126 (2025) 202653

Contents lists available at ScienceDirect

Research in Autism

journal homepage: www.elsevier.com/locate/rasd

Development of an integrated individual therapy approach for young adults with autism spectrum disorder

Antonio F. Pagán [*,1], Amanda Chang, Yasmine Bensidi-Slimane, Katherine A. Loveland

Louis A. Faillace, MD, Department of Psychiatry and Behavioral Sciences, McGovern Medical School, UTHealth Science Center at Houston, Houston, TX, United States

ARTICLE INFO

Keywords:
Young adulthood
Autism spectrum disorder
Motivational interviewing
Transition to adulthood
Neurodiversity
Mental health

ABSTRACT

Background: The transition to adulthood presents unique challenges for young adults (18–25 years old) with autism spectrum disorder (ASD) without co-occurring intellectual disabilities, including difficulties making and achieving long-term goals. Components of evidence-based interventions such as Acceptance and Commitment Therapy (ACT) and Motivational Interviewing (MI) focus on helping individuals make changes in life and has been combined for adolescents. However, these approaches (ACT + MI) have yet to be adapted for young adults with ASD.

Method: The present study evaluated the feasibility, acceptability, and, in an exploratory step, preliminary signal of effect of an individual coaching approach (combined MI and ACT) for young adults with ASD. Eleven young adults (18–25 years old) with co-occurring disorders were provided with individual, virtual coaching sessions.

Results: The coaching sessions were feasible and acceptable. 82 % (9/11) of young adults completed the sessions, with barriers including work conflicts (n = 5) and internet issues (n = 3). Most (91 %) found the online modality acceptable, and 27 % rated the sessions as very useful. All participants met weekly SMART goals, with 73 % achieving "much more than expected." Nine out of 11 reached the Maintenance stage of the transtheoretical model.

Conclusions: The findings suggest that ACT and MI can be successfully implemented with young adults with ASD during the transition to adulthood.

The transition to adulthood is a distinct and critical period of development, marked by the movement toward greater independence in educational, physical, and mental health domains (Arnett, 2000). For neurodiverse young adults, including those with autism spectrum disorder (ASD), this transition can be particularly challenging, as neurodevelopmental differences can influence areas such as social functioning, attention, self-regulation, and stress adaptation (Fossum, Andersen, Øie, & Skogli, 2021; Magiati, Tay, & Howlin, 2014). These challenges can affect various aspects of life, including education, employment, social relationships, and psychological well-being (Shattuck et al., 2012; Taylor & Seltzer, 2011). For autistic individuals, particularly those without intellectual disabilities, the experience of "masking" – or concealing traits associated with autism – can make navigating this transition even more complex, often leading to burnout as they try to meet societal expectations (Raymaker et al., 2020). This can impact their social communication and relationships, potentially limiting opportunities for connection and affecting their overall sense of well-being (Friedman, Warfield,

* Correspondence to: UTHealth Houston Behavioral and Biomedical Sciences Building, 1941 East Rd, Houston, TX 77054, USA.
E-mail address: Antonio.pagan@uth.tmc.edu (A.F. Pagán).
[1] ORCID https://orcid.org/0000–0002-4724–768X

https://doi.org/10.1016/j.reia.2025.202653
Received 2 February 2024; Received in revised form 9 June 2025; Accepted 22 June 2025
Available online 1 July 2025

& Parish, 2013; Howlin, 2003; Kenworthy, Case, Harms, Martin, & Wallace, 2010). Additionally, managing stress and adapting to change can be particularly difficult, with many young adults with ASD finding it challenging to adjust to new environments such as work settings, often experiencing heightened anxiety (Solomon et al., 2021; Schwartzman et al., 2022; Nimmo-Smith et al., 2020). The dearth of interventions for young adults with ASD is concerning especially given nearly a third of premature deaths among autistic individuals are due to suicide (Hedley & Uljarević, 2018; Hirvikoski et al., 2016). Further, co-occurring anxiety or depression increase yearly expenses for adults with ASD by nearly $5000 (Vohra, Madhavan, & Sambamoorthi, 2017). Given these unique experiences, it is crucial to design interventions and programs that provide the necessary support for neurodiverse young adults, focusing on their individual values and helping them progress in areas that are meaningful to them during this key period of development.

During the transition to adulthood, researchers typically focus on motivation as a crucial factor to associate with behavioral change (Capel, Schnittert, Snow, & Vyas, 2015; Yamashita, Smith, Sahoo, & Cummins, 2022). One method of engaging young adults to increase their motivation to make changes includes connecting change to personal values from an acceptance and commitment therapy (ACT; Harris, 2019) framework and then employing Motivational Interviewing (MI; Miller & Rollnick, 2023) approaches to enact the change and monitor progress. Integrating these two approaches has been successfully completed in the past with adolescents (Thurstone, Hull, Timmerman, & Emrick, 2017) and the authors of MI encourage clinicians to complete "Open-Ended Values" interviews, which the authors state can help to understand an individual's "internal frame of reference" (p. 160; Miller & Rollnick, 2023). Values reflect principles we use to govern our behavior and are person-specific (Fischer & Boer, 2015). When identified, values are often associated with committed action (Dahlgaard & Dahlgaard, 2003). Researchers have found that young adults' meaning in life is related to motivation and to the values realized via personal strivings (Siwek, Oleszkowicz, & Słowińska, 2017). In college-aged young adults, meaning in life often includes the value of financial success for males and intimacy/friendship for females (Siwek et al., 2017). Young adults with high meaning in life emphasize autonomous motivation and view their everyday strivings with more meaning by connecting them to internal and external values (Siwek et al., 2017). Thus, the development and progress toward goals by connecting them with values from an ACT perspective may be a useful starting point for interventions focused on motivating young adults with ASD.

Interventions for autistic adults ought to be tailored to their unique needs (Lord, McCauley, Pepa, Huerta, & Pickles, 2020), including difficulties with rigidity, black and white thinking, and difficulty developing motivation for societally predefined goals and structure about what it means to be a successful adult. The unique characteristics of ASD, including sensory sensitivities, cognitive rigidity, and difficulties with emotional awareness (Brunsdon & Happé, 2014; DuBois, Ameis, Lai, Casanova, & Desarkar, 2016), can present barriers to traditional therapeutic approaches (Gadke, McKinney, & Oliveros, 2016). For example, difficulties identifying internal experiences (e.g., physiological sensations and emotions) and cognitive inflexibility may impede young adults with ASD from connecting emotions to cognitions associated with typical cognitive behavioral approaches (Brunsdon & Happé, 2014; DuBois et al., 2016). Sensory sensitivities, restricted behaviors or interests, and executive functioning deficits may also impact session engagement and completion of practice assignments (Hwang, Arnold, Srasuebkul, & Trollor, 2020). Thus, it is critical that researchers develop interventions for individuals with ASD during key life stages, such as the transition to adulthood.

Motivational Interviewing (MI) is an evidence-based intervention linked to "Carl Rogers's humanistic perspective, cognitive dissonance, and self-perception theory" (p. 95; Miller & Rollnick, 2023). Generally, the following techniques are included in MI: resisting the righting reflex, cultivating change talk, and empathic listening skills, all of which seek to tap into a client's internal motivation to make changes in their life. The MI modality is often used in tandem with the Transtheoretical Model (TTM), which posits five stages of change: Precontemplation (e.g., do not perceive issues as related to behavior), Contemplation (e.g., ambivalence about change), Preparation (e.g., making a commitment to change), Action (e.g., actively involved in changing), and Maintenance (e.g., efficiency in changing the behavior). Past adaptations of MI for young adults have focused on increasing motivation for managing health conditions (Schaefer & Kavookjian, 2017; Walpole, Dettmer, Morrongiello, McCrindle, & Hamilton, 2013). Existing adaptations of MI have been completed for other neurodevelopmental disorders (e.g., attention-deficit/hyperactivity disorder; Sibley, Graziano, Coxe, Bickman, & Martin, 2021), for neurodiverse young adults in group settings (Nabors, Overstreet, Carnahan, & Ayers, 2021), for parents of caregivers of individuals with ASD (Larson, Jeglum, & Shmays, 2023), but not for individual therapy with young adults with ASD and average intellectual functioning. Nabors and colleagues (2021) posited that MI enhances the effectiveness of interventions for neurodiverse young adults by facilitating the process of goal selection, a key aspect of MI that empowers individuals to take ownership of their goals. While young adults with ASD and low average intellectual functioning may face unique challenges in articulating goals, MI provides a supportive framework to help them identify and refine goals in a way that aligns with their values and priorities. Specifically, clinicians can include MI approaches for young adults with ASD, which allow for personal choice, subsequently leading to greater investment in achieving these goals and ensuring the goals align with their preferences.

Qualitative research by Frielink and Embregts (2013) with individuals and families of neurodiverse individuals with mild intellectual differences resulted in various themes that can help guide the modifications of MI for neurodiverse individuals. Specifically, they recommended open-ended questioning should include concrete and clear language, reflective listening should involve support for the identification of emotions, language should involve nonverbal and verbal affirmations, summarizations should occur between topics, and eliciting change-talk should occur with smaller steps (Frielink & Embregts, 2013). While MI has been traditionally evaluated with in-person sessions, a recent review examined the effectiveness of telehealth-delivered MI for health related behaviors, finding no differences in the two approaches (Patel, Wakayama, Bass, & Breland, 2019). Telehealth-delivered MI may also be suitable for young adults with ASD. In fact, recent reviews have found telehealth to be an effective mechanism to deliver evidence-based interventions for neurodiverse individuals (Ellison, Guidry, Picou, Adenuga, & Davis, 2021) and may even reduce barriers to treatment access for these individuals. For example, research has highlighted the significant difficulties individuals with ASD encounter in obtaining a driver's license and the significant performance anxiety these individuals face when driving (Lindsay, 2017). Thus,

telehealth delivery of MI may provide opportunities for young adults with ASD who may or may not already have their driver's license to receive an evidence-based intervention that may help them achieve their goals.

Adaptations of ACT for individuals with ASD have been completed in the past. Pahnke and colleagues (2014) adapted their intervention program to help adults with ASD identify values and connect with their goals. The skills focused almost exclusively on mindfulness and the sessions were completed in a group format, which may have limited individualized conversations regarding motivation toward goals. In another study, Pahnke and colleagues (2019) made several modifications to their ACT group therapy for individuals with ASD, including adapting examples, clarifying homework, extended psychoeducation, and worksheets with color coding. Thurstone and colleagues (2017) conducted a combined ACT + MI substance use therapy for youth over 12 weeks. ACT processes inspired the current intervention and centered on constructing values to enhance MI sessions. Specifically, not all six ACT principles were used; instead the values principle was used. Researchers have encouraged clinicians to combine ACT approaches with MI with a review concluding that "…there is a great opportunity to develop and empirically test a conceptually coherent combination of MI with ACT" (Bricker & Tollison, 2011, p. 14). Both approaches share common features, including (a) fostering a partnership and collaborative relationship, (b) respecting and accepting clients' autonomy, and (c) emphasizing the importance of connecting with client values (Bricker & Tollison, 2011). However, ACT approaches have not been combined with MI for young adults with ASD nor have they been conducted through an individual coaching session framework using values identification to guide MI sessions.

