies were utilized to calculate the RCI for each measure (Bischoff et al., 2020; Hirschman et al., 2004; McConachie et al., 2018; Ruble et al., 2012).

Results

Aim 1: Feasibility

Across groups, 77% of participants attended 75% or more of the sessions, with 59% attending all sessions. All nine family members and eight young adults provided responses to the program evaluation surveys. A majority of participants across groups found the session length suitable. Four family members and two young adults reported they would have preferred groups to last 1.5 hours instead of 1 hour. Eighty-nine percent of family members and 63% of young adults liked the number of sessions (8). Of the remaining participants, 12 sessions ($n = 1$) and 10 sessions ($n = 3$) would have been preferred.

One family member would have preferred the groups to meet during the weekend, while 100% of the young adults found weekdays suitable. In terms of session time (5:00 PM for the family member group, 6:00 PM for the young adult group), 67% of family members reported the time worked for them and 88% of young adults reported this time worked for them. Those who reported the session time did not work for them stated that the afternoon ($n = 1$), or later in the evening ($n = 3$) would have worked better for them.

The barriers to attendance reported were work conflicts ($n = 5$), internet issues ($n = 2$), a medical emergency ($n = 1$), and "other" (losing track of time: $n = 1$; anxiety about attending: $n = 1$). Nearly all (94%) participants preferred the online platform for the groups. One young adult participant reported they would have preferred group sessions to be held in person to improve their focus. However, for the majority of participants, the *Launching!* sessions initially seemed feasible as evidenced by high attendance and few logistical barriers cited.

Aim 2: Acceptability

Initial acceptability of the *Launching!* group was examined through items measuring satisfaction. Mean scores and standard deviations for each satisfaction item are presented in Table 2 for young adults and family members. Young adults and family members reported being satisfied with all aspects of the *Launching!* program, with mean scores for all items but two falling below *agree* (score of 7). Two questions ("I could concentrate during the sessions" and "I feel satisfied with my progress") had a mean rating below *agree* (score of 7) for the young adults. However, more than 82% of young adults and family members felt they could ask questions, their questions were answered, they learned new information, attended the sessions without any issues, felt like they were a part of a group, were satisfied with the sessions, would recommend the group to others, felt the group was helpful and made an impact in their lives, and were satisfied with their progress. Thus, there were high levels of satisfaction with the *Launching!* program for both young adults and family members, though there were some challenges related to concentration and progress.

Three themes emerged from interviews with family members and young adults: (a) group connection and support from others in a similar life circumstance, (b) learning the importance of self-care, and (c) the introduction of new skills in an accepting environment. Family members shared how the group helped them decrease their burden and develop patience with their young adult by understanding and appreciation for the difficulties with the transition to adulthood. One family member said, "It helped me connect with other parents going through similar situations. Made me feel like I wasn't alone on an island. It was extremely beneficial." Family members and young adults enjoyed hearing techniques from others going through a similar stage in life as well as from leaders. For instance, based on information shared from others and the group leaders, one family member noted, "For me, I learned about autism because I didn't know a lot about it. I learned a lot about communicating with [my young adult]. I also learned where to find resources and where to find things." Family members and young adults stated self-care had not been a priority for them, as they had been focusing on managing multiple issues in their lives. Thus, many young adults and family members had developed goals focused on meeting basic self-care needs (e.g., developing sleep routines). One family member stated the following regarding self-care: "Sometimes in the midst of helping others with difficulties, I forget to help myself and get support." Finally, during the interviews, family members and young adults reported how gaining practical skills, such as improved emotion regulation abilities and problem-solving skills, made it more likely they would recommend the group to their friends. Some young adults also stated they gained perspective on how to confront new situations and manage the transition to adulthood. For example, one young adult stated, "[I learned] how to confront my problems and how to work

Table 2. Descriptive Statistics for Items Measuring Young Adults' (YA) and Family Members' (FM) Satisfaction with the Launching! Program (n = 17)

