**Symposium Title**: Addressing mental health needs for neurodivergent youth and adults: Implementation of interventions, findings, and considerations for future support.

**Chair**: Jonathan A. Weiss[[1]](#footnote-1)

**Discussant**: Vaso Totsika[[2]](#footnote-2)

**Overview**: This symposium provides findings across various interventions offered directly to neurodivergent youth and adults to support the spectrum of mental health problems experienced by this population. Mental health difficulties addressed by these interventions include externalizing/internalizing problems, emotion regulation difficulties, and loneliness. Conclusions of each project highlight the diverse needs of neurodivergent people, and consider individual and contextual factors that may affect treatment outcomes.

**Paper 1 of 3**

**Paper Title**: Examining trajectories of caregiver concerns for autistic children receiving two evidence-based interventions in publicly-funded school and mental health settings: Findings from an implementation-effectiveness trial

**Authors**: Laurel R. Benjamin[[3]](#footnote-3), Aubyn C. Stahmer[[4]](#footnote-4), Anna Lau[[5]](#footnote-5), Scott Roesch[[6]](#footnote-6), Stephanie Hernandez[[7]](#footnote-7), Amanda Johnson[[8]](#footnote-8) & Lauren Brookman-Frazee[[9]](#footnote-9)

**Introduction**: Autistic children receive care across multiple public service systems, including education and mental health, to address their diverse social, behavioral, academic, and mental health needs (Brookman-Frazee et al., 2018). The TEAMS project, a cluster randomized hybrid type 3 implementation-effectiveness trial, examined the effects of provider- and leader-level implementation strategies alongside AIM HI (An Individualized Mental Health Intervention for Autism) in mental health programs (Study 1) and CPRT (Classroom Pivotal Response Teaching) in classrooms (Study 2) (Brookman-Frazee & Stahmer, 2018). This presentation explores caregiver-reported primary concerns for their autistic children and the changes in these concerns from baseline to 6-month assessment over the course of intervention delivery from providers trained in AIM HI or CPRT as part of the TEAMS project. This presentation also examines child-, family-, problem-, and study-level moderators of these outcome trajectories.

**Method**: The combined sample included 50 programs/districts across four training cohorts (2018-2019 to 2020-2021). Organizations were randomized to receive a leader-level strategy, provider strategy, both strategies, or neither strategy (evidence-based intervention provider training only). Leader and provider participants were recruited from enrolled programs/districts and child participants were recruited from providers’ caseloads or classrooms. Data from a total of 355 children (mean age = 7.87 years; 77.1% male; 44.2% Latino/a/x) were analyzed. Outcomes were assessed over 6 months. At baseline, caregivers completed the Top Problems Assessment (Weisz et al., 2011), in which they named the top three emotional or behavioral concerns they wished to prioritize in their child’s services and rated the severity of each concern on a scale of 0 (not a problem) to 10 (very much a problem). At 6 months, caregivers re-rated the severity of their concerns. This study examines severity scores from caregivers’ primary (i.e., #1) top problem. Top problems were classified according to items on the Child Behavior Checklist and Social Responsiveness Scale-2, based on coding procedures developed by Weisz et al. (2011) and Wood et al. (2022), respectively.

**Results**: Caregivers’ primary concerns included externalizing (reported as a #1 problem by 31.4% of caregivers), internalizing (28.3%), social communication and interaction (20.7%), and restricted repetitive behavior-related concerns (5.7%). AIM HI (vs. CPRT) participants were more likely to report an externalizing primary concern (*t* = 4.50, *p* < .001) and reported higher baseline severity scores (*t* = 4.86, *p* < .001) whereas CPRT (vs. AIM HI) participants were more likely to report an internalizing primary concern (*t* = -2.31, *p* = .021). Controlling for study intervention condition (AIM HI vs CPRT) and TEAMS implementation strategy condition, a statistically significant effect of time on top problem severity was found (*B* = -1.49, *p* = .001), such that caregivers’ top problem severity scores generally decreased over time. Neither study intervention condition (AIM HI vs. CPRT) nor implementation strategy condition moderated the effect of time on top problem severity (*p*s> .05), however, at 6-months, the severity of caregivers’ top problems no longer differed between AIM HI and CPRT participants (*t* = .94, *p* = .351). The effect of time on top problem severity was not significantly moderated by child-level factors (i.e., age, gender, ethnicity), caregiver/family-level factors (i.e., caregiver age, gender, ethnicity, income, education), nor problem type (i.e., externalizing, internalizing, social communication, restricted repetitive behaviors).