The present study builds upon previous work that combined ACT and MI to facilitate personal change in adolescents, such as Thurstone et al. (2017), who used ACT to help youth identify and act on their values in a substance use treatment context. In this study, we extend this approach by applying it specifically to young adults with ASD who have average intellectual functioning and co-occurring mental health challenges. Central to our approach is the integration of values-based work from ACT with the client-centered, goal-setting strategies of MI. This combination encourages young adults with ASD to identify and connect with the values that make their lives meaningful, a process that has been shown to enhance motivation and promote behavioral change (Bricker & Tollison, 2011). While no previous research has examined the use of combined ACT and MI in young adults with ASD, there is growing recognition that individuals with ASD desire interventions that offer "guided self-help" from coaches (Horwood, Cooper, Harvey, Davies, & Russell, 2021) and support mental health through self-management (Benevides et al., 2020). Our individualized coaching sessions emphasize this approach by offering structured, non-directive support, where young adults collaborate with their coach to set and pursue personally meaningful goals. The use of visuals and self-rating scales (e.g., 0 to 10) to assess the importance and confidence for change allows for an accessible, client-centered method of goal development and progress evaluation. This approach aligns with the unique needs of young adults with ASD and offers a tailored strategy to enhance engagement and goal attainment.

The study reported here is part of a larger ongoing research project approved by the Institutional Review Board at the research team's university. The Launching! to Adulthood program follows a community-based participatory research (CBPR) approach (Wallerstein, 2017), involving a community advisory board (CAB) composed of four neurodiverse young adults and four parents of neurodiverse young adults, who provide ongoing feedback on the program. This approach aligns with calls from the autism community to ensure that individuals with autism are included in research (Cascio, Weiss, Racine, & the Autism Research Ethics Task Force, 2020; Gowen et al., 2019). The program offers therapy services aimed at supporting neurodiverse young adults in their transition to adulthood, delivered virtually through an outpatient clinic at an academic medical center. In a previous manuscript (BLIND), we explored the Launching! to Adulthood program in its entirety, including group therapy sessions and the overall structure of the intervention. Briefly, the program includes group sessions that focus on three core areas: executive functioning, managing mental health symptoms, and social cognition. These sessions also emphasize helping young adults define adulthood on their own terms and offering concrete guidance on setting and achieving goals. Additionally, parents receive group therapy focused on education, skill-building, and stress management. In addition to the group sessions, young adults receive individual coaching therapy, where they meet weekly with a coach to discuss specific goals, track motivation, and address roadblocks. In this paper, we specifically focus on the individualized coaching therapy component of the Launching! to Adulthood program, providing a detailed exploration of the methods and outcomes associated with combining Acceptance and Commitment Therapy (ACT) and Motivational Interviewing (MI) for young adults with autism spectrum disorder (ASD). By narrowing our focus to the individualized coaching sessions, we aim to provide a framework for future research on this approach, examining how these sessions facilitate goal setting and attainment, increase self-efficacy, and promote progress through the transtheoretical model of change for young adults with ASD. This study uniquely isolates and evaluates the tailored application of ACT and MI in a coaching context, shedding light on their specific impact on enhancing the readiness and confidence of young adults with ASD as they transition to adulthood. Additionally, we explore the acceptability and feasibility of this coaching approach and, in an exploratory step, evaluate changes in self-reported well-being, quality of life, and self-efficacy. This research is grounded in the understanding that self-efficacy is key to goal achievement and can be enhanced through interventions like MI and ACT, which have been shown to improve self-efficacy in individuals with ASD (Galbraith, Rose, & Rose, 2022; Khashouei, Ghorbani, & Tabatabaei, 2016). In summary, this paper provides a focused examination of the individualized coaching component of the Launching! to Adulthood program, contributing valuable insights for future researchers interested in applying ACT and MI to support the transition of neurodiverse young adults into adulthood.

1. Methods

1.1. Participants

This pilot study included 11 neurodiverse young adults (18–25 years old) with ASD (American Psychiatric Association, 2022). Nine of the eleven young adults were diagnosed with ASD in the year prior to the treatment commencing. Participants had undergone

psychodiagnostics evaluations at two partnering clinics which use established standard practices for the diagnosis of ASD and co-occurring diagnosis, including drawing on information from self-, parent-, and clinician-report measures. All participants were evaluated for ASD using the Autism Diagnostic Observation Schedule-2nd Edition Module 4 (ADOS-2; Lord et al., 2012). The ADOS-2 is a semi-structured observation for the assessment of individuals with suspected ASD. The ADOS-2 comprises four domains: Communication, Reciprocal Social Interaction, Imagination/Creativity, and Stereotyped Behaviors and Restricted Interests. The ADOS-2 consists of five modules intended for use with individuals of different developmental levels of communication skills and for the purpose of the present study, Modules 3 or 4 were used, which are used for adolescents or adults with verbal fluency. Self- and informant-report measures, along with clinical observation, semi-structured interviews, and background information, were used to inform diagnoses using the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition Text Revision (DSM-V-TR; American Psychiatric Association, 2022) at the clinic. Diagnoses were made by a licensed clinical psychologist. Exclusion criteria were insufficient English proficiency, intellectual disability (IQ < 80), parent unavailable for the parent group, and severe mental disorders that might jeopardize full participation or safety of the participants (i.e., substance use disorder, psychosis suicidality). Participants provided informed consent.

1.2. Procedure

The *Launching!* to Adulthood program (**BLIND**) is part of an ongoing program evaluation research initiative for an existing but newly developed clinical intervention. Participants received a series of group therapy sessions tailored for young adults with autism, focused on changes needed to move forward toward adulthood. Simultaneously, parents attended a parallel group focused on the unique needs of supporting young adults in this transition. Based on feedback from the original Launching! to Adulthood therapy program (**BLIND**), the program was updated to include 10 individual 30-minute MI coaching sessions (Miller & Rollnick, 2023) for young adults, in addition to optional family sessions. In between the group sessions, each young adult participated in a weekly coaching session. Informed consent was obtained from all participants and their parents prior to beginning the program, ensuring that participation was entirely voluntary. All sessions were conducted virtually using a secure, HIPAA-compliant platform, with coaching sessions scheduled at mutually convenient times to accommodate participants' availability. Recruitment of participants began in July 2023 and was completed by August 2023. In total, 49 young adults were contacted, with 12 ultimately joining the program. Reasons for non-participation included lack of response to advertisements for the group (n = 33), being already enrolled in a similar program (n = 1), attending school in a different state than where the group was offered (n = 2), or not having a parent available to participate in the parent-focused portion of the program (n = 1). Of the 12 young adults who joined, one young adult diagnosed with selective mutism declined to take part in the coaching sessions. Thus, a final total of 11 young adults participated in the coaching sessions (see Table 1 for demographics).

1.3. Measures

Feasibility. We measured feasibility of participation through attendance, which has been done in previous interventions with young adults with ASD given their challenges with executive functioning (Taylor et al., 2022). Attendance was taken for each coaching session and tabulated for each participant. Information about the feasibility of participation was also collected qualitatively in the feedback session after the final session. In terms of ease of participation, young adults were asked whether each of the aspects of coaching session implementation "worked for me" or "did not work for me:" session length; session day; session time; and number of sessions. If any component "did not work for [them]," young adults were asked what would have worked better. Young adults were also asked about barriers to participation, "If you were unable to attend one or more coaching sessions(s), what circumstances made attendance challenging?".

Acceptability. At post-treatment, young adults provided anonymous qualitative feedback regarding the acceptability of the MI sessions. They answered 14 items that assessed their satisfaction and rated their answers on a 0 to 10 scale, in which a score of "0" indicated strong disagreement, "5" indicated neutrality, and "10" indicated strong agreement. Young adults also provided feedback on whether they were satisfied with the online treatment modality. Finally, young adults were asked how confident from 0 (not confident at all) to 10 (extremely confident) they were in their ability to transition to adulthood at pre- and post-treatment.

In addition, the six coaches filled out the **Acceptability of Intervention Measure (AIM), Intervention Appropriateness Measure (IAM), and Feasibility of Intervention Measure (FIM)**, which are four-item measures of implementation outcomes often considered 'leading indicators' of implementation success (Proctor et al., 2011; Weiner et al., 2017). Each measure uses a 5-point Likert scale ranging from 1 ('completely disagree') to 5 ('completely agree'), resulting in a maximum score of 20 per scale. While cut-off scores for interpretation are not yet available, higher scores indicate greater acceptability, appropriateness, and feasibility (Weiner et al., 2017), providing overall information on whether the MI sessions were acceptable, appropriate, and feasible.

1.3.1. Exploratory: Preliminary Signal of Effect

Autism Spectrum Quality of Life (ASQoL; young adults only). The ASQoL is a 9-item measure of self-reported quality of life designed specifically for use in autistic adults (McConachie et al., 2018). 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 (McConachie et al., 2018).

Changes in Life Questions. At post-treatment, five questions were asked to assess any major life changes potentially related to participation in the program, based on the questionnaire developed by Hesselmark and colleagues (2014). Young adults were first

Table 1
Demographics and characteristics of the Young Adults ($n = 11$).

Participant	Family Member in the Parent Group	Race/ Ethnicity	Gender	Age	ADOS-2 Score (Module 4)	Age at ASD diagnosis	Co-occurring diagnoses	Medication	CSES PreTx	MI	Fam
P1	mother and father	White	female	25	11	25	PDD, GAD, ADHD-C	Buspirone	109	10	0
P2	mother	White	female	19	18	18	PDD, GAD, ADHD-C	Seroquel and Atomoxetine	84	4	0
P3	mother	Latino	female	22	21	21	ADHD-C, GAD	Lexapro, Vyvanse, Adderall	112	11	1
P4	mother and father	White	male	22	16	21	PDD, GAD, ADHD-C	Effexor, Vyvanse, Wellbutrin	91	11	1
P5	mother and father	Latino	male	21	22	21	SAD, MDD	None	114	11	1
P6	mother	White	female	18	21	18	ADHD-I, MDD, GAD	None	110	8	0
P7	mother	White	nonbinary	23	17	23	GAD	None	145	11	1
P8	mother	White	male	19	15	17	ADHD-I, DCD, SLD in math, MDD, other specified anxiety disorder	None	139	4	0
P9	mother	White	female	25	20	25	MDD, GAD, ADHD-I	None	134	11	1
P10	mother	White	male	22	13	12	ADHD-C, PDD	Viibryd	13	10	1
P11	mother	White	female	21	21	21	PDD, GAD, ADHD-I	Strattera	98	10	1
M (SD)/%	79% Mothers	82% white	55% female	21.55 (2.30)	17.73 (3.66)	20.18 (3.79)	73% GAD		104.46 (35.94)	9.18 (2.71)	64%

Note. SLD = Specific learning disorder; ADHD-c = attention-deficit/hyperactivity disorder combined type; ADHD-I = attention-deficit/hyperactivity disorder inattentive type; MDD = major depressive disorder; GAD = generalized anxiety disorder; DCD = developmental coordination disorder; PDD = persistent depressive disorder; SAD = social anxiety disorder; MI = number of MI sessions attended including the intake session; Fam = whether the young adult attended a family session.

presented with a priming question: “Has anything in your life changed as a result of your participation in the coaching sessions?” This 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 initially recorded using a 5-point Likert scale, with options ranging from strongly disagree to strongly agree. These responses were then dichotomized into ‘agree’ and ‘disagree’ as suggested by the creators of the instrument (Hesselmark, Plenty, & Bejerot, 2014).

