

# Surviving and Thriving in the Real World: Building Practical Life Skills in Autistic Adolescents

Amie Duncan, Ph.D.

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[Amie.Duncan@cchmc.org](mailto:Amie.Duncan@cchmc.org)

[www.STRW.org](http://www.STRW.org)



# Objectives

- Discuss the profile and impact of daily living skills (DLS) in autistic adolescents without an intellectual disability
- Discuss the iterative development of the Surviving and Thriving in the Real World (STRW) intervention
- Discuss the results of the pilot and efficacy studies of the STRW intervention
- Review the essential treatment components of the STRW intervention

# What are Daily Living Skills (DLS)?



# Vineland Adaptive Behavior Scales, 3rd Edition (VABS-3)

Personal	Domestic	Community
Washes and dries self	Puts clean clothes in designated place	Tells time by 5-minute segments
Turns faucet on and adjusts temperature	Performs maintenance tasks as needed	Carries or stores money safely
Wears appropriate clothing depending on the weather	Uses caution while handling sharp objects	Watches or listens to programs for information
Covers mouth when coughing and sneezing	Washes dishes by hand or loads and uses dishwasher	Orders own meal at a fast-food restaurant
Locates and uses public, gender appropriate restroom	Assists in food preparation requiring mixing and cooking	Evaluates quality and price when selecting items to purchase
Takes medicine as directed	Uses simple appliances	Obeys time limits for breaks
Arranges medical and dental check-ups	Cleans one or more rooms other than own bedroom	Demonstrates understanding of right to personal privacy



# DLS Profile in Autistic Individuals

- Autistic children have significantly lower DLS as compared to children with other neurodevelopmental disabilities and neurotypical children (Baker et al., 2021; Liss et al., 2001; Scandura et al., 2019)
- Gap between DLS and chronological age is apparent as early as preschool and continues to widen over time (Bal et al., 2015; DiRezze et al., 2019; Duncan & Bishop, 2015)
- DLS acquisition slows and even regresses after high school graduation and into young adulthood (Clarke et al., 2020, Matthews et al., 2015)

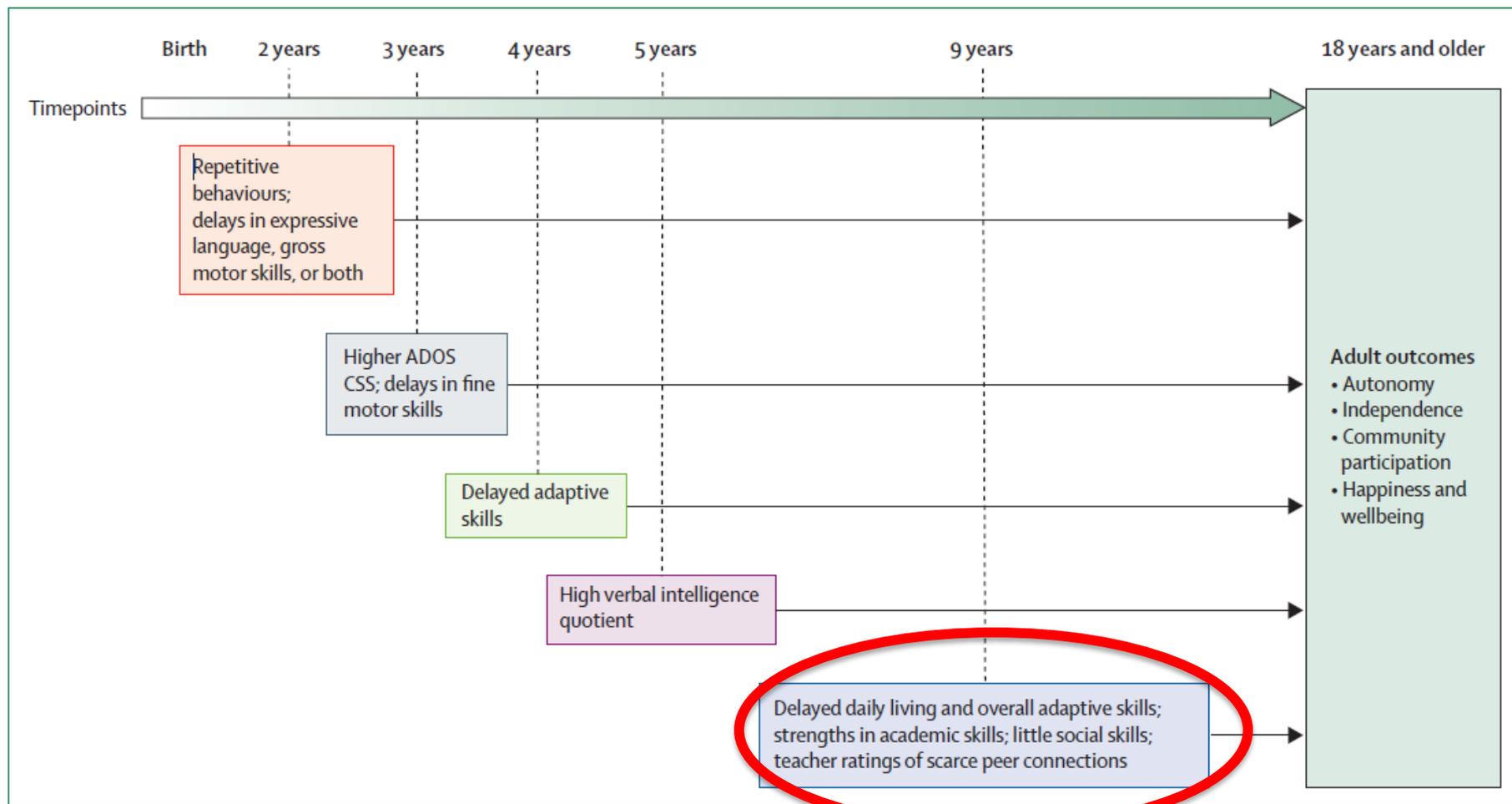
# DLS Profile in Autistic Teens

- In a recent study, our team examined the VABS-3 DLS profile in 151 autistic adolescents without ID ( $IQ \geq 70$ ):
  - VABS-3 DLS Profile: Community > Personal > Domestic
  - *DLS Strengths* - eating and drinking, dressing, toileting, telling time, basic home safety, basic money skills, telling time, and using technology
  - *DLS Challenges* - managing healthcare (appts, refills), cooking, cleaning, laundry, managing money (saving, spending, budgeting), applying for and keeping a job, and traveling within the community independently

# Factors Affecting DLS

- Age
- IQ
- Autism symptomatology
- Social-communication skills
- Restricted and repetitive behaviors/interests
- Executive functioning skills
- Sensory issues
- Parental expectations of independence
- Dependence on others (e.g., prompts)
- Comorbid diagnoses (e.g., anxiety, depression, ADHD)
- Lack of quality, affordable services
- Cultural norms and expectations around independence

# Milestones Listed at Age at Which They Become Predictive of Adult Outcome in Autistic Individuals



# Potential Impact of DLS

- DLS have been linked to a more positive adult outcome in areas such as employment, independent living, post-secondary education, and community participation (Clarke et al., 2020; Farley et al., 2010; Klinger et al., 2015).
- There are many strategies and supports that have been shown to lead to acquisition of DLS in autistic teens including reinforcement, prompting, video modeling, visual strategies, and use of technology (e.g., Hume et al., 2013; Christensen et al., 2016)

# DLS Interventions

It is critical to develop evidence-based DLS interventions for autistic teens to prepare them for increased independence in adulthood (Clarke et al., 2025; Lord et al., 2022).

Our team sought to fill this gap in the literature by developing the Surviving and Thriving in the Real World (STRW) intervention (Duncan et al., 2021).