Items	YA		FM		% (n)
	M	SD	M	SD	
Feasibility					
1. I could ask questions	8.25	1.67	9	1.66	88% (15)
10. I would recommend <i>Launching!</i> group to another young adult or family member	8.38	1.92	9.22	1.3	94% (16)
11. I feel more prepared to help my young adult/myself transition to adulthood	7.13	2.85	7.89	1.36	77% (13)
Accessibility					
3. I could concentrate during the sessions	6.25	0.89	8.67	1.87	82% (14)
4. I could join in the discussion	7.38	1.3	8.22	1.99	77% (13)
6. I attended the sessions without any issues	8	2.33	9.22	1.3	82% (14)
Effectiveness of the program and program process and outcomes					
7. I felt like I was part of a group	7.88	1.64	9.11	1.05	94% (16)
8. I connected with other people in the group	7.38	2.83	8.22	1.39	77% (13)
9. I was satisfied with the sessions	8.13	1.81	8.67	1.23	94% (16)
5. I learned new information in the sessions	7.38	2.26	8.78	1.48	82% (14)
2. My questions were answered	8.88	1.13	8.89	1.45	94% (16)
12. This group was helpful	7.88	1.96	9.22	0.97	88% (15)
13. This group made an impact in my life	7.63	1.77	8.89	1.05	88% (15)
14. I feel satisfied with my progress	6.5	2.98	8.11	0.93	82% (14)

Note: % (n) refers to those who reported agree or strongly agree (7 or above)

through it step by step and how to connect them to my values.”

Aim 3: Initial Outcomes

For young adults, 88% ($n = 7$) reported having a greater understanding of their own difficulties, 63% ($n = 5$) reported improvement in their ability to express their needs and felt happier. Only 38% ($n = 3$) experienced improved self-acceptance and more social contacts. All family members ($n = 9$) reported having a greater understanding of their own difficulties and greater self-acceptance, 89% ($n = 8$) reported improvement in their ability to express their needs, and 78% ($n = 7$) reported feeling happier and reported having more social contacts than before.

Family members and young adults' symptoms of depression (PHQ-9) and anxiety (GAD-7) decreased from pre-treatment to post-treatment, with 29% (5 family members and young adults) and 24% (4 family members and young adults) achieving reliable change on the PHQ-9 and GAD-7 respectively (see Table 3). Importantly, young adults' PHQ-9 and GAD-7 scores were above the cut-off for depression (> 10) and for generalized anxiety (> 8) on average at pre-treatment but were on average below the cut-off for both measures at post-treatment (Manea et al., 2015; Plummer et al., 2016). Young adults' confidence in their ability to transition to adulthood significantly increased at post-treatment, suggesting progress as a result of the treatment. Family members' caregiver burden scores (SCB) were the only score to significantly decrease ($t(8) = 2.08$,

$p < .001$). from pre- to post-treatment and 89% of family members demonstrated reliable change on the SCB at post-treatment. Quality of life (ASQoL) improved on average and was associated with a reliable change for 25% of young adults.

The short-term SMART goals selected by young adults were distributed across several domains, with 63% of young adults prioritizing health goals (see Appendix 1). Health goals included a focus on improving self-care (e.g., consistent sleep and food schedules) and improving hygiene habits (e.g., taking showers, attending the gym regularly). Other short-term goals included education goals (e.g., applying for graduate programs, and attending classes regularly), relationships/social network, housing, and finance goals. Across the groups, most participants completed their weekly SMART goal at the “expected level of outcome” based on the goal attainment scoring format. Most young adults reported completing somewhat more than their expected level of outcome for their weekly SMART goal at least once during the treatment. On average, young adults reported completing more than half (53.5%) of the long-term goal they developed at the beginning of treatment by post-treatment.

Family members and young adults provided several suggestions for future groups (e.g., longer group session length), included in Table 4. We provide potential solutions for future adaptations of the *Launching!* program to build off of this helpful feedback.

Table 3. Young Adults and Family Members Descriptive Data

Variable	Time	Mean	SD	t	Cohen's d	Qualitative effect size	RCI
YA Confidence	Pre	5.64	3.13	-1.06	-0.35	Medium	
	Post	6.39	1.90				
YA PHQ-9	Pre	10.13	6.13	0.07	0.03	Negligible	0.19
	Post	9.88	5.54				
YA GAD-7	Pre	9.13	5.57	0.78	0.28	Small	-1.68
	Post	7.13	4.74				
YA ASQoL	Pre	3.16	0.41	-1.04	-0.37	Small	
	Post	3.38	0.54				
FM PHQ-9	Pre	4.78	3.67	0.51	0.16	Small	-0.59
	Post	3.88	3.87				
FM GAD-7	Pre	2.38	2.89	-1.53	-0.51	Small	0.82
	Post	3.50	4.41				
FM SCB	Pre	18.13	5.75	6.23*	2.08	Large	-3.92*
	Post	5.75	6.02				

Note. *p < .001; RCI = Reliable Change Index of 1.96 or greater; YA = Young Adult; FM = Family Member; Confidence = One item asking young adults how confident they are in their ability to transition to adulthood; ASQoL = Autism Spectrum Quality of Life; PHQ-9 = Patient Health Questionnaire; GAD-7 = Generalized Anxiety Disorder; SCB = Shortened Seven-Item Screen for Caregiver Burden.