The Coping Self-Efficacy Scale (CSES). The CSES was used to assess self-efficacy of young adults (Chesney, Neilands, Chambers, Taylor, & Folkman, 2006). To complete, young adults rate their confidence in their ability to do 26 different coping actions (e.g., “Take your mind off unpleasant thoughts”) from 0 (cannot do at all) to 10 (certain can do) when things are not going well. Higher scores indicate higher self-efficacy.

The Difficulties in Emotion Regulation Scale—Short Form (DERS- SF). The DERS-SF (Kaufman et al., 2016) is a self-report measure designed to assess difficulties in emotion regulation. It consists of 18 statements that capture various aspects of emotion regulation difficulties (e.g., ‘When I’m upset, I feel out of control’). Young adults rate how often each statement applies to them on a 5-point scale, ranging from 1 = almost never (0% to 10% of the time) to 5 = almost always (91% to 100% of the time). Item responses are averaged to create a total score, with higher scores indicating greater difficulty in regulating emotions.

Confidence. A 1-item question “How confident are you in your ability to transition to adulthood” from 0 “Not at all confident” to 10 “Very Confident” was rated by young adults at baseline and post-treatment.

1.3.2. Working alliance inventory – Short form revised

The **Working Alliance Inventory** is a measure of therapeutic alliance, made up of three components: bond, tasks, and goals. The original instrument (Horvath & Greenberg, 1989) was adapted in a short form (Hatcher & Gillaspy, 2006) which consists of 12 items and was completed by the young adults after week 1 and post-treatment. Young adults respond to items on a 7-point Likert scale and scores provide a total scale.

SMART goals. Young adults developed personalized SMART goals, which are essential components of psychotherapy for autistic adults (Spain & Happé, 2020). These goals were created using guidelines based on Acceptance and Commitment Therapy (ACT) and educational principles (Conzemius & O’Neill, 2006; Harris, 2019). The SMART criteria help ensure that goals are clear, achievable, and meaningful. "S" stands for Specific, meaning the goal should be clearly defined so the individual knows exactly what is being pursued. "M" stands for Meaningful/Measurable, meaning the goal should connect to an important personal value, and progress should be trackable through measurable steps or outcomes. "A" stands for Attainable, which means the goal should be achievable given the individual’s current skills and resources. "R" stands for Realistic, meaning the goal should be practical and relevant to the individual’s abilities and daily life. Finally, "T" stands for Timely, meaning the goal should have a reasonable timeframe within which it can be completed, helping to maintain motivation and a sense of accomplishment. By following these guidelines, young adults are empowered to set goals that are not only achievable but also aligned with their personal values and life circumstances. Some goals, like "I will follow up with my mother about finding an individual therapist," may not have a direct numerical outcome, but they remain measurable in terms of completion (i.e., whether or not the follow-up occurred). To maintain flexibility for a group already facing challenges with flexibility, we aimed to avoid being too rigid in our goal-setting approach. Instead, we emphasized ensuring that SMART goals were achievable within the set timeframe, using a flexible framework that allowed for meaningful, measurable progress without imposing overly strict rules. All goals started with the stem, "By the end of the coaching sessions, I will…" to establish a clear timeframe for completion. Young adults created long-term goals (i.e., spanning 10 weeks) and weekly goals. Young adults connected each goal to an underlying value and rated their progress on their weekly SMART goal in the form of goal attainment scaling (GAS), an individualized measure of change (Kiresuk, Smith, & Cardillo, 2014; Ruble, McGrew, & Toland, 2012), which has been used in past studies (Jonsson et al., 2021). Research shows that GAS results in more tailored goals and can improve treatment effectiveness (Shankar, Marshall, & Zumbo, 2020). Young adults rated a modified version of the GAS and rated their goal by answering “How much did you progress through your goal this week?” from −2 (much less than expected), −1 (somewhat less than expected), 0 (expected level of outcome), + 1 (somewhat more than expected), and + 2 (much more than expected). The “expected” outcome was self-determined by young adults weekly. SMART goals were not a measure of signal of effect but provide important context on the approach in the present study. SMART goals serve as a practical illustration of how the individualized coaching approach was implemented and operationalized. Specifically, the SMART goals provide valuable context by demonstrating how the principles of ACT and MI were applied in a real-world setting to promote meaningful change in young adults with ASD. These goals reflect the participants’ progress in setting, pursuing, and achieving personalized objectives that are directly aligned with their values and long-term aspirations.

1.3.3. Assessment points

The young adults completed measures at baseline and post-treatment. Feasibility, acceptability, and satisfaction were rated by coaches and young adults at post-treatment anonymously through an online internet platform.

1.4. Data analysis plan

Feasibility and acceptability are described qualitatively in the result section. Qualitative data, including feedback from young adults through anonymous program surveys and insights from coaches, was analyzed using a thematic analysis approach. This involved careful reading and re-reading of all qualitative responses to identify recurring patterns, ideas, and experiences. Initial broad categories were formed, and then refined into more specific themes representing common perspectives on the utility, goal-setting

support, and progress-facilitation aspects of the coaching sessions, as well as challenges encountered. Direct quotes were selected to exemplify these identified themes and provide rich, participant-centered illustrations of key findings. All qualitative feedback provided was included in this analysis. Effects on well-being were evaluated using paired samples *t*-tests with two time points (pre-treatment and post-treatment). The effect-sizes of change on the young adult- and parent-rated measures were estimated using Cohen's *d* computed as pre-/post-treatment mean difference divided by pre-treatment SD (Cohen, 1988). Clinical improvement was evaluated using clinically significant change and the Reliable Change Index (RCI) (Jacobson & Truax, 1991). Clinically significant change is defined as whether the participant has moved from within or closer to the distribution of scores for the comparison group (Jacobson and Truax, 1991). 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 (Jacobson and Truax, 1991). 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 due to random measurement error.

1.5. Coaches Training

Coaches in the treatment were the first through fourth authors (one clinical psychologist and three predoctoral interns in an APA-accredited clinical psychology predoctoral internship program) and two practicum students (master's level clinical psychology graduate students with 3 + years of manualized therapy experience). The cases were all supervised by the fifth author—a doctoral-level licensed psychologist with over 40 years of research and clinical experience on autism. After an initial orientation (2.0 h) to the treatment program, coaches completed a 12-session learning series from a regional Behavioral Health Excellence Technical Assistance Center seminar series, which featured the latest advancements of MI based on the recently released version (Miller & Rollnick, 2023). The first six sessions focused on MI Relational skills and the final six sessions focused on Technical skills. These webinars allowed the coaches to gain hands-on experience with live webinars where they could ask questions and practice components of MI with other trainees and trainers. Coaches were able to ask questions and gain insight into the strategies that are effective when engaging patients for behavioral change. In addition, after each webinar, the coaches and team would meet to discuss feedback and integrate their learning. ACT training included additional training resources for coaching to attend four free, one-hour each, online webinars, including an introduction to the ACT model. Next, coaches were provided with psychoeducation on values identification and the research demonstrating the importance of connecting values to goals (Pahnke et al., 2019; Thurston et al., 2017). Coaches were trained to provide validation to young adults in ACT by acknowledging feelings of being stuck while emphasizing that there is always a path forward. Coaches were training to integrate the two approaches (MI and ACT) in a creative and flexible manner, such as using metaphors (e.g., the compass) and reflections to elicit change talk, or employing values clarification and affirmations to reinforce young adults' confidence and commitment during their transition to adulthood. During the intervention, coaches met with the first author once a week for 1-hour to discuss cases in individual or small-group supervision meetings and review recordings of sessions. The first author would provide examples of integrating MI and ACT, along with specific examples that could be helpful during their sessions. Treatment sessions were reviewed by discussing notes, sharing feedback, asking questions, and problem-solving issues after viewing recordings. Supervision also focused on reviewing each upcoming session to ensure fidelity to the protocol, discuss treatment barriers, and provide suggestions on MI techniques that were helpful with clients. All clinical documentation was reviewed and co-signed by the supervisor (the fifth author). Continuous staff training and supervision in a tiered method is an important mechanism for treatment fidelity and assuring participants receive the best care (Borkowski, Smith, & Akai, 3, 2007). No adverse events were reported.

1.6. Treatment protocol

Neurodiverse young adults (18–25 years old) were part of an ongoing virtual treatment program, which included separate, weekly group therapy for parents and young adults over the course of 10 weeks, along with concurrent, weekly, 30-minute coaching sessions for young adults. Telehealth was shown to be an effective platform for neurodiverse individuals (Ellison et al., 2021). The program broadly focused on improving long-term outcomes (e.g., social, economic, education, and health-related) for neurodiverse young adults and their parents. The program used a neurodiversity framework, which viewed neurodevelopmental differences (NDDs) such as ASD as natural variations in the population, and the goal of treatment was to alleviate difficulties associated with them (Kapp, 2020). Coaching sessions used MI (Miller & Rollnick, 2023) and were provided to neurodiverse young adults to fulfill two goals.

Firstly, sessions were provided to facilitate and solidify learning from group sessions. If group homework had not been completed prior to the session, the coach and young adult completed the homework together. Secondly, coaching sessions enabled young adults to develop and make progress on goals that were in line with their values. Young adults were introduced to the choice point (Harris, 2017) in the first group session (see BLIND), which allowed young adults to identify concrete values. In this framework, values were an important aspect of the development of goals because they facilitated the connection between motivation and goal execution for young adults. Each young adult was provided with a therapeutic context and session structure to support progress on a variety of functional goals (e.g., brushing teeth).

During the first session, young adults began working with their coaches to identify their top three values and develop one SMART goal related to each value that they aimed to achieve by the end of the program. SMART goals were critical to the adaptation insofar as they helped coaches and young adults identify meaningful goals they could complete by the end of the program and on a weekly basis. Sessions 2–7 involved weekly check-ins to discuss progress on goals, problem-solve barriers and roadblocks encountered, and provide a warm and encouraging environment for active exploration and reflection on the transition to adulthood. The purpose of sessions 2–7 was to develop weekly goals, provide praise and accurate empathy, and collaboratively problem-solve difficulties or barriers the young

adult experienced in making progress on personalized goals.