## ORBIT MODEL OF SURVIVING AND THRIVING IN THE REAL WORLD (STRW)

Phase 1:  
**DEFINE &  
REFINE**  
Completed

### Case Studies

- Single subject studies in outpatient clinics and schools (n=5)

### STRW Refinement

- Core components of STRW intervention developed and refined (e.g., target skills, use of evidence-based practices, format)

Phase 2a:  
**PROOF OF  
CONCEPT**  
Completed

### Pre-Post Trial (n = 7)

- Adolescents showed significant gains in DLS on Vineland-II DLS domain and GAS  
- STRW manual refined based on participant feedback

Phase 2b:  
**FEASIBILITY  
PILOT**  
Completed

### Feasibility Pilot (n = 10)

- STRW made significant gains in DLS (as measured by VABS-3, GAS) compared to waitlist control group  
- Demonstrated initial feasibility, acceptability, and satisfaction  
- Refined manual

Phase 2c:  
**PHASE II  
EFFICACY**  
Completed

\*Converted STRW to telehealth due to COVID-19

### Pilot RCT with 11<sup>th</sup>/12<sup>th</sup> graders (n = 64)

- STRW made significant gains in DLS (VABS-3, GAS) compared to control

### Pilot RCT with 9<sup>th</sup>/10<sup>th</sup> graders (n = 48)

- STRW made significant gains in DLS (VABS-3, GAS) compared to control  
- Used multi-modal assessment of DLS

Phase 3:  
**EFFICACY**  
Currently  
Enrolling

### STRW Telehealth Efficacy RCT with 11<sup>th</sup>/12<sup>th</sup> graders (n = 192)

- Examine efficacy of STRW telehealth vs. telehealth active control group in a multi-site RCT  
- Assess impact of STRW on young adult outcomes (work, college) 6-months post-high school graduation

## CORE CONTENT

- Pre-STRW Session - Preparing for STRW
- Session 1 - Introduction to STRW
- Sessions 2-3 - Hygiene and Self-Care
- Session 4 - Clean Bedroom
- Session 5 - Laundry
- Sessions 6-8 - Kitchen Safety and Cooking
- Session 9 - Grocery Shopping
- Sessions 10-13 - Money Management
- Session 14 - Graduation

## EVIDENCE-BASED STRATEGIES

- Rewards
- Task Analysis
- Chaining
- Technology
- Visual Strategies and Supports
- Modeling
- Explicit and Constructive Feedback

# SURVIVING AND THRIVING IN THE REAL WORLD (STRW)

## SESSION STRUCTURE

- Caregiver Group - Weekly 90-minute sessions facilitated by 1 therapist with 4-8 caregivers
- Caregiver/Teen Dyad - Weekly 60-minute session facilitated by 1 therapist

## KEY TREATMENT INGREDIENTS

- DLS Contract
- DLS Teaching Method
- Elements of an Effective System for Achieving DLS Goals
- Real World Practice Assignments
- Caregivers as Coaches
- Build Buy-In
- Open Discussion of DLS Strengths and Challenges
- Flexibility and Individualization

# Daily Living Skills Contract

Date September 6

Goal	Expectations	Reward							
			MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
Morning Routine	Complete 10 of 11 steps without a reminder on 4/5 weekdays. Post checklist in room and bathroom. Check in with mom when done.	Choice of dinner on the weekend	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cleaning Bedroom	Clean bedroom on Sunday using checklist. Check with mom when done.	1 hour of extra screen time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Laundry	Do 1 load from start to finish. Set alarm for starting and switching loads.	30 minutes of extra screen time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cooking	Help mom/dad cook dinner from start to finish on Wednesday nights.	Choice of dinner to cook and then eat	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Grocery Shopping & Money	Assist with finding items on the family's grocery list. Pay for items with mom's debit card.	Choice of item at the grocery store	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

\_\_\_\_\_  
Teen

\_\_\_\_\_  
Parent / Caregiver



### Motivating Rewards Identified by Teens in the STRW Intervention

- Food
  - Favorite snacks or desserts
  - Choosing an item from the grocery store
  - Cooking a favorite food
  - Eating out at a restaurant
  - Getting a snack at a restaurant or store (e.g., donut, cookie, chips)
  - Order a smoothie, coffee, tea, ice cream, etc. at a store
- Money
  - Specific amount of money based on the complexity of the goal
  - Earn money that can be used to save up for an item (e.g., shoes, video game)
  - Earn a weekly allowance (may include money from multiple goals) that can be used as spending money or for saving up for items
- Spending time with family
  - Playing board games
  - Play outdoor games (e.g., basketball)
  - Going for a hike
  - Making a craft together
  - Family movie night
- Spending time with friends
  - Inviting friends over
  - Going somewhere with friends (e.g., movies, store, restaurant)
- Screen Time
  - Extra time to play video games, use phone/computer/tablet, or watch TV
  - Choice of a movie to rent or purchase
- Shopping
  - Purchasing items at a store (e.g., clothing, videogames, crafts, etc.)
  - Purchasing parts to make a computer
  - Purchasing specific apps or subscriptions (e.g., Netflix, Spotify)
  - Purchasing music or books
- Outings (may require saving up)
  - Bowling
  - Movie tickets
  - Concert tickets
  - Museum
  - Amusement park ticket or season pass
  - Arcade
- Privileges
  - Free time
  - Sleeping in or staying up late
  - Earning extra driving time towards driver's license
  - Driving somewhere independently and/or with a parent, sibling, or friend

# Cleaning Your Bedroom

## LEARN

Create a task analysis for cleaning your bedroom.  
Read through and discuss the task analysis steps.

## WATCH

Your parent/caregiver will demonstrate how to clean your bedroom by going through all of the steps and using all of the cleaning products and supplies.

## PRACTICE

You will practice the steps of cleaning your bedroom.  
Your parent/caregiver will observe and give feedback and support after you complete each step.

## DO IT INDEPENDENTLY

You will clean your bedroom on your own using the task analysis steps.



# Task Analysis

Skill: Cleaning Bedroom

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Steps:

Bring any cups or dishes to the kitchen and put them in the dishwasher

---

Put all trash (wrappers, papers, empty water bottles) in the trash can

---

Put all dirty laundry in the hamper

---

Put all clean laundry away

---

Pick up items off of the floor and put them where they go

---

Organize items on my desk (pencils, papers, art supplies)

---

Put books on bookshelf

---

Wipe off desk with spray and a rag

---

Empty trash can and put a new bag in the trash can

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Swiffer and then vacuum the floor

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Have mom check that I did all of the steps

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Surviving & Thriving  
in the Real World

Session 7

Cooking in the  
Oven



# STRW Session 7

## Cooking in the Oven

# Session 7 Schedule

- ✓ Real World Practice Check-In
- ✓ Measuring Ingredients
- ✓ Practice Measuring Ingredients
- ✓ Overview of Baking in the Oven
- ✓ Practice Baking in the Oven
- ✓ Evidence-Based Strategies for Building an Effective System to Target DLS Goals
- ✓ Developing Your DLS Contract
- ✓ Real World Practice
- ✓ Guess the Price
- ✓ Preparing for Next Session

# Real World Practice Check-In: Cleaning Bedroom and Laundry

- Did you work on your **cleaning bedroom** goal during the week?
  - What went well?
  - What was challenging?
  - How many days did you work on your **cleaning bedroom** goal?
  - Did you earn a reward for your **cleaning bedroom** goal?
  
- Did you work on your **laundry** goal during the week?
  - What went well?
  - What was challenging?
  - How many days did you work on your **laundry** goal?
  - Did you earn a reward for your **laundry** goal?

# Dry Measuring Cups

Dry measuring cups measure dry ingredients such as flour, sugar, oats, butter, and peanut butter. They typically come in the sizes of 1 cup, 1/2 cup, 1/3 cup, and 1/4 cup.

*Be sure not to measure your ingredients over the bowl or pan that you will be using.*



1/4 cup

1/3 cup

1/2 cup

1 cup

# Oven Settings

## 1. Preheat

- When you preheat an oven, you turn it on and set it to the correct temperature before cooking any food in it.
- All cooking times in recipes are based on a preheated oven, so it is very important to preheat an oven before cooking!
- When most ovens are preheated, they will beep or a light goes on or off, which means you can put the food in the oven.

## 2. Bake

- The Bake setting is used to cook most things like pizza, French fries, chicken, fish, cookies, cakes, and brownies.
- Food gets cooked from the outside in when it is baking in the oven.
  - For some foods like pizza or French fries, you can use a timer to cook the food.
  - For foods like brownies or muffins, you can set a timer and check whether it is done by sticking a toothpick in and seeing if it comes out clean (i.e., without any batter on the toothpick).
  - For foods like meat, you can check whether it is done by measuring its internal temperatures by placing an oven thermometer into the meat. Different meats need to be cooked to specific temperatures.
- While your food is baking, try not to open the door too often to check on it because this will cause a drop in the oven's temperature and extend the cooking time.