Table 4. Family Members' and Young Adults' Feedback and Possible Solutions for the Launching! Program.

Theme	Family members' view	Young adults' view	Possible solutions
Structure	Incorporate a combined family member/young adult session, explore certain topics in greater depth, and provide more time to check in initially	Young adults suggested including utilizing more ice breakers, increasing the length of sessions, and using the telehealth "chat" function less frequently during sessions	Utilize more social ice breakers at the beginning (young adult group) and more time to check in (family member group), increase group length to 1.5 hours per week, and have a combined session with both groups
Relevance of content		A few participants felt they had already covered some of the topics discussed in the group during previous individual therapy	Collect information regarding the participants' previous counseling material covered before the start of the group to facilitate adaptation of material
Homework	More time to check in at the beginning about homework	Some participants did not want to go through their homework while other group members were present	Have group members send their homework to leaders before session and indicate if they are willing to share during group
Group discussion	Make sure conversation is on topic	More information on general adult themes (i.e., housing, relationships, and jobs) would be helpful	Include themes associated with adult themes and redirect conversations that are off topic

Discussion

The present study evaluated the feasibility, acceptability, and preliminary outcomes of the *Launching!* to adulthood program for autistic young adults and/or young adults with ADHD and their family members. Results from the pilot study suggest that the *Launching!* program is feasible (Aim 1) and acceptable (Aim 2) for both young adults and family members. In particular, young adults and family members felt an enhanced connection to others in a similar life circumstance, learning the importance of self-care and other skills. Accordingly, the group format of *Launching!* may have enabled individuals to socialize and receive support from others with similar experiences, which may have led

to higher self-acceptance for both groups. Self-acceptance has been shown to improve in other group treatments for young adults with neurodevelopmental differences (Hesselmark et al., 2014). These findings speak to the benefits of group versus individual treatment, especially treatments that go beyond social skills alone and focus on other factors associated with the transition to adulthood (Lord et al., 2018).

The vast majority of participants were satisfied with the telehealth format, as it made services easier to access. Although autistic individuals often experience social anxiety in group settings, services via telehealth have been shown to result in equivalent or better outcomes compared to face-to-face services for individuals with NDDs as they per-

haps reduce the burden of engaging with others in person while still providing opportunities to practice social skills through role play activities (Bejerot et al., 2014; Ellison et al., 2021; Valentine et al., 2021; Wentz et al., 2012). For instance, during *Launching!*, young adults were able to use options such as engaging with others through the “chat” feature of the telehealth platform or participating with their cameras off. In this manner, participants who would have been intimidated to participate in *Launching!* in person were able to benefit from the program over telehealth while still practicing social skills through non-traditional methods. Thus, the telehealth format may be beneficial for providing naturalistic opportunities to practice socialization for young adults with neurodevelopmental differences, while also providing a supportive community that increases self-acceptance.

At post-treatment, young adults’ confidence in their ability to transition to adulthood was also greater and they completed, on average, more than half of their long-term SMART goal. These results provide preliminary evidence that the *Launching!* program may help young adults feel more confident in their ability to become independent, perhaps in part due to the tangible progress they were able to observe with regard to their SMART goals. Internalizing difficulties, especially anxiety and depression, are common in autistic young adults and/or young adults with ADHD (Katzman et al., 2017; Lord et al., 2018; McMorris et al., 2019; Rong et al., 2021). Previous treatment studies aimed at symptoms of anxiety have yielded positive effects in both children and autistic young adults (Lang et al., 2010; Walters et al., 2016; Wood et al., 2009). The *Launching!* program targeted anxiety and depression symptoms via EBIs (i.e., CBT and ACT) for both family members and young adults. Young adults’ and family members’ symptoms of depression and anxiety decreased at post-treatment, achieving reliable change on the PHQ-9 and GAD-7. Family members’ caregiver burden scores (SCB) also decreased from pre- to post-treatment and a vast majority of family members demonstrated reliable change at post-treatment. Young adults’ quality of life scores (ASQoL) improved on average and reliably changed for some young adults. These results suggest the intervention demonstrated a preliminary signal of effect needed for a future, large-scale investigation.