The eighth session involved recapping (e.g., discussing progress on and shifts in goals and values from beginning to end) and preparing for maintenance (e.g., reflecting on therapeutic growth, reviewing local resources, and identifying resources needed). In preparation for the family session (session 9), the eighth session involved discussing how the young adult would like to structure that session. While planning for this session, coaches helped young adults identify goals they had made progress on, areas they would like to continue making progress on, and whether they would like to lead the session or have the coach lead the session. he ninth family member session, drawing on principles from Family Therapy and the Autism Spectrum: Autism Conversations in Narrative Practice (Monteiro, 2016), utilized a flexible agenda that generally followed the typical session structure but centered specifically on discussing progress and future goals. The content of these sessions involved a collaborative discussion where young adults shared their progress on previously identified goals, with additional perspectives offered by parents and the coach as needed. This often led to the collaborative development of new goals, building upon the progress made and addressing future aspirations. The session provided a unique opportunity for the young adult to share their journey and discuss ways to continue their growth after the program ended, fostering a shared understanding and collaborative environment. The final session derived from the Maintenance Stage (Stage 6) of the Transtheoretical Model of Change (Miller & Rollnick, 2023) and involved preparing the young adult for closure by discussing progress made and encouraging the young adult to maintain new habits (see Table 2 for an overview of the session structure). If, in the opinion of both the young adult and the coach, the young adult had reached the Maintenance Stage prior to the 10th session, the coaching sessions concluded to allow the young adult to continue making progress and developing independence on their own.

Building on past adaptations of psychosocial interventions for individuals with ASD (Cooper, Loades, & Russell, 2018; Horwood et al., 2021; Petty, Bergenheim, Mahoney, & Chamberlain, 2023; Spain & Happé, 2020), coaches were encouraged to pace sessions appropriately, consider sensory demands, include opportunities to manage meltdowns during sessions through relaxation activities, reduce client uncertainty (e.g., setting a clear agenda and providing clients the opportunity to provide input), discuss rigid thinking, encourage executive functioning skills through collaborative practice (e.g., developing a calendar system to manage daily schedules, including session attendance), and accommodate communication and social difficulties by allowing young adults to engage in the telehealth session with their cameras off or have their parents or other support systems present during the sessions. Due to the importance of predictability, sessions did not go over the allotted time, sessions were offered in person if participants felt that their attention was not maintained virtually (however, no young adults in the current study selected in-person sessions), and coaches used language adapted to the patient's language level and allowed extra time for questions.

Building on previous research (Frielink & Embregts, 2013; Nabors et al., 2021), modifications to MI sessions were implemented as follows. Coaches in this study received specialized training to ensure they understood the unique experiences of neurodiverse adults and fostered an environment of acceptance, engagement, trustworthiness, empathy, and honesty—key factors identified for effective MI with neurodiverse individuals (Frielink & Embregts, 2013). Coaches used concrete, clear, and simple language when discussing important concepts and adhered to the recommended ratio of one question for every 2–3 reflections, as suggested by Miller and Rollnick (2023). When posing questions, coaches used short sentences, focused on specific topics, avoided starting with "why," asked one question at a time without repetition unless requested, and allowed sufficient time for responses. If a question was not understood, coaches rephrased it or explained it differently using pictures, videos, role plays, or familiar concepts and restricted interests (e.g., superheroes). Before transitioning topics, coaches employed MI summaries. In goal-setting, coaches supported young adults in weighing the advantages and disadvantages of change. If confidence and motivation were low (i.e., less than 5 out of 10), coaches sought permission to simplify the goal or connect it with an important value. Finally, coaches assessed whether the young adults' motivation to achieve the goal was intrinsic or influenced by their parents by identifying progress and barriers.

Components from previous ACT adaptations (Pahnke et al., 2019; Thurston et al., 2017) were incorporated to assist in the identification of values during initial sessions and in discussions about connecting values to goals. Coaches encouraged young adults to develop goals aligned with their personally significant values. They validated the young adults' experiences in various functional areas and, when appropriate and beneficial, shared personal anecdotes to foster connection. Coaches also clarified whether the goals expressed by the young adults were their own or influenced by their parents and provided options for those who struggled to identify values or goals. If requested and after receiving permission in a way that supported autonomy, extended psychoeducative material was offered on topics that young adults did not understand from group sessions in an ask-offer-ask method in line with MI principles. For example, young adults were asked, "May I share some extra information on group last week that I think connects to some of your goals?" Doing so integrated materials from the group but also allowed the young adult to feel included in the decision-making of the session. The integration of ACT for value identification was complementary to the spirit of MI. Coaches sought permission from young adults before discussing values and goals, and if clients exhibited increased sustain talk or ambivalence, therapists employed MI skills to re-establish engagement, focus, and change talk.

2. Results

2.1. Feasibility

2.1.1. Attendance and barriers to participation

Overall, 82% (9/11) of young adults completed their coaching sessions. One young adult (patient 6; P6) reached the Maintenance Stage prior to the 10th session. For the family therapy sessions, eight young adults participated in a family therapy session with their individual coach and their parent(s) to discuss progress toward goals, progress on individualized measures, and planning for future treatment. All young adults provided anonymous responses to the program evaluation surveys. All young adults approved of the length

Table 2
Outline of the Launching Individual Coaching Sessions.

Session	Topic	Content	Core Skills
1	Orientation to the program	Young adults are reoriented to the SMART goal worksheet based on ACT principles (Harris, 2021) and are instructed to identify their 3 top values and an overall SMART goal they would like to achieve related to each of these values by the end of the ten-week program. Coaches are provided with a variety of questions to help young adults identify values. SMART goals were defined as: S= specific (specify the actions they will take), M = meaningful/measurable (aligned with values and can be measured), A = adaptive/attainable (likely to improve functioning in life and can be achieved in the week or 10 week frame), R = realistic (possible given the resources available) T = time-framed (can be completed in a week or by the end of the 10 weeks—if this is an overarching goal). Young adults and coaches then discuss developing a short-term goal for the week that is associated with their #1 value. coaches next ascertained a rating of confidence and importance related to their goal. Young adults were told that they would then rate their short-term SMART goals weekly in the form of goal attainment scaling (GAS). Young adults would rate their goal by answering "How much did you progress through your goal this week?" from −2 (much less than expected), −1 (somewhat less than expected), 0 (expected level of outcome), + 1 (somewhat more than expected), and + 2 (much more than expected). The "expected" level of outcome was self-determined by each young adult weekly.	OARS skills; Importance and Confidence Rulers (Miller & Rollnick, 2023); SMART goals (Harris, 2021); goal attainment scaling (GAS;Kiresuk et al., 2014;Ruble et al., 2012).
2 −7	SMART goals	Sessions 2 −7 follow the following structure: Open-ended questions to begin the session (e.g., "How would you like to use our time today?" Checking in on group homework from last week (e.g., "What was helpful from group last week?" or "If you weren't able to complete group homework last week, what got in the way?"). Checking in on the SMART goal developed last week beginning with GAS (e.g., "How much did you progress through your goal this week?"). Discuss what benefits and obstacles they experienced (e.g., "What was the positive benefit of achieving your goal?" or "What are some potential barriers and roadblocks that impacted you achieving your goal last week?"). Coaches and young adults adapt the SMART goal from last week if it needs to be simplified or develop a new SMART goal for the week and completed confidence and importance rulers. Coaches ask young adults to identify benefits and obstacles (similar as above) and make a commitment to their goal (e.g., "What do you think about writing your SMART goal down and saying outload 'I commit to (insert SMART goal here)'?"). Coaches are instructed to end sessions with open-ended questions (e.g., "What did we not get a chance to discuss today that you would like us to prioritize next week?").	Transtheoretical Model of Change, Express empathy, develop ambivalence, roll with resistance, support self-efficacy; OARS skills; Change talk; Importance and Confidence Rulers (Miller & Rollnick, 2023); SMART goals (Harris, 2021); goal attainment scaling (GAS;Kiresuk et al., 2014;Ruble et al., 2012).
8	Recap	Session 8 follow a similar opening structure to Session 2 −7, including: Open-ended questions to begin the session (e.g., "How would you like to use our time today?" Checking in on group homework from last week (e.g., "What was helpful from group last week?" or "If you weren't able to complete group homework last week, what got in the way?"). Checking in on the SMART goal developed last week beginning with GAS (e.g., "How much did you progress through your goal this week?"). Discuss what benefits and obstacles they experienced (e.g., "What was the positive benefit of achieving your goal?" or "What are some potential barriers and roadblocks that impacted you achieving your goal last week?"). Identifying a goal for the coming week. Next, the Coach and young adult discuss whether the young adult is interested in completing the family therapy session. If they are interested, the young adult and coach discussed the values the young adult set in the begin and discussed whether any new values emerged and if the values had shifted in order of importance. Young adults would then identify the overall goals they set and the weekly goals set. Young adults then answer an open-ended question "What progress would you like to continue making after the program ends?" Young adults discuss next steps by examining the resource sheet together and identifying three resources they will contact before the program ends to continue making progress. This may also include	Transtheoretical Model of Change, Express empathy, developing ambivalence, roll with resistance, support self-efficacy; OARS skills; Change talk; Importance and Confidence Rulers (Miller & Rollnick, 2023); SMART goals (Harris, 2021); goal attainment scaling (GAS;Kiresuk et al., 2014;Ruble et al., 2012).

(*continued on next page*)

Table 2 (*continued*)

Session	Topic	Content	Core Skills
		calling their health insurance company together to identify in-network therapy options for after the program ends. If they did select the family therapy session, young adults answer two questions, "How can we ensure the family session is conducted in the way that aligns with your values?" "Who would you like to attend the family therapy session?" and "Who would you like to lead the family session?"	
9	Family session	Session 9 is the family session where the young adults and/or coach lead the session and discuss the information covered during Session 8, including a summary of the overall goals and weekly progress made by the young adult. Finally, the coach and/or young adult examine a resource sheet together and identify resources the young adult plans on contacting or may have already contacted.	Family Therapy and the Autism Spectrum: Autism Conversations in Narrative Practice (Monteiro, 2016)
10	Wrap up and Termination	Session 10 follow a similar opening structure to Session 2 –7, including: Open-ended questions to begin the session (e.g., "How would you like to use our time today?" Checking in on group homework from last week (e.g., "What was helpful from group last week?" or "If you weren't able to complete group homework last week, what got in the way?"). Checking in on the SMART goal developed last week beginning with GAS (e.g., "How much did you progress through your goal this week?"). Discuss what benefits and obstacles they experienced (e.g., "What was the positive benefit of achieving your goal?" or "What are some potential barriers and roadblocks that impacted you achieving your goal last week?"). Identifying a goal for the coming week. Next, the coach and young adult discuss termination. Specifically, coaches utilize the Termination Stage of the Transtheoretical Model of Change to discuss the progress the young adult has made and how they have overcome their issues, maintained new habits, and continued to improve. The session ends with various open-ended questions (e.g., What do you think you have learned from these sessions? What did you like about it and what did you find challenging? What have you learned about yourself and your future? What strategies do you now have access to? What ways will you continue to improve and hold yourself accountable for progressing toward independence?).	Termination stage, Transtheoretical Model of Change, Express empathy, develop ambivalence, roll with resistance, support self-efficacy; OARS skills; Change talk; Importance and Confidence Rulers (Miller & Rollnick, 2023); SMART goals (Harris, 2021); goal attainment scaling (GAS;Kiresuk et al., 2014;Ruble et al., 2012).

of the sessions, number of sessions, and session day/time. Most (91%; 10/11) young adults found the online modality acceptable. One young adult preferred more individual coaching sessions. Some participants were unable to complete the program and discontinued the ACT and MI sessions. One young (P2) adult had to discontinue the sessions after 4 sessions due to work conflicts and insurance coverage issues given that the present study was an extension of a program evaluation of an ongoing clinical service. Another young adult (P8) discontinued the sessions after 4 sessions due to difficulty simultaneously managing his college classes and attending sessions. Overall, the barriers to attendance reported were work conflicts ($n = 5$), internet issues/difficulty with technology ($n = 3$), a medical/family emergency ($n = 3$), or health insurance disruptions ($n = 2$).