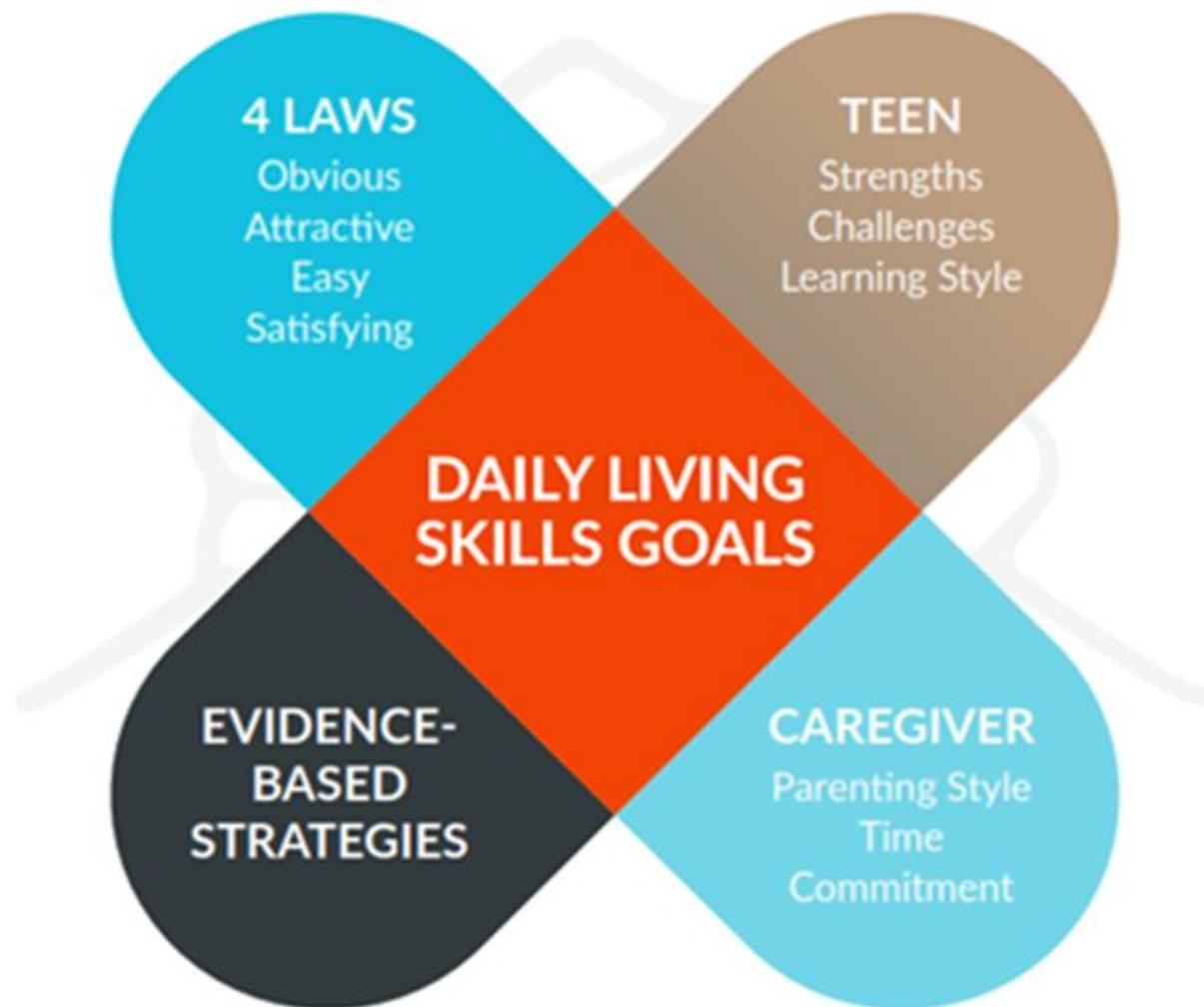
## 3. Broil

- The Broil setting is used to cook foods such as steaks, hamburgers, and chicken under very direct heat.
- With a gas oven, you actually see a flame. With an electric oven, you can see coils directly above the food.
- Many recipes will tell you how to position your oven racks so that your food cooks evenly on the Broil setting.

# Common Oven Cooking Supplies



## Elements of an Effective System for Achieving DLS Goals



# Developing Your DLS Contract

## Daily Living Skills Contract

Date \_\_\_\_\_

Goal	Expectations	Reward	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY

\_\_\_\_\_  
Teen

\_\_\_\_\_  
Parent / Caregiver

# Real World Practice

- Work on your (1) morning routine, (2) cleaning the bedroom, (3) doing laundry, and (4) cooking goals for the remainder of the week using your DLS contract.
  - Set aside a specific time (e.g., on the way to school, after dinner) to discuss how the morning routine went and how to problem solve for the next day.
  - Schedule a day/time to work on watching and/or practicing how to clean the bedroom, do laundry, and cook.
  - Make sure that if a reward is earned, it is provided immediately!
- Make a list of ingredients for a recipe you want to cook. Find and purchase the ingredients at the grocery store and pay for the items with either cash or credit/debit card.
  - Schedule a day/time to complete the money assignment.

## Preparing for the Next Dyad Session

- Date and time of next session
- Next Session - Cooking on the Stovetop
  - Gather ingredients for 1-2 stovetop recipes that will be cooked at the next session
  - We will plan on using the kitchen and various kitchen supplies

# Review - Real World Practice

- Work on your (1) morning routine, (2) cleaning the bedroom, (3) doing laundry, and (4) cooking goals for the remainder of the week using your DLS contract.
  - Set aside a specific time (e.g., on the way to school, after dinner) to discuss how the morning routine went and how to problem solve for the next day.
  - Schedule a day/time to work on watching and/or practicing how to clean the bedroom, do laundry, and cook.
  - Make sure that if a reward is earned, it is provided immediately!
- Make a list of ingredients for a recipe you want to cook. Find and purchase the ingredients at the grocery store and pay for the items with either cash or credit/debit card.
  - Schedule a day/time to complete the money assignment.

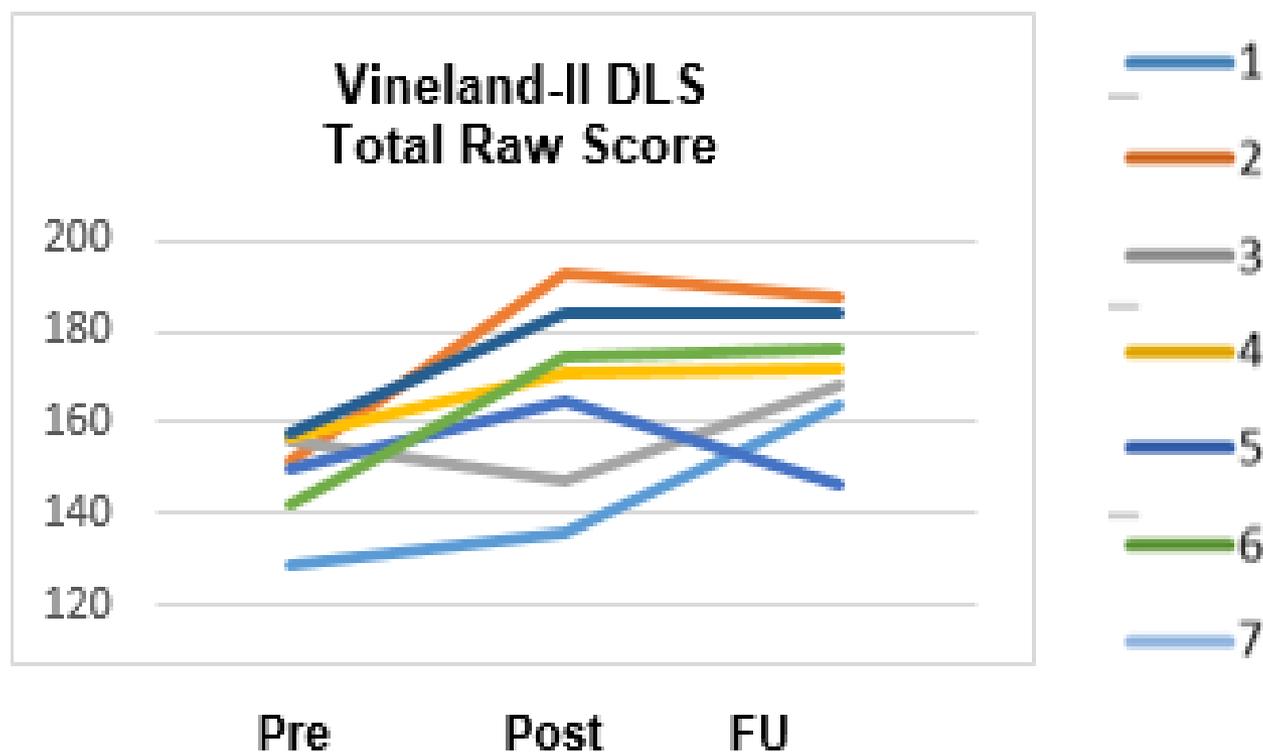
# STUDY 1: STRW PRE-POST STUDY

# STRW Pre-Post Study

- Seven autistic adolescents (14-18 years) and their caregivers participated in the **12-week** STRW intervention group, which consisted of a **concurrent caregiver group and adolescent group** (both were 90 minutes)
- Outcome measure – Vineland Adaptive Behavior Scales, 2<sup>nd</sup> Edition (Vineland-II) and Goal Attainment Scaling (GAS)