Limitations

Results of the present study, although promising, must be considered in light of some limitations. For instance, most of the statistical analyses focused on simple descriptive results (i.e., whether scores increased or decreased and averages). Though appropriate for a pilot study, more rigorous statistical analysis is needed to draw more definitive conclusions regarding potential effectiveness of the intervention; these descriptive results, though promising, cannot truly speak to the efficacy of the *Launching!* program. Similarly, “feasibility” and “acceptability” are broadly defined terms. We chose to examine attendance as a main measure of feasibility, rather than exploring other domains of feasibility, especially those from the providers’ point of

view, such as the generalizability of the intervention. Additionally, while we conducted brief qualitative interviews focused on acceptability and feasibility, a more in-depth exploration could be used in the future with both study participants and providers to gain a greater understanding of potential downsides and barriers to this program. The *Launching!* program was also limited by a small sample size. The sample of young adults itself was a clinical, heterogeneous (ASD and/or ADHD) population of individuals without intellectual disability, which may limit the generalizability of the results to specific subpopulations. Threats to internal validity (e.g., no control group) should be addressed in future studies in order to rule out extraneous variables (e.g., historical events, regression to the mean) by use of designs that are effective for the evaluation of group treatments (Hemming et al., 2015). Finally, the generalizability of the present study is limited across cultures. Thus, future iterations would benefit from culturally adapting and translating the intervention for specific cultural and linguistic groups.

Implications for Future Research

The *Launching!* to adulthood program provided group therapy for 8 young adults and 9 family members during the transition to adulthood. Instead of focusing solely on social skills, the *Launching!* program focuses on providing skills across several areas (e.g., co-occurring mental health symptoms, communication skills in the family) while allowing young adults to make progress on SMART goals that align with their values. While some may define adulthood in terms of employment or secondary education, the *Launching!* program does not prescribe to young adults or family members what adulthood means, instead it allows for young adults and family members to define adulthood and make progress toward goals important to them. Finally, family members are taught how to develop an interdependent relationship with their young adult with an understanding that every young adult may require different levels of support.

To improve and build off the present study, a randomized controlled trial (RCT) of the *Launching!* program compared to a demographic-matched waitlist control group should be conducted who receives traditional social skills approaches. While the feasibility and effectiveness of the present study has been evaluated in the general neurodevelopmental community, it has yet to be evaluated in a rehabilitation counseling setting, where such replications would help to improve overall well-being and outcomes for individuals with disabilities. Given counselors in rehabilitation settings often interact with individuals with disabilities in vocational settings, the present intervention would have significant applicability to build on executive functioning and emotion regulation skills to use in vocational settings. Furthermore, future iterations of the group can include suggestions from the family members and young adults from the present study, which could also be included in state-federal vocational rehabilitation programs. While many programs with a similar demographic focus on social skills associated with NDDs and encourage parents to work

as social coaches, which may further exacerbate a disability lens of NDDs (Laugeson et al., 2015), the goal of the *Launching!* program is to help young adults with NDDs manage co-occurring mental health conditions and reduce responsibility for family members by providing skills in a safe environment. The hope is that the *Launching!* program can become widely utilized in clinics across the country to help individuals with NDDs and their family members during the transition to adulthood.

Conclusions

The *Launching!* program is the first telehealth group program for young adults with NDDs and their parents during the transition to adulthood with a value-based goals framework. The inclusion of a family member group is a response to research demonstrating young adults with NDDs strug-

gle to achieve independence without assistance from their families (Cederlund et al., 2008; Ek & Isaksson, 2013; Hume et al., 2014). Our results suggest that family members experienced reduced caregiver burden after participating in the group. Clinicians working with young adults with NDDs and their family members would benefit from this cohesive treatment framework designed to have a lasting impact on transition to adulthood for autistic young adults and/or young adults with ADHD. Furthermore, this program may help young adults with NDDs prepare for postsecondary goals and may be utilized in business settings to help recruit and retain employees with NDDs.

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