Table 3
Descriptive statistics for items measuring young adult (YA) satisfaction with the adapted MI Sessions ($n = 11$).

Items	M	SD
1. I could ask questions	8.25	1.67
2. My questions were answered	8.88	1.13
3. I could concentrate during the sessions	6.25	0.89
4. I could join in the discussion	7.38	1.30
5. I learned new information in the sessions	7.38	2.26
6. I attended the sessions without any issues	8.00	2.33
7. I felt like I belonged	7.88	1.64
8. I connected with my therapist	7.38	2.83
9. I was satisfied with the sessions	8.13	1.81
10. I would recommend the coaching sessions to another young adult	8.38	1.92
11. I feel more prepared to transition to adulthood	7.13	2.85
12. These MI sessions were helpful	7.88	1.96
13. These sessions made an impact in my life	7.63	1.77
14. I feel satisfied with my progress	6.50	2.98

Note. M = Mean Scores; SD = Standard Deviation. Responses were provided "0" (strong disagreement), "5" (neutrality), and "10" (strong agreement).

2.2. Acceptability

2.2.1. Participant satisfaction

Mean scores and standard deviations for each satisfaction item are presented in Table 3 for young adults. Young adults reported being satisfied with all aspects of the coaching sessions. On average, young adults attended the sessions without any issues, felt their questions were welcomed and answered, were satisfied with the sessions, would recommend the coaching sessions to another young adult, and found the MI sessions helpful. When asked qualitatively, "What did you think about the coaching sessions?" in the anonymous program survey, young adults provided several responses. Some young adults (3/11, 27%) reported finding the sessions very useful. Specifically, they reported the following feedback:

> "The sessions were incredibly useful for me. I felt like I had a space where I could openly discuss my challenges without judgment. This really helped me understand myself better and find strategies that actually worked for me."
>
> "I found the sessions very useful because they helped me apply what I was learning in group to my daily life. The online format made it easy [for me] to fit [the sessions] into my schedule."
>
> "I liked the sessions [because] they provided a structured way to approach my goals and gave me the motivation to keep pushing forward."

Other young adults (4/11, 36%) reported the session were helpful for setting goals. Specifically, they provided these responses:

> "The program was extremely helpful for me to focus on my goals but my coach was not pushy, we looked at the problem together, which was nice because I was used to [my past] therapist's telling me what to do. I learned how to break down my bigger aspirations into smaller, manageable steps, which made my goals more possible."
>
> "I actually ended up looking forward to my sessions because I felt like I wasn't going to be bombarded with a ton of questions but instead we set goals and worked on how to connect with my values and purpose [in life]."
>
> "Before these sessions I often felt overwhelmed by my goals. The individual sessions taught me how to set realistic and meaningful goals that aligned with my values that made it easier to stay motivated and focused."
>
> "I was not initially excited about the individual sessions but once I got to know my coach and set my own goals, it felt nice to clarify what I really care about in life and realize that I can achieve my hopes and desires for the future."

Finally, some young adults (4/11, 36%) believed the sessions were a good opportunity to make consistent progress on goals. They provided the following responses:

> "I never really like when my parents are always trying to remind me about things, they want me to do, but [the program's] consistent check-ins were helpful because I knew it was for things I wanted to do. We even got to celebrate each time I made progress, no matter how small it felt."
>
> "I believe the program was a great opportunity to make consistent progress on my goals. The weekly check-ins [kept me] accountable and provided a supportive environment to reflect on my achievements and setbacks."
>
> "Having regular sessions helped me stay on track with my goals and helped me develop words to explain to my parents what I was doing so they didn't think I was being lazy as an adult."
>
> "The program['s structure] gave me the chance to make progress towards my goals and by talking about them weekly it made me feel powerful over the goals I had for the future and like they mattered more."

Young adults also discussed some of the challenges they encountered:

> "One of the hardest things was [staying] motivated for my goals. The nice thing was I knew [my coach] wouldn't judge me but it was stressful sometimes."
>
> "Being online was nice but sometimes I felt like it was hard to connect with my coach because I would get distracted on my computer"
>
> "I was working a lot so it was hard to [do] the homework me and my coach talked about each time."
>
> "I liked the time with my coach but I wish I had a peer or someone I could connect with between sessions or even talk to my coach to help me be motivated each week and stay focused."

2.3. Exploratory: well-being and quality of life

In an exploratory step, we examined the changes in well-being and quality of life for participants. Changes in life were examined using an instrument created by Hesselmark and colleagues (2014). For the 11 young adults in the program, 55% ($n = 6$) reported that their ability to express their needs improved; 83% ($n = 9$) reported they had a greater understanding of their own difficulties; 100% (n = 11) reported their self-acceptance improved; 55% ($n = 6$) reported that they felt happier; and 67% ($n = 7$) reported that they had

more social contacts than before. Table 4 displays the descriptive statistics for pre-treatment and post-treatment for young adults across several measures (see Appendix Table 2 for raw scores for each individual participant). From pre- to post-treatment, young adults' CSES scores increased ($M_{p\ re} = 104.45$, $SD_{p\ re} = 35.94$; $M_{post} = 165.82$, $SD_{post} = 61.25$) and scores on the DERS-SF decreased ($M_{p\ re} = 25.27$, $SD_{p\ re} = 8.84$; $M_{post} = 22.64$, $SD_{post} = 8.24$), although only the former was statistically significant ($t(10) = -5.23$, $p < .001$). Nine out of 11 (82%) of young adults achieved a reliable change on the CSES measure as well as 7 out of 11 (64%) achieving clinically significant change. Young adults also achieved significant increases in quality of life (ASQoL) from pre- to post-treatment (t (10) $= -3.53$, $p < .01$) and 8 out of 11 (73%) of young adults achieved clinically significant change but only 3 out of 11 (28%) achieved a reliable change on this measure. Young adults' confidence in their ability to transition to adulthood also significantly increased at post-treatment (t (10) $= -1.56$, $p < .001$).

2.4. SMART goals

The overall goals selected by the young adults (total of 33 goals, 3 overall goals for the 11 young adults) were broadly distributed across five domains (see the Supplementary Appendix), with 36% (12/33) being personal goals (e.g., "Developing a clean and organized space," P2). Other goals focused on social goals (24%; 8/33; e.g., "Increase self-confidence in social situations," P1), independence (15%; 5/33; e.g., "Increase my freedoms, by advocating for myself and what I want," P10), work (15%; 5/33; e.g., "Apply for 2 jobs a week," P9), and education (12%; 4/33; e.g., "Complete at least 75% of homework per week," P11). Throughout the treatment, all young adults consistently made progress toward their weekly SMART goals at the "expected" level (score of 0) at least once based on the goal attainment scoring format. Impressively, the majority of participants (73%, or 8 out of 11 young adults) exceeded expectations by accomplishing their weekly SMART goals at the "much more than expected" level (score of +2). This commitment to goal attainment reflects the young adults' dedication and proactive approach to personal growth and development during the program. SMART goals provided an opportunity for young adults to take personal values and identify goals to complete during the program.

Finally, the six coaches provided quantitative feedback using the Acceptability of Intervention Measure (AIM), Intervention Appropriateness Measure (IAM), and Feasibility of Intervention Measure (FIM). The AIM score was on average a 16 (range 12–20), the IAM score was also on average a 16 (range 11–20), and FIM was on average a 15.33 (range 13–20). Coaches also provided qualitative feedback on changes they would make to future iterations of the coaching sessions. Specifically, one coach believed young adults would have benefited from flexible session length (e.g., 30–60 min sessions), rather than a strict 30-minute limit. Another coach stated the first and final sessions should have been 60-minutes with the rest of the sessions being 30-minutes in length. Another coach stated longer sessions may have allowed for more open-ended questions, which they believed would have allowed for more effective integration of OARS (Open questions, Affirmations, Reflective listening, and Summarizing) skills. Two coaches also believed parents could have benefited from coaching sessions. Overall, coaches stated they noticed the coaching sessions were a vital component of increasing self-efficacy for the young adults when connecting their values to their goals on a weekly basis.

3. Discussion

The present study aimed to evaluate outcomes related to an individual coaching therapy approach for young adults with ASD by combining components from two important therapy approaches (ACT + MI), which has been done in previous studies (Thurstone et al., 2017). We evaluated our approach by examining the feasibility, acceptability, and, in an exploratory step, the preliminary signal of effect of our adapted ACT + MI coaching sessions for neurodiverse young adults transitioning to adulthood. All but two young adults completed their ACT + MI coaching sessions. For both young adults, alternative counseling options were provided, including a full list of resources. Young adults completed homework, developed weekly SMART goals connected to their core values, and made progress on overall goals toward independence. Young adults were satisfied with the program, as displayed through high rates of satisfaction

Table 4
Young Adults ($n = 11$) Pre- to Post-Treatment Outcomes.

Variable	Time	Mean	SD	t	Cohen's d	Pre to Post CSC	Pre to Post RCI
Confidence	Pre	4.09	2.43	−5.18 * **	−1.56		
	Post	6.55	2.73				
CSES	Pre	104.45	35.94	−5.23 * **	−1.58	7/11 (cut off of 181)	9/11
	Post	165.82	61.25				
DERS-SF	Pre	25.27	8.84	0.15	0.05	8/11 (cut off of 28)	2/11
	Post	22.64	8.24				
ASQoL	Pre	3.15	0.72	−3.53 * *	−1.07	8/11 (cut off of 3.25)	3/11
	Post	3.71	0.61				
WAI-SR	Pre	4.05	0.78	1.12	0.34	8/11 (cut off of 4.25)	2/11
	Post	4.10	0.89				

Note. * ** <.001; * *p < .01;*p < .05; Confidence = One item asking young adults how confident they are in their ability to transition to adulthood; CSES = Coping Self-Efficacy Scale; DESR-SF = Difficulties in Emotion Regulation Scale – Short Form; ASQoL = Autism Spectrum Quality of Life; WAI-SR = Working Alliance Inventory Self-Report; RCI = Reliable Change Index; CSC = Clinically Significant Change; numerator is the number of participants who had reliable or clinically significant changes for post treatment on that measure;

with the session content and their coaches. Furthermore, the approach of adapting MI for neurodiverse young adults allows for a subsequent adaptation of MI for those transitioning to adulthood. Extant research shows the adaptation of MI for various cultures (Self et al., 2023) and for neurodiverse young adults in group settings (Nabors et al., 2021) but has rarely focused on adapting MI for neurodiverse populations (Frielink & Embregts, 2013). Thus, findings from the current study provided evidence that MI can be applied for individual neurodiverse young adults.