	Age (yrs: mos)	FSIQ	Vineland-II DLS SS
1	14:2	112	62
2	18:6	77	63
3	16:6	90	68
4	15:3	82	77
5	16:2	84	68
6	17:11	90	59
7	17:9	85	66

## Vineland-II Daily Living Skills Domain Raw Scores at Baseline, Post-Treatment, and 6-Month Follow-up for STRW Pre-Post Trial Study



# STRW Pre-Post Study - Conclusions

- Caregiver Feedback
  - The DLS Contract was particularly beneficial because it (1) held teens accountable for working on DLS and (2) ensured that caregivers provided reinforcement when appropriate.
  - The weekly group discussion regarding what strategies and supports other families were implementing when faced with obstacles was very valuable and motivated them to help teens work on DLS goals.

# STRW Pre-Post Study - Conclusions

- Adolescent Feedback
  - Enjoyed the hands-on learning activities (e.g., cooking scrambled eggs on the stovetop, folding laundry after washing and drying it, and budgeting for a pizza party).
- Both autistic adolescents and their caregivers reported high levels of satisfaction for each group session.

# STRW Pre-Post Study - Modifications

- After holding caregiver and adolescent focus groups, the following aspects of the STRW intervention were modified:
  - Added a session to address money management issues in more detail.
  - Added in weekly homework assignments beginning in Session 1 that increase exposure to understanding how much items cost and purchasing items.
  - Added a session to address the skill of grocery shopping
  - Added a session to address the anxiety and uncertainty regarding growing up and learning the skills necessary for achieving an optimal outcome in adulthood.

# STUDY 2: STRW FEASIBILITY RCT

# STRW Feasibility RCT

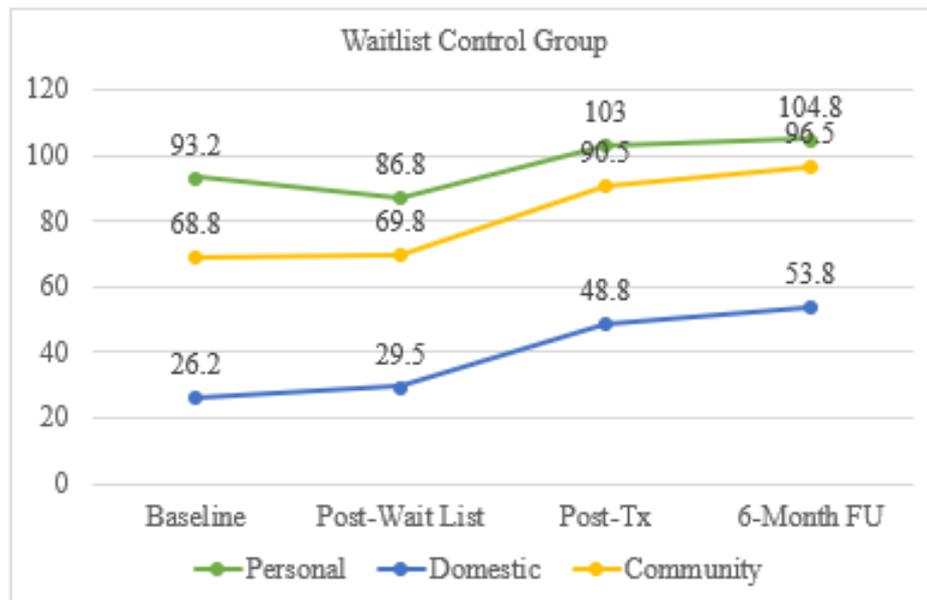
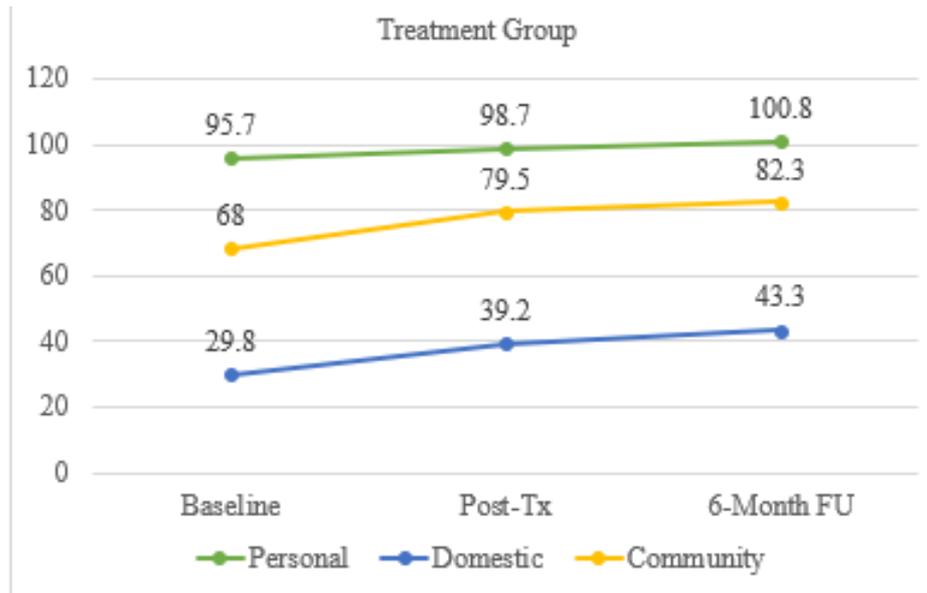
- Autistic adolescents (14-18 years) were randomized to either the **15-week** STRW intervention (n = 6) or a waitlist control group (n = 6)
  - STRW consisted of concurrent, 90-minute caregiver and teen groups
  - 4 adolescents in the control group crossed over to STRW
  - Primary outcome measures were the VABS-3 and GAS

	Time 1	Intervention (15 weeks)	Time 2	Intervention for Waitlist Control (15 weeks)	Time 3	Time 4
Intervention Group	Baseline	STRW intervention	Post-treatment	---	6-month follow-up	---
Waitlist Control	Baseline	No intervention	Post-waitlist	STRW intervention	Post-treatment	6-month follow-up