**Discussion**: Findings highlight general improvements in caregiver primary concerns for autistic children among clients of providers trained in AIM HI or CPRT, regardless of problem type, family characteristics, intervention or implementation strategy. These findings are consistent with prior AIM HI effectiveness trial findings which did not identify significant moderators of intervention effects (Brookman-Frazee et al., 2019). Training providers in AIM HI and CPRT represents a promising approach to addressing the diverse needs of autistic children across service systems.

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**Paper 2 of 3**

**Paper** **Title**: Enhancing mental health support for youth with neurodevelopmental conditions: A comparison of virtual and in-person CBT delivery

**Authors**: Jessica Klein[[10]](#footnote-10), Renae Beaumont[[11]](#footnote-11), Christine Till[[12]](#footnote-12), Kendra Thomson[[13]](#footnote-13), Vivian Lee[[14]](#footnote-14), Maggie E. Toplak[[15]](#footnote-15), Nicole Eddy[[16]](#footnote-16), Patrick McGrath[[17]](#footnote-17), Jonathan A. Weiss[[18]](#footnote-18)

**Introduction**: Youth with neurodevelopmental conditions (NDCs) experience higher rates of mental health and emotion regulation (ER) problems compared to their neurotypical peers (Anastopoulos et al., 2011; Cibralic et al., 2019; Hudson et al., 2019). The COVID-19 pandemic and the ensuing ubiquity of virtual interventions has highlighted the need for further research to identify which youth with NDCs benefit more from virtual or in-person delivery of Cognitive Behavioural Therapy (CBT) to manage ER difficulties and mental health concerns (Adams et al., 2023; Lee et al., 2022). Furthermore, we examined whether there were differences in rates of ER improvement between in-person and virtual CBT delivery for youth with NDCs. Additionally, we investigated which child characteristics and environmental factors predicted ER change for each modality.

**Method**: We collected data from a CBT program called “Secret Agent Society: Operation Regulation”, designed to treat ER difficulties. One treatment group received CBT in-person pre-pandemic (n=36), and one group received CBT virtually during and post-pandemic onset (n=43). Participants were youth with NDCs aged 8-13 years (N=79). Seventy six percent of participants were diagnosed with autism (*n* = 54), and 24% had other NDCs (i.e., ADHD, FASD, learning disability or cerebral palsy) (*n*=17). To examine predictors of ER improvement, we used Bronfenbrenner’s (1979) ecological systems theory frameworkto consider the potential influence of both individual characteristics, as well as environmental circumstances, on ER outcomes. Applying this framework, we examined child-level predictors of change in ER (including attention, internalizing/externalizing behaviours, and baseline ER), as well as family and systemic-level predictors (family stressors, parental mental health, parent/child relationship quality, marital status, and health service use). Emotion regulation and predictor data were collected through child and parent-report standardized assessments/questionnaires and demographic surveys.

**Results**: A repeated measures ANOVA showed significant improvement in ER for both in-person and virtual groups (*F*(1,77) = 69.94, *p* < .001, η2 = .48), and that the extent of ER improvement did not significantly differ between groups (*p* = .10). For the in-person group, higher rates of parent stress severity (*r*(34) = .29, *p* = .08) mildly correlated with ER improvement, whereas fewer family stressors (*r*(34) = -.33, *p* = .05) correlated with ER improvement. For the virtual group, youth baseline ER levels (*r*(41) = -.64, *p* < .001), inattentiveness (*r*(41) = -.45, *p* = .07), and hyperactivity (*r*(41) = -.53, *p* =.02) were negatively correlated with ER improvement post-intervention, indicating that lower scores in these areas increased the likelihood of ER improvement. In terms of family-level predictors for the virtual group, parent marital status and lower severity of parent mental health problems were correlated with ER improvement (*r*(41) = .29, *p* = .06, *r*(41) = -.56, *p* < .001, respectively). Linear regression indicated that baseline ER score, hyperactivity, inattention, and parent mental health problems explained 78% of the variance in ER improvement for the virtual group (*F*(4,14) = 12.18, *p* = <.001).