In relation to our exploratory aim, clinically significant changes in coping self-efficacy and quality of life were observed. We reasoned self-efficacy would improve from the adapted intervention because both MI and ACT are patient-centered approaches that emphasize autonomy and choice when making changes in an individual's life to create a meaningful life, which may be associated with the emotional states and mastery experiences from Bandura's self-efficacy theory (Bandura, 1977). Young adults, on average, reported significant increases in their confidence in their ability to transition to adulthood by the end of treatment. Young adults' emotion regulation and working alliance did not significantly improve at the end of treatment. The present study included a unique set of neurodiverse young adults as most young adults (10/11) were diagnosed with ASD between the ages of 17 to 25 years old. Thus, most young adults were also interested in better understanding their new diagnosis. Thus, the present study provides a novel adaptation of MI for recently diagnosed young adults with ASD.

Two of the eleven young adults (P3 and P4) did not demonstrate reliable or clinically significant change in measures of coping self-efficacy or quality of life. It may have been more helpful to include more opportunities for in-session confidence building for these participants. In studies with individuals seeking to gain confidence for making dietary changes, researchers have found that interventions that focus on managing stress provide optimal outcomes for improvement in self-efficacy (Prestwich et al., 2014). Few studies evaluating the role of self-efficacy among neurodiverse populations have focused on young adults and instead have focused on the self-efficacy of their teachers (Boujut, Popa-Roch, Palomares, Dean, & Cappe, 2017). One study found that college students with ASD reported higher self-efficacy related to being able to ascertain information needed and advocate for themselves but lower self-efficacy for managing unpredictable situations (Shattuck et al., 2014). While there are past studies that have found MI to be an effective intervention to improve self-efficacy in young people generally (Walpole et al., 2013), the present study represents an initial step toward adapting an integrated MI and ACT approach for neurodiverse young adults.

4. Implications

We provide the following recommendations for clinicians working with neurodiverse young adults who wish to utilize this integrated ACT and MI approach. First, at the beginning of the treatment we had young adults identify personal values and define related goals under the theoretical assumption that the identification of values increases meaning in life and motivation (Siwek et al., 2017). Thus, clinicians using MI with neurodiverse young adults ought to help young adults identify and connect with values as early as possible in the intervention. We also observed that the question "What are your values?" was not always sufficient in values identification. Therefore, the present study found it important to use various questions from the ACT literature to help young adults identify personal values (Harris, 2019).

Second, and in line with past adaptions of MI for challenging behavior and mild intellectual disability (Frielink & Embregts, 2013), we found it important to adapt our combined (ACT + MI) coaching sessions to the language level of the young adult in order to ensure conversations were effective and met young adults "where they were at." For example, coaches focused on starting questions with query words other than "why," asking only one question at a time, and providing sufficient time for the young adult to respond (see Supplementary Appendix).

Third, the present study included neurodiverse young adults with co-occurring mental health disorders, including depression and anxiety. Individuals with co-occurring mental health disorders are often excluded from treatment development projects to improve internal validity (i.e., the intervention is targeting the intended disorder). However, given our neurodiversity framework, we sought to use MI to help young adults make progress on goals related to their independence by using ACT approaches to help identify values. Thus, the present study provides a "proof of concept," demonstrating that an individualized MI and ACT approach can be adapted for neurodiverse young adults with varying co-occurring mental health conditions. It is important that neurodiverse individuals with co-occurring mental health conditions were included since they represent the clients clinicians are likely to encounter in practice (Casanova, Frye, Gillberg, & Casanova, 2020).

Fourth, we noted the importance of including parents in the adapted coaching sessions for neurodiverse young adults when feasible. The present study completed this through a family therapy session (session 9) including both parents and young adults. We balanced the young adults' autonomy with the inclusion of their parents in the intervention, while also noting how important parents are in the transition to adulthood. We achieved this by having honest conversations with young adults using MI OARS skills regarding how they might integrate their parents into their progress toward independence. Most young adults opted to have the family session with their parents and led the session themselves, discussing progress on goals and areas they would like to continue improving. Parents and young adults were reminded that the program is intended to provide them with a springboard toward adulthood, and the family sessions provided an opportunity to problem-solve potential future obstacles. Including parents was also important for young adults who were hesitant at the start of the program, initially stating they were attending sessions because "my mom made me." This made it especially important for coaches in the present study to use collaboration and MI OARS skills to help young adults identify personal goals that may increase patient autonomy, which also allowed these young adults to take ownership of the sessions throughout the program.

Fifth, we suggest using goal attainment scaling (GAS) to evaluate progress toward weekly goals, which allowed young adults in the present adaptation of MI to self-determine progress toward goals. Previous studies have also made use of GAS with neurodiverse young

adults, finding young adults exceeded their goal expectations by the end of the program (Jonsson et al., 2021). In the present study all, young adults completed a weekly SMART goal at the "expected" level (i.e., "0") and most young adults 73% (8/11 young adults) completed a weekly SMART goal at the "much more than expected" level (i.e., "+2"). The use of SMART goals illustrates the practical steps involved in translating abstract therapeutic concepts into concrete actions and outcomes, thereby providing a clearer understanding of the method of our approach. The SMART goals also help contextualize the findings by showing how changes in self-efficacy, confidence, and quality of life were accompanied by consistent goal-setting and attainment efforts.

Participants were neurodiverse young adults without intellectual disability. In large part, this is because after graduating high school, neurodiverse young adults without intellectual disability have access to far fewer resources and post-secondary activities compared to those with intellectual disability (Taylor & Seltzer, 2010). Researchers argue this is because activities developed for young adults with ASD after high school may be significantly less intellectually stimulating than what is needed for this group (Taylor & Seltzer, 2010). It is likely that mental health providers, educators and agencies have not fully "caught up" with the need to provide supports for individuals with autism who have many strengths and do not have intellectual disability, especially given the elevated risk of maladjustment during the transition to adulthood (Shattuck et al., 2012; Taylor & Seltzer, 2011). Thus, the present study sought to help neurodiverse young adults make progress on goals by helping them define their hopes for adulthood that are tailored to their values.

Finally, coaches provided qualitative feedback regarding the coaching sessions. In order to refine the sessions further, we suggest clinicians aiming to build on our approach make the following adjustments: 1) have flexible session length, if a session goes short (e.g., 30 min) or is longer (60 min), note the session length but do not have a strict limit on session time and 2) develop coaching sessions for parents. These sessions could focus on skills integration or managing their own mental health difficulties associated with their young adults' transition. Some parents were learning about ASD for the first time and may need more extensive psychoeducation.

5. Limitations

Some limitations should be discussed regarding the present study. First, the sample size was small and we did not randomize young adults to a control condition to enhance the internal validity of the present study. Thus, factors such as instrumentation, testing, history, maturation, selection bias, regression to the mean, social interaction, and attrition cannot be ruled out as factors affecting our results. Because of the small sample size, our preliminary signals of effect will require additional testing on a larger sample. Alternatively, the present study provides some external validity, enhanced by our CBPR approach, which allows for adapted ACT and MI sessions to be tested in community practice settings where neurodiverse young adults may present with a variety of co-occurring mental health conditions. The next step would be to evaluate the intervention using a randomized controlled trial with a comparable brief social skills intervention as the control condition. To strengthen methodological rigor, we propose incorporating a formal, quantitative fidelity assessment of both MI and ACT delivery. This could involve independent ratings by trained assessors using standardized checklists or coding schemes tailored to specific MI spirit and ACT core processes (e.g., the Motivational Interviewing Treatment Integrity (MITI) Code for MI, or a similar observer-based measure for ACT adherence and competence). This approach would allow us to quantify the extent to which the intervention was delivered as intended and identify specific areas for refinement. Further, a larger study could also evaluate if certain types of SMART goals (e.g., social versus educational goals) are associated with different outcomes. Second, the present study included measures of self-efficacy and emotion regulation as important outcomes. Our clinical experience noted the importance of these measures in downstream outcomes. However, we did not directly measure objective outcomes such as occupational performance or school performance, which has been done in previous studies of peer mentoring programs for neurodiverse young adults (Hillier, Goldstein, Tornatore, Byrne, & Johnson, 2019). Building on participant feedback, future program enhancements could explore the integration of a peer support or peer mentoring component to bolster motivation and sustained engagement between sessions. Additionally, studies could investigate the optimal duration for program implementation. This may also alleviate the concerns of some parents to establish a plan of care after the program concludes. Fourth, measures of acceptability, feasibility, and appropriateness as rated by coaches is limited by the fact that three of the authors of this paper also served as coaches on the intervention and provided feedback. Thus, future iterations should have neutral observers, who are not involved with the manuscript, to provide ratings. Finally, it would be beneficial to complete a dismantling study to determine whether the outcomes are more related to the group or individual sessions. Although this is difficult to discern with any multicomponent intervention, it would be helpful to conduct further research with this lens. For example, a follow-up study may highlight findings on within-subject improvements in self-efficacy; however, it is unclear whether there is enough evidence for an a priori hypothesis that the use of MI would increase youth self-efficacy. Future research should also conduct exploratory analyses to determine which types of SMART goals (e.g., social, educational, vocational) are most strongly associated with positive outcomes, offering insights into differential effects across goal domains.

6. Conclusions

The present study provides preliminary evidence supporting the feasibility of a coaching approach for young adults with ASD, utilizing MI and ACT. Drawing an analogy from physics, static friction, which is greater than rolling friction, represents the initial force required to set an object in motion (Britannica, 2023). Similarly, overcoming initial life changes often requires more effort than maintaining them. This study demonstrates that adapted ACT and MI can help neurodiverse young adults overcome the initial challenges of transitioning into adulthood, thereby aiding in the subsequent maintenance of these changes.

Ethical Approval

All procedures performed were in accordance with the ethical standards of the institutional review boards of the University of Texas Health Science Center Houston and with the 1964 Helsinki declaration and its later amendments.

Source of Funding

This research was funded by the University of Texas Health Science Center Houston, Department of Psychiatry and Behavioral Sciences Seed grant, an Autism Speaks Postdoctoral Fellowship Grant [#13904], the National Center for Advancing Translational Sciences (NCATS) of the National Institutes of Health, through UTHealth-CCTS grant number [5TL1TR003169–05 and T32TR004904], and the Eunice Kennedy Shriver National Institute Of Child Health & Human Development of the National Institutes of Health under Award Number K99HD118079. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

CRediT authorship contribution statement

Loveland Katherine: Writing – review & editing, Supervision, Investigation, Conceptualization. **Yasmine Bensidi-Slimane:** Writing – review & editing, Data curation. **Amanda Chang:** Writing – review & editing, Writing – original draft, Investigation. **Antonio F. Pagán:** Writing – review & editing, Writing – original draft, Validation, Resources, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization.

Declaration of Competing Interest

The authors declare that they have no conflict of interest.

Acknowledgments

The authors wish to thank all of the autistic adults and their families for their helpful participation.