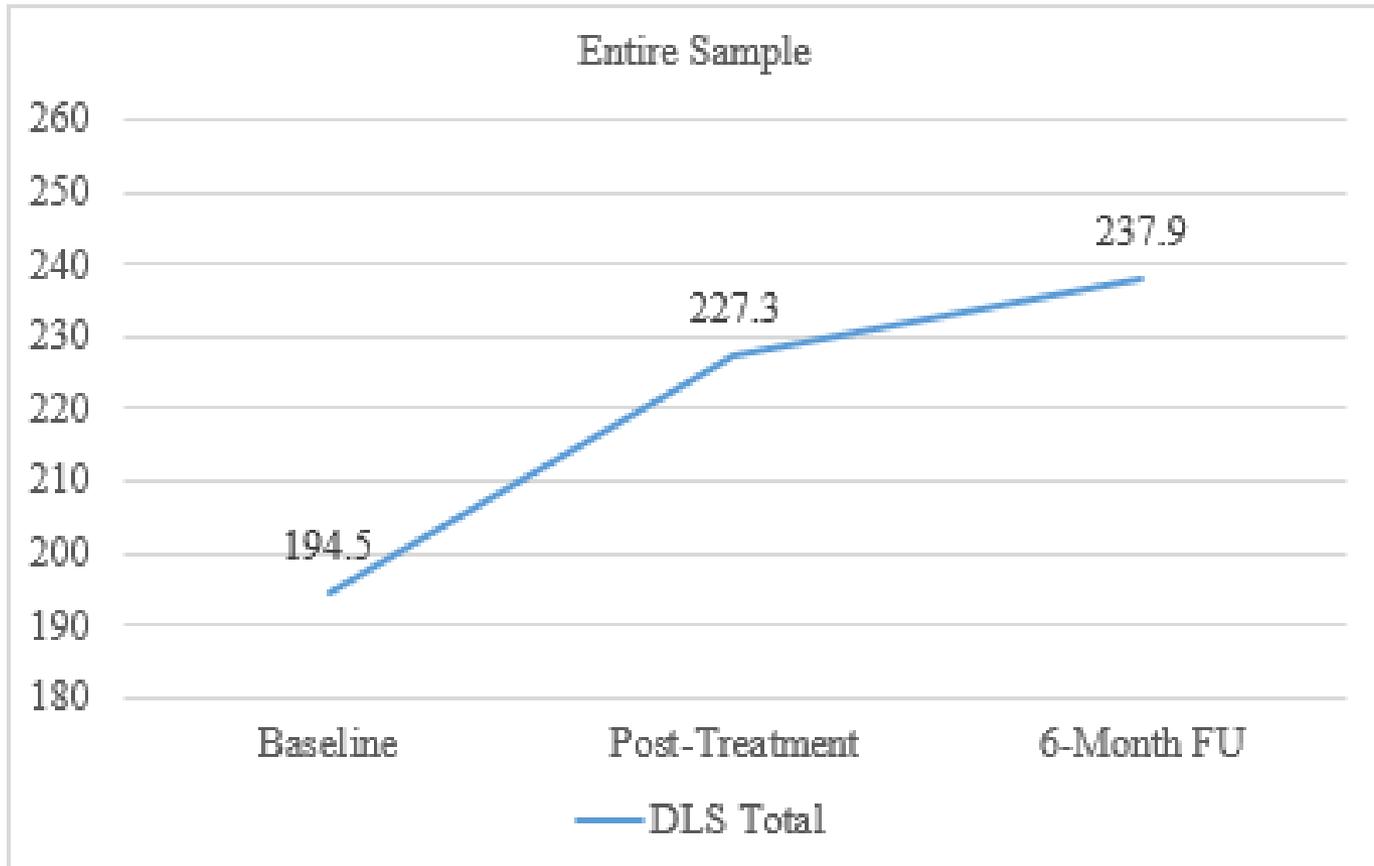
# STRW Feasibility RCT

- Results
  - From baseline to post-treatment, adolescents in STRW made significant progress on the VABS-3 DLS Domain and on all areas of the GAS
    - Gained an average of 2-3 years of DLS over the course of the 15-week intervention
  - Adolescents in the waitlist control group did not show improvement in DLS

# Change in Raw Scores on VABS-3 DLS Subdomains for Treatment Group (n = 6) and Control Group (n = 4)



## Change in Raw Scores on the VABS-3 DLS Domain in the Entire Sample (n = 10)



# STRW Feasibility RCT

- Conclusions
  - Increased emphasis on money management throughout STRW may have led to improvement in the Community subdomain of the VABS-3
  - Seeing continued skill development at 6-month follow-up
- Modifications to STRW
  - Removed session on coping and incorporated it throughout the caregiver and teen group sessions to address as needed
  - Teens expressed an interest in more interactive activities for money management sessions

# STUDIES 3 & 4: PILOT RCTs OF STRW

# STRW Intervention Content

1	<b>Overview of STRW-T</b> – importance of targeting DLS to meet goals in adulthood
2	<b>Morning Routine</b> – basic hygiene and self-care tasks, breaking down steps in morning routine
3	<b>Morning Routine</b> – develop contract with morning routine as first goal to be targeted
4	<b>Laundry</b> – sort clothes, do laundry using a washing machine
5	<b>Laundry</b> – do laundry using a dryer, develop system to fold and put clean clothes away
6	<b>Kitchen/Cooking</b> – safe kitchen practices, no-cook recipes, cook in the microwave
7	<b>Kitchen/Cooking</b> – mix and measure ingredients, cook in the oven
8	<b>Kitchen/Cooking</b> – clean the kitchen using a checklist, cook on the stove
9	<b>Grocery Shopping</b> – navigate and purchase items at the grocery store, put groceries away
10	<b>Money Management</b> – increase understanding of spending money (cost, quality, need vs. want)
11	<b>Money Management</b> – use a checking and savings account, money diary, savings contract
12	<b>Money Management</b> – save up for items, create and stick to a weekly/monthly budget
13	<b>Money Management</b> – plan an event with a predefined budget
14	<b>Party/Graduation</b> – review progress made during STRW-T and set future DLS goals

# Pilot RCTs of STRW

- Conducted 2 pilots RCTs with 9<sup>th</sup>/10<sup>th</sup> graders and 11<sup>th</sup>/12<sup>th</sup> graders
  - Inclusion criteria was the same for both studies:
    - Diagnosis of ASD
    - IQ<sub>≥</sub>70
    - DLS deficit on the VABS-3
    - Enrolled in high school and between the ages of 14-21
  - Randomized to either the STRW intervention or the active control group (PEERS social skills intervention) after a cohort of 12-16 autistic adolescents met eligibility criteria.

# Pilot RCTs of STRW

- Aims

- Determine efficacy of STRW as compared to active control group intervention.

- Primary outcome measure: VABS-3 DLS domain and subdomains
- Secondary outcome measure: Goal Attainment Scaling (GAS)

- Explore multi-modal, multi-informant assessment of DLS

- Direct behavioral observation of DLS (9<sup>th</sup>/10<sup>th</sup> graders only)
- Daily phone diaries (9<sup>th</sup>/10<sup>th</sup> graders only)
- ABAS-3 (caregiver and self-report)
- VABS-3 (caregiver interview)
- GAS