**Discussion:** While both in-person and virtual groups showed similar gains in ER overall, correlates of ER improvement varied between groups. It is important to consider how not having a therapist in the physical room with a child may make treatment more challenging when children have higher rates of inattention, hyperactivity, and emotional dysregulation, and when parents have their own mental health challenges. These variables were not correlated with ER improvement for the in-person therapy group, which may reflect the therapist presence, who can add behavioural adjustments to support individual client needs, and reduce the load placed on parents. Conversely, parent stress and overall stressors were correlated with ER change for the in-person group only. Outcomes for this group may have been affected by the additional stress of managing time and travelling to a treatment location. A limitation of these findings is the potential impact of the pandemic on child and family stress levels, which may have differentially impacted the virtual group participants. Further research on the fit between youth and family circumstances/characteristics and intervention modalities is necessary to individually tailor CBT interventions to individual needs and support the well-being of youth with NDCs.

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**Paper 3 of 3**

**Paper Title**: PEERS® Speed Friending: An alternative approach to fostering social connections for neurodivergent adults

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**Introduction**: Friendships are widely recognized as a protective factor for both autistic and non-autistic individuals, contributing to improved mental health and overall well-being (O’Connor et al., 2022). Although many autistic people desire friendships, they often experience less companionship and lower friendship quality than their non-autistic peers (Cresswell et al., 2019; O’Connor et al., 2022). While friendships are associated with reduced loneliness for autistic individuals, societal and contextual barriers often make it challenging to form meaningful connections in adulthood (Mazurek, 2014; Schiltz et al., 2024). One evidence-based social skills programs, PEERS® for Young Adults, reliably produces improvements in social skills, social engagement, and social anxiety (Gantman et al., 2012; Laugeson et al., 2015). However, data on PEERS® for Young Adults indicates mixed results regarding loneliness, highlighting the need for a deeper understanding of how to address loneliness in autistic adults (McVey et al., 2016). The current study aims to explore a novel method for fostering friendships and reducing loneliness among former PEERS® participants through Speed Friending, a structured social opportunity to meet potential friends.

**Method**: Participants included 16 adults ages 20-30 (*Mage* = 24.8, *SD* = 3.20) who previously completed a 16-week PEERS® social skills program and resided in the Los Angeles area. Participants completed baseline assessments which included the Social Emotional Loneliness Scale for Adults (SELSA; DiTommaso & Spinner, 1993), Test of Young Adult Social Skills Knowledge (TYASSK; Laugeson, 2017), and the Quality of Socialization Questionnaire (QSQ; Laugeson, 2017). Participants were randomly assigned to an immediate or 1-month waitlist control condition. The Speed Friending event included a 15-minute review of PEERS® conversational skills content, after which participants rotated through breakout rooms to have 5-minute conversations with other attendees in dyads. Participants were provided with “starter” questions to facilitate conversations and were monitored by PEERS® staff who completed observational coding of conversations. After each 5-minute breakout room, participants confidentially rated whether their conversational partner was a friendship match. Mutual friendship matches were connected by email. All participants completed post-event and 1-month follow-up assessments assessing satisfaction and social engagement.

**Results**: There were no significant differences between the immediate and waitlist control groups on the QSQ, SELSA, or TYASSK at baseline. At 1-month follow-up, there were also no significant group differences in social engagement (QSQ). Additionally, Analyses revealed that 62.5% (*n*=10) of participants met up socially with a friendship match from the Speed Friending Event, with 18.8% (*n*=3) having multiple get-togethers with a match. While participants reported get-togethers with other Speed Friending participants, there was no significant change in the overall frequency of get-togethers from pre- to post-Speed Friending on the QSQ. Higher loneliness and social skills knowledge were both independently correlated with more friendship matches (SELSA: *r*=.556, *p*=.025; TYASSK: *r*=.520, *p*=.039). Overall, 77% of Speed Friending participants reported they were very or somewhat satisfied with the event, which increased to 88% at 1-month follow-up. Over half of the attendees indicated they would like to attend a similar event in the future. Over half the attendees indicated they would like to attend a similar event in the future. Future recommendations from participants include having additional time to converse, having the flexibility to speak again with someone during the event, and providing space for more ice-breaker activities before separating into dyad conversations.

**Discussion:** Results suggest that PEERS Speed Friending Events might be a novel and beneficial method for developing friendships for individuals wanting to build social connections. Future research might include a larger sample with additional follow-up assessments, while also examining predictors of friendship matches to better refine the protocol.

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