Author Contributions

All authors contributed to the study conception and design. Material preparation, data collection and analysis were performed by AP, AC, YBS, and KAL. The first draft of the manuscript was written by AP, and all authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

Informed Consent

Informed consent was obtained from all individual participants included in the study.

Disclosures and Declarations

The authors declare that they have no conflict of interest. This study was approved by the Institutional Review Board at UTHealth Houston and was performed in accordance with the principles of the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Written informed consent was obtained from the patients. All authors contributed to and approved this manuscript.

Appendix A. Supporting information

Supplementary data associated with this article can be found in the online version at doi:10.1016/j.reia.2025.202653.

Data availability

Data will be made available on request.

References

American Psychiatric Association. (2022). Diagnostic and Statistical Manual of Mental Disorders (DSM-5-TR). American Psychiatric Association Publishing. https://doi.org/10.1176/appi.books.9780890425787.

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist, 55*(5), 469–480. https://doi.org/10.1037/0003-066X.55.5.469

Bandura, A. (1997). Self-efficacy: The exercise of control (pp. ix, 604). W H Freeman/Times Books/ Henry Holt & Co.

Benevides, T. W., Shore, S. M., Palmer, K., Duncan, P., Plank, A., Andresen, M.-L., Caplan, R., Cook, B., Gassner, D., Hector, B. L., Morgan, L., Nebeker, L., Purkis, Y., Rankowski, B., Wittig, K., & Coughlin, S. S. (2020). Listening to the autistic voice: Mental health priorities to guide research and practice in autism from a stakeholder-driven project. *Autism, 24*(4), 822–833. https://doi.org/10.1177/1362361320908410

Borkowski, J. G., Smith, L. E., & Akai, C. E. (2007). Designing Effective Prevention Programs: How Good Science Makes Good Art. *Infants & Young Children, 20*(3), 229–241. https://doi.org/10.1097/01.IYC.0000277754.16185.6b

Boujut, E., Popa-Roch, M., Palomares, E.-A., Dean, A., & Cappe, E. (2017). Self-efficacy and burnout in teachers of students with autism spectrum disorder. *Research in Autism Spectrum Disorders, 36*, 8–20. https://doi.org/10.1016/j.rasd.2017.01.002

Bricker, J., & Tollison, S. (2011). Comparison of motivational interviewing with acceptance and commitment therapy: a conceptual and clinical review. *Behavioural and Cognitive Psychotherapy, 39*(5), 541–559.

Britannica, T. Editors of Encyclopaedia (2023, November 7). friction. Encyclopedia Britannica. ⟨https://www.britannica.com/science/friction⟩.

Brunsdon, V. E., & Happé, F. (2014). Exploring the 'fractionation' of autism at the cognitive level. *Autism, 18*(1), 17–30. https://doi.org/10.1177/1362361313499456

Capel, T., Schnittert, J. F., Snow, S., & Vyas, D. (2015). Exploring Motivations of Young Adults to Participate in Physical Activities. *Proceedings of the 33rd Annual ACM Conference Extended Abstracts on Human Factors in Computing Systems*, 1409–1414. https://doi.org/10.1145/2702613.2732800

Casanova, M. F., Frye, R. E., Gillberg, C., & Casanova, E. L. (2020). Editorial: Comorbidity and Autism Spectrum Disorder. *Frontiers in Psychiatry, 11*, Article 617395. https://doi.org/10.3389/fpsyt.2020.617395

Cascio, M. A., Weiss, J. A., Racine, E., & the Autism Research Ethics Task Force. (2020). Person-oriented ethics for autism research: Creating best practices through engagement with autism and autistic communities. *Autism, 24*(7), 1676–1690. https://doi.org/10.1177/1362361320918763

Chesney, M. A., Neilands, T. B., Chambers, D. B., Taylor, J. M., & Folkman, S. (2006). A validity and reliability study of the coping self-efficacy scale. *British Journal of Health Psychology, 11*(3), 421–437. https://doi.org/10.1348/135910705X53155

Cohen, J. (1988). *The effect size. Statistical power analysis for the behavioral sciences* (pp. 77–83). Abingdon: Routledge.

Conzemius, A.E., & O'Neill, J. (2006). The Power of SMART goals: Using goals to improve student learning. Solution Tree.

Cooper, K., Loades, M. E., & Russell, A. (2018). Adapting psychological therapies for autism. *Research in Autism Spectrum Disorders, 45*, 43–50. https://doi.org/10.1016/j.rasd.2017.11.002

Dahlgaard, S. M. P., & Dahlgaard, J. J. (2003). Towards a holistic understanding of human motivation: Core values—the entrance to people's commitment? *AI & Society, 17*(2), 150–180. https://doi.org/10.1007/s00146-003-0257-y

DuBois, D., Ameis, S. H., Lai, M., Casanova, M. F., & Desarkar, P. (2016). Interoception in autism spectrum disorder: A review. *International Journal of Developmental Neuroscience, 52*(1), 104–111. https://doi.org/10.1016/j.ijdevneu.2016.05.001

Ellison, K. S., Guidry, J., Picou, P., Adenuga, P., & Davis, T. E. (2021). Telehealth and autism prior to and in the age of COVID-19: A systematic and critical review of the last decade. *Clinical Child and Family Psychology Review, 24*(3), 599–630. https://doi.org/10.1007/s10567-021-00358-0

Fischer, R., & Boer, D. (2015). Motivational basis of personality traits: A meta-analysis of value-personality correlations. *Journal of Personality, 83*(5), 491–510. https://doi.org/10.1111/jopy.12125

Fossum, I. N., Andersen, P. N., Øie, M. G., & Skogli, E. W. (2021). Development of executive functioning from childhood to young adulthood in autism spectrum disorder and attention-deficit/hyperactivity disorder: A 10-year longitudinal study. *Neuropsychology, 35*(8), 809–821. https://doi.org/10.1037/neu0000768

Friedman, N. D., Warfield, M. E., & Parish, S. L. (2013). Transition to adulthood for individuals with autism spectrum disorder: Current issues and future perspectives. *Neuropsychiatry, 3*(2), 181–192.

Frielink, N., & Embregts, P. (2013). Modification of motivational interviewing for use with people with mild intellectual disability and challenging behaviour. *Journal of Intellectual & Developmental Disability, 38*(4), 279–291. https://doi.org/10.3109/13668250.2013.809707

Gadke, D. L., McKinney, C., & Oliveros, A. (2016). Autism spectrum disorder symptoms and comorbidity in emerging adults. *Child Psychiatry & Human Development, 47*(2), 194–201. https://doi.org/10.1007/s10578-015-0556-9

Galbraith, N., Rose, C., & Rose, P. (2022). The roles of motivational interviewing and self-efficacy on outcomes and cost-effectiveness of a community-based exercise intervention for inactive middle-older aged adults. *Health & Social Care in the Community, 30*(4), e1048–e1060.

Gowen, E., Taylor, R., Bleazard, T., Greenstein, A., Baimbridge, P., & Poole, D. (2019). Guidelines for conducting research studies with the autism community. *Autism Policy & Practice, 2*(1), 29–45 (A new beginning).

Harris R. (2017). The choice point 2.0: A brief overview. ACTMindfully. ⟨www.actmindfully.com.au/wp-content/uploads/2018/06/Choice_Point_2.0_A_Brief_Overview_-_Russ_Harris_April_2017.pdf⟩.

Harris, R. (2019). ACT made simple: An easy-to-read primer on acceptance and commitment therapy (Second edition). New Harbinger Publications, Inc.

Harris, R. (2021). The reality slap: How to survive and thrive when life hits hard (Second edition). Robinson.

Hatcher, R. L., & Gillaspy, J. A. (2006). Development and validation of a revised short version of the working alliance inventory. *Psychotherapy Research, 16*(1), 12–25. https://doi.org/10.1080/10503300500352500

Hedley, D., & Uljarević, M. (2018). Systematic review of suicide in autism spectrum disorder: current trends and implications. *Current Developmental Disorders Reports, 5*, 65–76.

Hesselmark, E., Plenty, S., & Bejerot, S. (2014). Group cognitive behavioural therapy and group recreational activity for adults with autism spectrum disorders: A preliminary randomized controlled trial. *Autism, 18*(6), 672–683. https://doi.org/10.1177/1362361313493681

Hillier, A., Goldstein, J., Tornatore, L., Byrne, E., & Johnson, H. M. (2019). Outcomes of a peer mentoring program for university students with disabilities. *Mentoring & Tutoring: Partnership in Learning, 27*(5), 487–508. doi.org: 10.1080/13611267.2019.1675850.

Hirvikoski, T., Mittendorfer-Rutz, E., Boman, M., Larsson, H., Lichtenstein, P., & Bölte, S. (2016). Premature mortality in autism spectrum disorder. *British Journal of Psychiatry, 208*(3), 232–238. https://doi.org/10.1192/bjp.bp.114.160192

Horvath, A. O., & Greenberg, L. S. (1989). Development and validation of the Working Alliance Inventory. *Journal of Counseling Psychology, 36*(2), 223–233. https://doi.org/10.1037/0022-0167.36.2.223

Horwood, J., Cooper, K., Harvey, H., Davies, L., & Russell, A. (2021). The experience of autistic adults accessing adapted cognitive behaviour therapy: ADEPT (Autism Depression Trial) qualitative evaluation. *Research in Autism Spectrum Disorders, 86*, Article 101802. https://doi.org/10.1016/j.rasd.2021.101802

Howlin, P. (2003). Outcome in high-functioning adults with autism with and without early language delays: Implications for the differentiation between autism and Asperger syndrome. *Journal of autism and developmental disorders, 33*, 3–13.

Hwang, Y. I. (Jane), Arnold, S., Srasuebkul, P., & Trollor, J. (2020). Understanding anxiety in adults on the autism spectrum: An investigation of its relationship with intolerance of uncertainty, sensory sensitivities and repetitive behaviours. *Autism, 24*(2), 411–422. https://doi.org/10.1177/1362361319868907

Jacobson, N. S., & Truax, P. (1991). Clinical significance: A statistical approach to defining meaningful change in psychotherapy research. In In. A. E. Kazdin (Ed.), *Methodological issues & strategies in clinical research* (pp. 631–648). American Psychological Association. https://doi.org/10.1037/10109-042.

Jonsson, U., Coco, C., Fridell, A., Brown, S., Berggren, S., Hirvikoski, T., & Bölte, S. (2021). Proof of concept: The TRANSITION program for young adults with autism spectrum disorder and/or attention deficit hyperactivity disorder. *Scandinavian Journal of Occupational Therapy, 28*(2), 78–90. https://doi.org/10.1080/11038128.2019.1695933

Kapp, S.K. (Ed.). (2020). Autistic community and the neurodiversity movement: Stories from the frontline. Springer Singapore. https://doi.org/10.1007/978–981-13–8437-0.