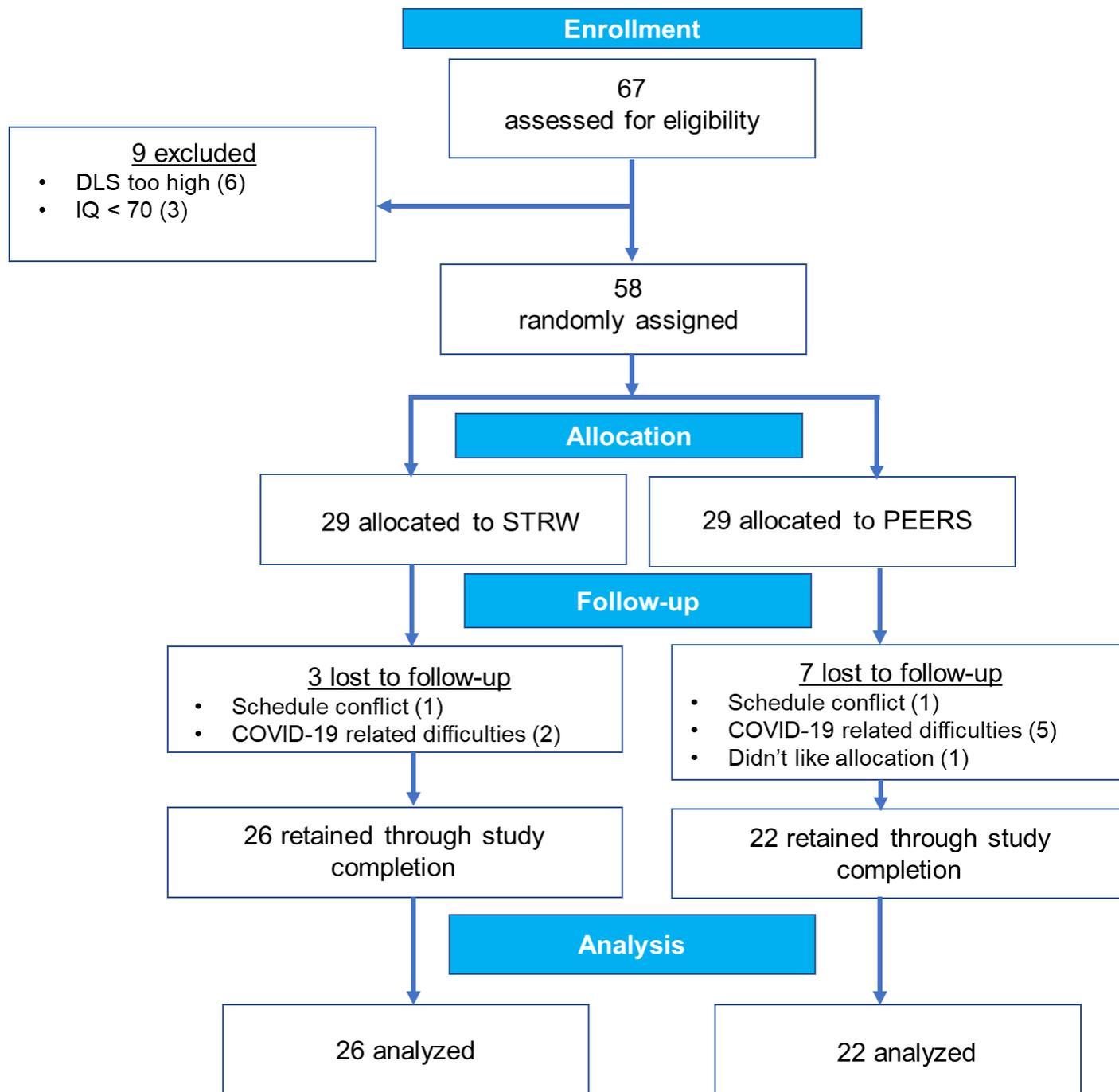
# Pilot RCTs of STRW

- Transition to Telehealth
  - In March 2020, we halted groups due to COVID-19 pandemic.
  - Shifted to telehealth delivery and restarted groups in June 2020.
  - Continued running telehealth groups for the duration of both RCTs

# Pilot RCTs of STRW

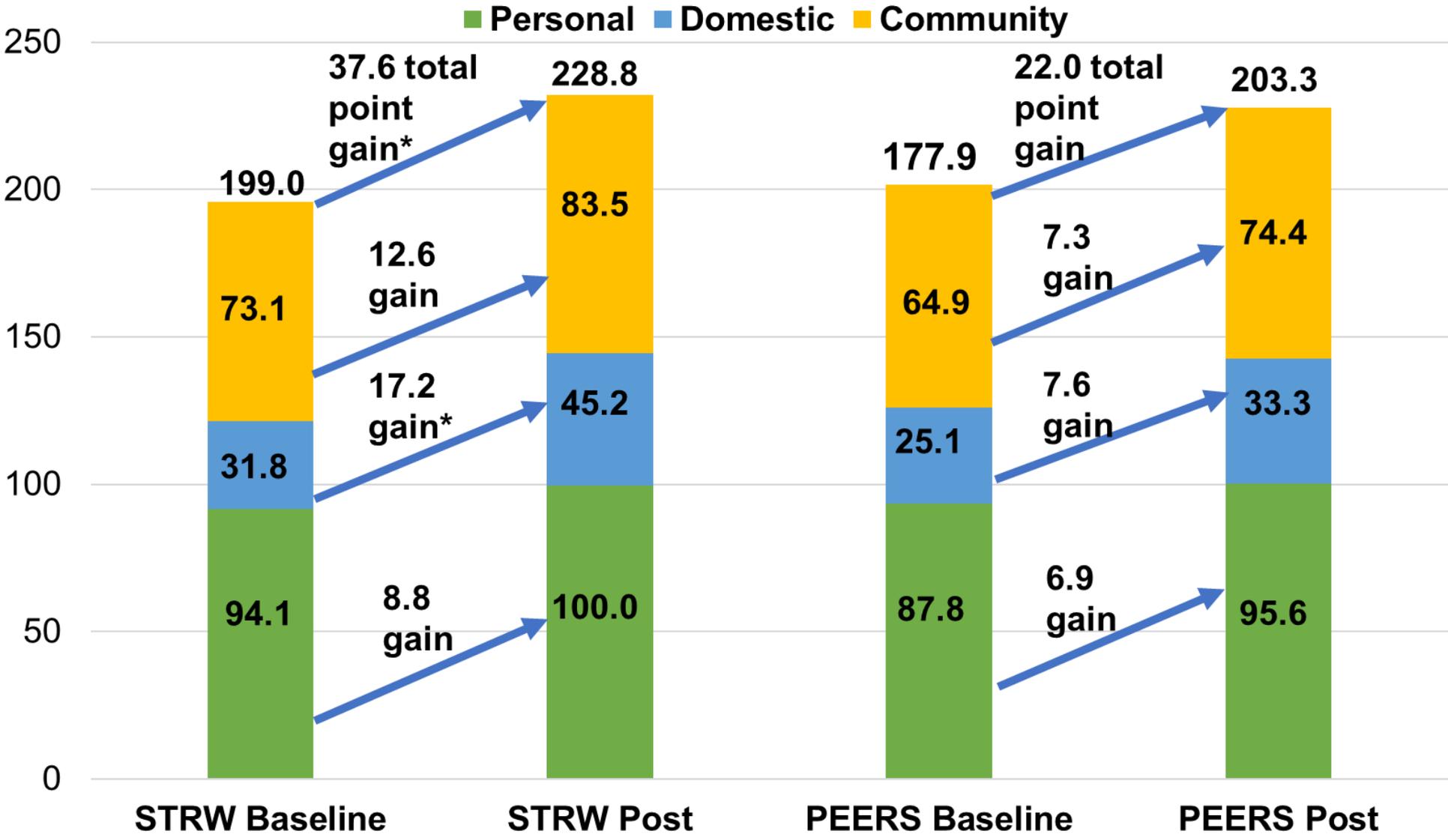
- Transition to Telehealth via Zoom
  - Caregiver Group – 90 minutes
    - Content was identical to in-person **caregiver group** session
    - Review dyad session content in detail to discuss and problem solve any issues that may arise
  - Caregiver/Teen Dyad Session – 60 minutes
    - Content was very similar to in-person **adolescent group session**, but allowed for more individualization
    - Sessions conducted in the teen's home environment
    - Provided hands-on coaching to caregiver during instruction of DLS and discussion of contract

**STUDY 3:  
PILOT RCT WITH AUTISTIC  
ADOLESCENTS IN 9<sup>TH</sup>/10<sup>TH</sup> GRADES**



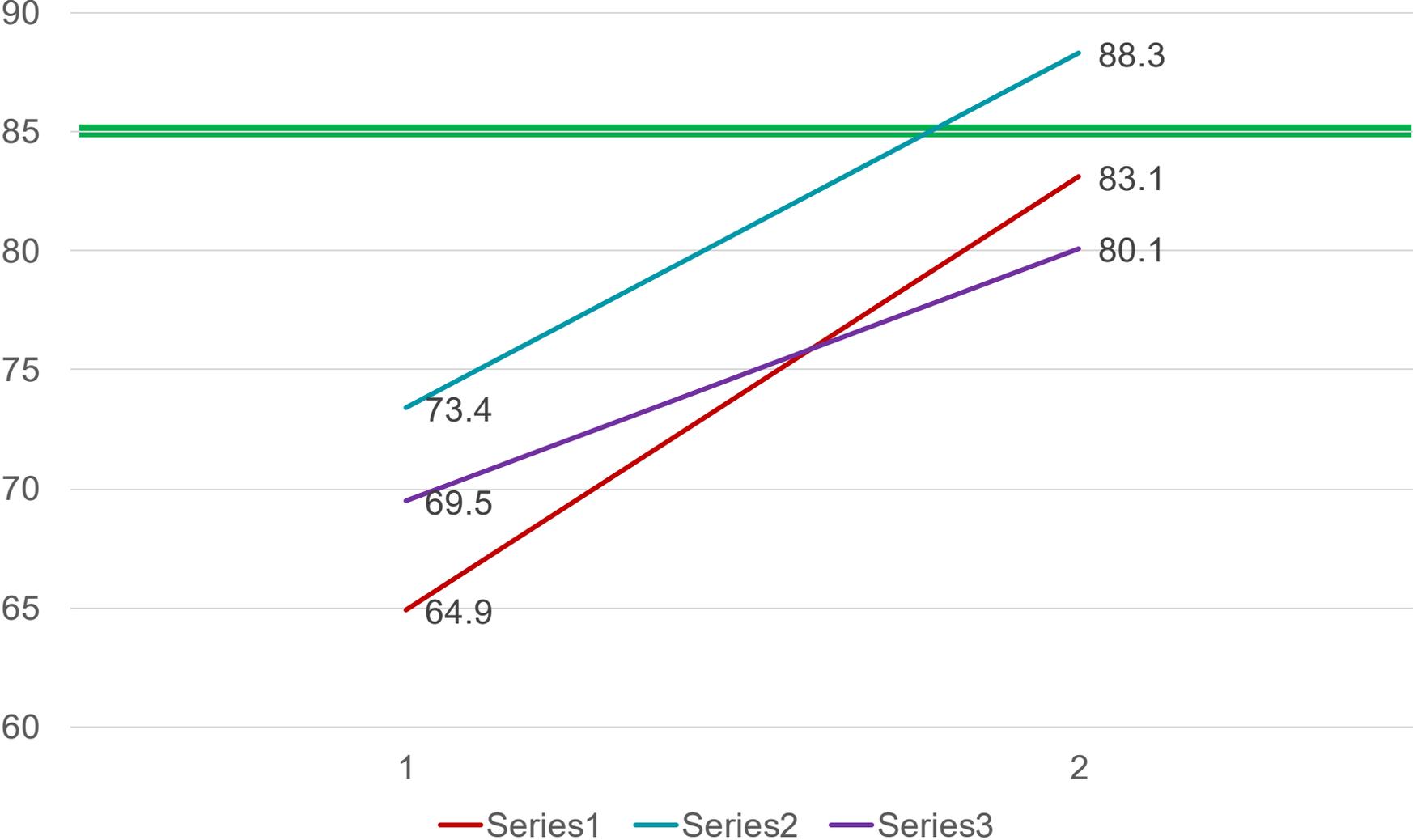
	<b>STRW (n = 29)</b>	<b>PEERS (n = 29)</b>	<i>p</i>
<b>Age at study entry, y mean (SD)</b>	15.4 (0.8)	15.2 (0.8)	0.39
<b>Sex at birth, n (%)</b>			0.01
<b>Male</b>	26 (89.7)	17 (58.6)	
<b>Female</b>	3 (10.3)	12 (41.4)	
<b>IQ, mean (SD)</b>	100.4 (9.3)	102.8 (10.7)	0.03
<b>VABS-3 Standard Scores</b>			
<b>Communication Domain</b>	68.0 (13.6)	68.5 (15.9)	0.90
<b>DLS Domain</b>	64.0 (13.6)	54.8 (22.5)	0.08
<b>Socialization Domain</b>	64.8 (16.9)	63.1 (10.9)	0.59
<b>Adaptive Behavior Composite</b>	65.4 (10.4)	62.1 (12.6)	0.27
<b>VABS-3 DLS Raw Scores</b>			
<b>Personal Subdomain</b>	89.8 (10.0)	86.7 (11.1)	0.27
<b>Domestic Subdomain</b>	27.1 (15.5)	23.1 (15.0)	0.31
<b>Community Subdomain</b>	71.2 (11.3)	64.1 (13.4)	0.03
<b>DLS Domain</b>	188.1 (26.9)	173.8 (33.0)	0.08
<b>ADOS Comparison Score</b>	7.5 (1.6)	7.2 (1.7)	0.57
<b>Race</b>			0.03*
<b>White</b>	26 (89.7)	22 (75.9)	
<b>Black</b>	0	5 (17.2)	
<b>Asian</b>	2 (10.3)	1 (3.5)	
<b>Other/Unknown</b>	0	1 (3.5)	

# Adjusted Changes in VABS-3 DLS Domain and Subdomain Raw Scores from Baseline to Post-Treatment (n = 48)



\*p<.05

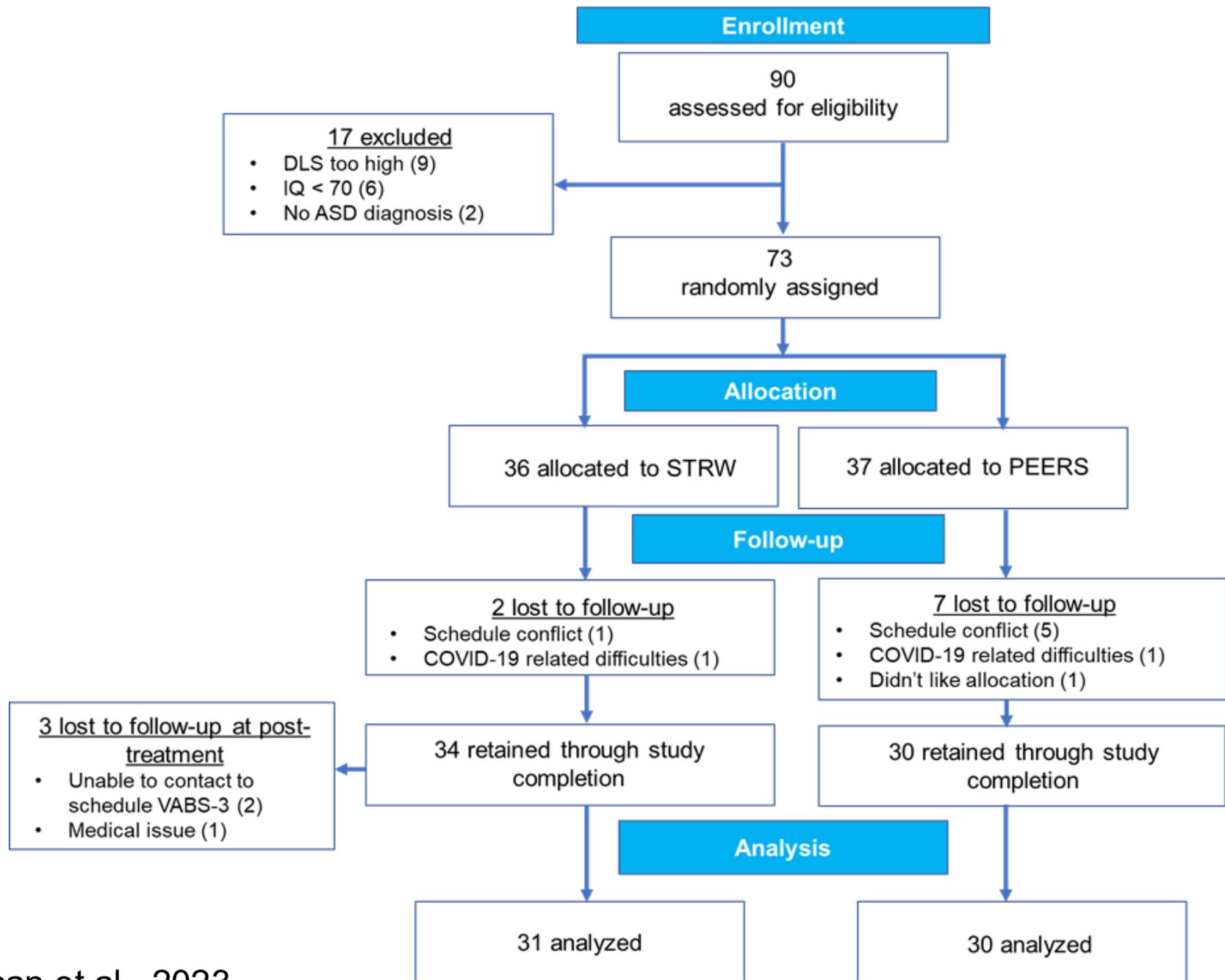
# Changes from Baseline to Post-Treatment on the VABS-3 and ABAS-3 (caregiver and teen) in STRW participants