Kaufman, E. A., Xia, M., Fosco, G., Yaptangco, M., Skidmore, C. R., & Crowell, S. E. (2016). The Difficulties in Emotion Regulation Scale Short Form (DERS-SF): Validation and replication in adolescent and adult samples. *Journal of Psychopathology and Behavioral Assessment, 38*(3), 443–455. https://doi.org/10.1007/s10862-015-9529-3

Kenworthy, L., Case, L., Harms, M. B., Martin, A., & Wallace, G. L. (2010). Adaptive behavior ratings correlate with symptomatology and IQ among individuals with high-functioning autism spectrum disorders. *Journal of Autism and Developmental Disorders, 40*, 416–423.
Khashouei, M. M., Ghorbani, M., & Tabatabaei, F. (2016). The effectiveness of acceptance and commitment therapy (ACT) on self-efficacy, perceived stress and resiliency in type II diabetes patients. *Global Journal of Health Science, 9*(5), 18–26.
Kiresuk, T.J., Smith, A., & Cardillo, J.E. (Eds.). (2014). Goal Attainment Scaling (0 ed.). Psychology Press. https://doi.org/10.4324/9781315801933.
Larson, E., Jeglum, N., & Shmays, C. (2023). Mixed-method evaluation of fidelity of motivational interviewing-based coaching in 5Minutes4Myself Wellness Program for caregivers of children with autism. *PEC Innovation, 2*, Article 100149.
Lindsay, S. (2017). Systematic review of factors affecting driving and motor vehicle transportation among people with autism spectrum disorder. *Disability and Rehabilitation, 39*(9), 837–846.
Lord, C., McCauley, J. B., Pepa, L. A., Huerta, M., & Pickles, A. (2020). Work, living, and the pursuit of happiness: Vocational and psychosocial outcomes for young adults with autism. *Autism, 24*(7), 1691–1703. https://doi.org/10.1177/1362361320919246
Lord, C., Rutter, M., DiLavore, P.C., Risi, S., Gotham, B.L., & Bishop, S.L. (2012). Autism Diagnostic Observation Schedule (2nd ed.). Western Psychological Services.
Magiati, I., Tay, X. W., & Howlin, P. (2014). Cognitive, language, social and behavioural outcomes in adults with autism spectrum disorders: A systematic review of longitudinal follow-up studies in adulthood. *Clinical Psychology Review, 34*(1), 73–86. https://doi.org/10.1016/j.cpr.2013.11.002
McConachie, H., Mason, D., Parr, J. R., Garland, D., Wilson, C., & Rodgers, J. (2018). Enhancing the validity of a quality of life measure for autistic people. *Journal of Autism and Developmental Disorders, 48*(5), 1596–1611. https://doi.org/10.1007/s10803-017-3402-z
Miller, W.R., & Rollnick, S. (2023). Motivational interviewing: Helping people change (4th ed). Guilford Press.
Monteiro, M.J. (2016). Family therapy and the autism spectrum: Autism conversations in narrative practice. Routledge, Taylor & Francis Group.
Nabors, L., Overstreet, A., Carnahan, C., & Ayers, K. (2021). Evaluation of a pilot healthy eating and exercise program for young adults with autism spectrum disorder and intellectual disabilities. *Advances in Neurodevelopmental Disorders, 5*(4), 413–430. https://doi.org/10.1007/s41252-021-00214-w
Nimmo-Smith, V., Heuvelman, H., Dalman, C., Lundberg, M., Idring, S., Carpenter, P., … Rai, D. (2020). Anxiety disorders in adults with autism spectrum disorder: A population-based study. *Journal of Autism and Developmental Disorders, 50*, 308–318.
Pahnke, J., Hirvikoski, T., Bjureberg, J., Bölte, S., Jokinen, J., Bohman, B., & Lundgren, T. (2019). Acceptance and commitment therapy for autistic adults: An open pilot study in a psychiatric outpatient context. *Journal of Contextual Behavioral Science, 13*, 34–41.
Pahnke, J., Lundgren, T., Hursti, T., & Hirvikoski, T. (2014). Outcomes of an acceptance and commitment therapy-based skills training group for students with high-functioning autism spectrum disorder: A quasi-experimental pilot study. *Autism, 18*(8), 953–964.
Patel, M. L., Wakayama, L. N., Bass, M. B., & Breland, J. Y. (2019). Motivational interviewing in eHealth and telehealth interventions for weight loss: a systematic review. *Preventive Medicine, 126*, Article 105738.
Petty, S., Bergenheim, M.-L., Mahoney, G., & Chamberlain, L. (2023). Adapting services for autism: Recommendations from a specialist multidisciplinary perspective using freelisting. *Current Psychology, 42*(9), 7489–7500. https://doi.org/10.1007/s12144-021-02061-3
Prestwich, A., Kellar, I., Parker, R., MacRae, S., Learmonth, M., Sykes, B., Taylor, N., & Castle, H. (2014). How can self-efficacy be increased? Meta-analysis of dietary interventions. *Health Psychology Review, 8*(3), 270–285. doi.org: 10.1080/17437199.2013.813729.
Proctor, E., Silmere, H., Raghavan, R., Hovmand, P., Aarons, G., Bunger, A., Griffey, R., & Hensley, M. (2011). Outcomes for implementation research: Conceptual distinctions, measurement challenges, and research agenda. *Administration and Policy in Mental Health and Mental Health Services Research, 38*(2), 65–76. https://doi.org/10.1007/s10488-010-0319-7
Raymaker, D. M., Teo, A. R., Steckler, N. A., Lentz, B., Scharer, M., Delos Santos, A., Kapp, S. K., Hunter, M., Joyce, A., & Nicolaidis, C. (2020). Having all of your internal resources exhausted beyond measure and being left with no clean-up crew": Defining autistic burnout. *Autism in Adulthood, 2*(2), 132–143. https://doi.org/10.1089/aut.2019.0079
Ruble, L., McGrew, J. H., & Toland, M. D. (2012). Goal Attainment Scaling as an outcome measure in randomized controlled trials of psychosocial interventions in autism. *Journal of Autism and Developmental Disorders, 42*(9), 1974–1983. https://doi.org/10.1007/s10803-012-1446-7
Schaefer, M. R., & Kavookjian, J. (2017). The impact of motivational interviewing on adherence and symptom severity in adolescents and young adults with chronic illness: A systematic review. *Patient Education and Counseling, 100*(12), 2190–2199. https://doi.org/10.1016/j.pec.2017.05.037
Schwartzman, J. M., Williams, Z. J., & Corbett, B. A. (2022). Diagnostic-and sex-based differences in depression symptoms in autistic and neurotypical early adolescents. *Autism, 26*(1), 256–269.
Self, K. J., Borsari, B., Ladd, B. O., Nicolas, G., Gibson, C. J., Jackson, K., & Manuel, J. K. (2023). Cultural adaptations of motivational interviewing: A systematic review. *Psychological Services, 20*(1), 7–18. https://doi.org/10.1037/ser0000619
Shankar, S., Marshall, S. K., & Zumbo, B. D. (2020). A systematic review of validation practices for the goal attainment scaling measure. *Journal of Psychoeducational Assessment, 38*(2), 236–255.
Shattuck, P. T., Narendorf, S. C., Cooper, B., Sterzing, P. R., Wagner, M., & Taylor, J. L. (2012). Postsecondary education and employment among youth with an autism spectrum disorder. *Pediatrics, 129*(6), 1042–1049. https://doi.org/10.1542/peds.2011-2864
Shattuck, P. T., Steinberg, J., Yu, J., Wei, X., Cooper, B. P., Newman, L., & Roux, A. M. (2014). Disability identification and self-efficacy among college students on the autism spectrum. *Autism Research and Treatment, 2014*, 1–7. doi.org: 10.1155/2014/924182.
Sibley, M. H., Graziano, P. A., Coxe, S., Bickman, L., & Martin, P. (2021). Effectiveness of motivational interviewing– enhanced behavior therapy for adolescents with attention-deficit/hyperactivity disorder: A randomized community-based trial. *Journal of the American Academy of Child & Adolescent Psychiatry, 60*(6), 745–756.
Siwek, Z., Oleszkowicz, A., & Słowińska, A. (2017). Values realized in personal strivings and motivation, and meaning in life in Polish university students. *Journal of Happiness Studies, 18*(2), 549–573. https://doi.org/10.1007/s10902-016-9737-x
Solomon, M., Gordon, A., Iosif, A. M., Geddert, R., Krug, M. K., Mundy, P., & Hessl, D. (2021). Using the NIH toolbox to assess cognition in adolescents and young adults with autism spectrum disorders. *Autism Research, 14*(3), 500–511.
Spain, D., & Happé, F. (2020). How to optimise cognitive behaviour therapy (CBT) for people with autism spectrum disorders (ASD): A Delphi study. *Journal of Rational-Emotive & Cognitive-Behavior Therapy, 38*(2), 184–208. doi.org: 10.1007/s10942-019-00335-1.
Taylor, J. L., Pezzimenti, F., Burke, M. M., DaWalt, L. S., Lee, C. E., & Rabideau, C. (2022). Development, feasibility, and acceptability of a nationally relevant parent training to improve service access during the transition to adulthood for youth with ASD. *Journal of Autism and Developmental Disorders, 52*(6), 2388–2399. https://doi.org/10.1007/s10803-021-05128-z
Taylor, J. L., & Seltzer, M. M. (2010). Changes in the autism behavioral phenotype during the transition to adulthood. *Journal of Autism and Developmental Disorders, 40*(12), 1431–1446. https://doi.org/10.1007/s10803-010-1005-z
Taylor, J. L., & Seltzer, M. M. (2011). Employment and post-secondary educational activities for young adults with autism spectrum disorders during the transition to adulthood. *Journal of Autism and Developmental Disorders, 41*(5), 566–574. https://doi.org/10.1007/s10803-010-1070-3
Thurstone, C., Hull, M., Timmerman, J., & Emrick, C. (2017). Development of a motivational interviewing/acceptance and commitment therapy model for adolescent substance use treatment. *Journal of Contextual. Behavioral Science, 6*(4), 375–379.
Vohra, R., Madhavan, S., & Sambamoorthi, U. (2017). Comorbidity prevalence, healthcare utilization, and expenditures of Medicaid enrolled adults with autism spectrum disorders. *Autism, 21*(8), 995–1009.
Wallerstein, N. (Ed.). (2017). Community-based participatory research for health: Advancing social and health equity (Third edition). Jossey-Bass & Pfeiffer Imprints, Wiley.
Walpole, B., Dettmer, E., Morrongiello, B. A., McCrindle, B. W., & Hamilton, J. (2013). Motivational interviewing to enhance self-efficacy and promote weight loss in overweight and obese adolescents: A randomized controlled trial. *Journal of Pediatric Psychology, 38*(9), 944–953. https://doi.org/10.1093/jpepsy/jst023
Weiner, B. J., Lewis, C. C., Stanick, C., Powell, B. J., Dorsey, C. N., Clary, A. S., Boynton, M. H., & Halko, H. (2017). Psychometric assessment of three newly developed implementation outcome measures. *Implementation Science, 12*(1), 108. https://doi.org/10.1186/s13012-017-0635-3
Yamashita, T., Smith, T. J., Sahoo, S., & Cummins, P. A. (2022). Motivation to learn by age, education, and literacy skills among working-age adults in the United States. *Large-Scale Assessments in Education, 10*(1), 1. https://doi.org/10.1186/s40536-022-00119-7