# Pilot RCT of STRW – 9<sup>th</sup>/10<sup>th</sup> graders

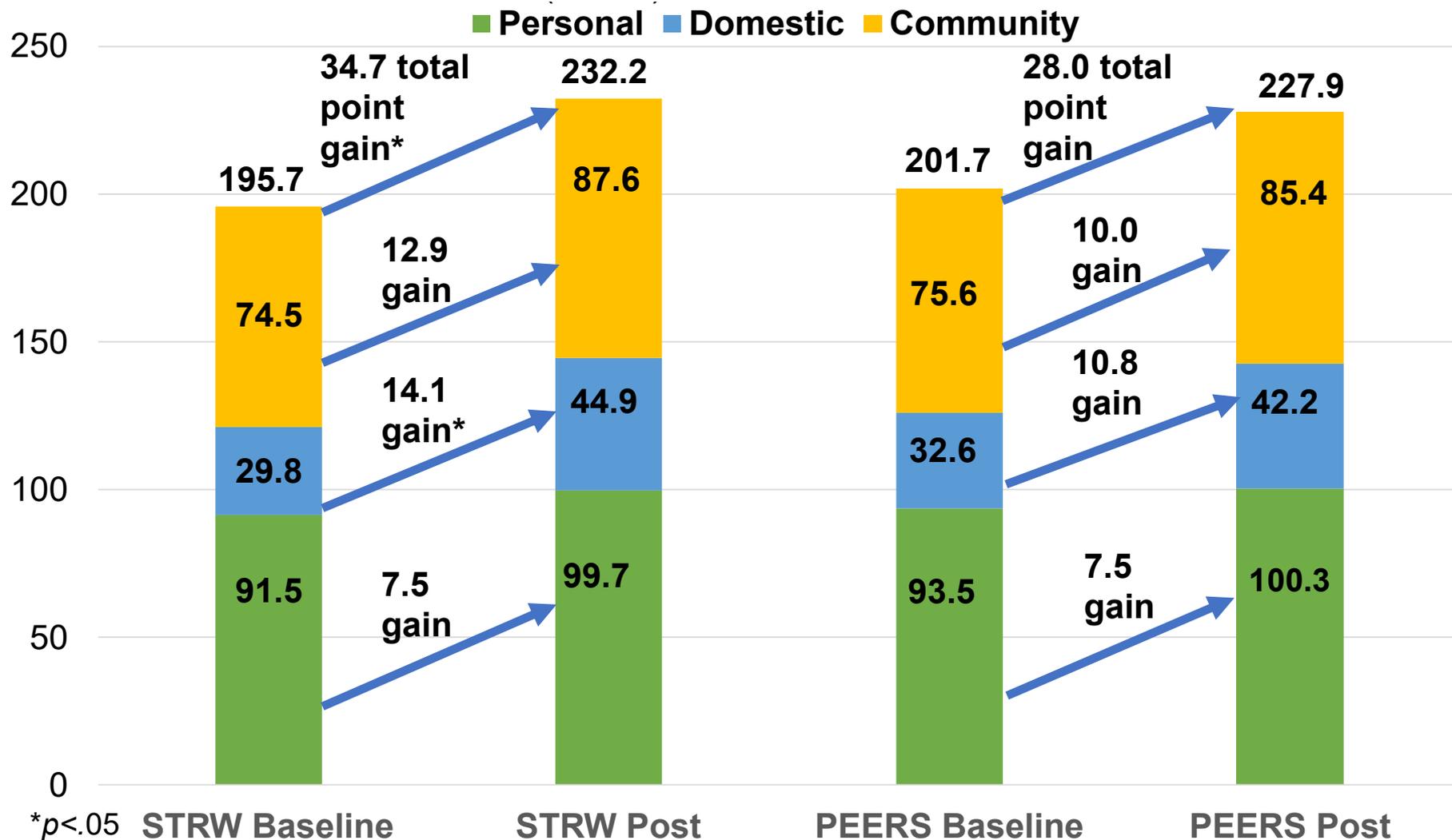
- Summary of Results
  - STRW participants made significant gains compared to active control group on:
    - **VABS-3** - DLS domain and Domestic subdomain
    - **Goal Attainment Scaling (GAS)** - Cooking, Laundry, and Money areas
    - **ABAS-3** Practical domain (caregiver and teen), Home Living subdomain (caregiver and teen), and Self-Care subdomain (teen)
    - **Direct Behavioral Observation** - Laundry
    - **Daily Phone Diaries** - Total DLS and Independent DLS

**STUDY 4:  
PILOT RCT WITH AUTISTIC  
ADOLESCENTS IN 11<sup>TH</sup>/12<sup>TH</sup> GRADES**



	<b>STRW (n = 36)</b>	<b>PEERS (n = 37)</b>	<b>p</b>
<b>Age at study entry, y mean (SD)</b>	17.3 (0.7)	16.9 (0.8)	0.04*
<b>Sex at birth, n (%)</b>			0.46
<b>Male</b>	28 (77.8)	26 (70.3)	
<b>Female</b>	8 (22.2)	11 (29.7)	
<b>IQ, mean (SD)</b>	93.4 (10.2)	99.2 (11.3)	0.03
<b>VABS-3 Standard Scores</b>			
<b>Communication Domain</b>	66.2 (13.2)	70.0 (13.5)	0.03
<b>DLS Domain</b>	58.3 (19.0)	65.9 (18.2)	0.08
<b>Socialization Domain</b>	65.1 (11.9)	65.1 (13.2)	0.99
<b>Adaptive Behavior Composite</b>	63.3 (10.5)	66.6 (11.8)	0.21
<b>VABS-3 DLS Raw Scores</b>			
<b>Personal Subdomain</b>	92.2 (9.1)	93.0 (8.1)	0.71
<b>Domestic Subdomain</b>	30.3 (15.3)	32.5 (14.3)	0.54
<b>Community Subdomain</b>	74.7 (10.7)	76.1 (14.9)	0.64
<b>DLS Domain</b>	197.2 (26.5)	201.5 (29.9)	0.52
<b>ADOS Comparison Score</b>	6.8 (2.0)	7.1 (1.5)	0.56
<b>Race</b>			0.73
<b>White</b>	28 (77.8)	29 (78.4)	
<b>Black</b>	5 (13.9)	5 (13.5)	
<b>Asian</b>	0	2 (2.7)	
<b>More than 1/Other</b>	3 (8.3)	2 (5.4)	

# Adjusted Changes in VABS-3 DLS Domain and Subdomain Raw Scores from Baseline to Post-Treatment (n = 61)



# Pilot RCT of STRW – 11<sup>th</sup>/12<sup>th</sup> graders

- Summary of Results
  - STRW participants made significant gains compared to active control group on:
    - **VABS-3** - DLS domain and Domestic subdomain
    - **Goal Attainment Scaling (GAS)** - Cooking, Laundry, Money, and Total areas

# Overall Conclusions from Pilot RCTs of STRW

- STRW continues to show promise at targeting DLS in autistic adolescents.
- Teens made 2-3 years of gains on the VABS-3 DLS subdomains during the 14-week STRW intervention.
  - Domestic subdomain had the most gains, which is consistent with STRW's emphasis on cooking, laundry, and cleaning.
- Control group also made gains in DLS at post-treatment.
  - Enrollment in study
  - Completing the GAS and VABS-3
  - Items on the VABS-3

# Overall Conclusions from Pilot RCTs of STRW

- Multi-modal, multi-informant DLS assessment revealed DLS gains due to STRW intervention
  - ABAS-3 (caregiver and teen) and VABS-3 (caregiver only) had similar results
  - Daily phone diaries, GAS, and direct behavior observation also showed similar DLS improvement
- STRW-Telehealth was feasible, delivered with high fidelity, and had high rates of satisfaction from parents and adolescents.

**NICHD R01**

***RCT of a Daily Living Skills Intervention for  
Autistic Teens Before the Transition to  
Adulthood***

PI: Amie Duncan, Ph.D. at Cincinnati Children's  
Co-I & site PI: Laura Klinger, Ph.D at UNC TEACCH

# Cincinnati Children's & UNC TEACCH

## RCT of the STRW Intervention in Autistic Teens

### ORBIT MODEL OF SURVIVING AND THRIVING IN THE REAL WORLD (STRW)

Phase 1:  
**DEFINE &  
REFINE**  
Completed

#### Case Studies

- Single subject studies in outpatient clinics and schools (n=5)

#### STRW Refinement

- Core components of STRW intervention developed and refined (e.g., target skills, use of evidence-based practices, format)

Phase 2a:  
**PROOF OF  
CONCEPT**  
Completed

#### Pre-Post Trial (n = 7)

- Adolescents showed significant gains in DLS on Vineland-II DLS domain and GAS  
- STRW manual refined based on participant feedback

Phase 2b:  
**FEASIBILITY  
PILOT**  
Completed

#### Feasibility Pilot (n = 10)

- STRW made significant gains in DLS (as measured by VABS-3, GAS) compared to waitlist control group  
- Demonstrated initial feasibility, acceptability, and satisfaction  
- Refined manual

Phase 2c:  
**PHASE II  
EFFICACY**  
Completed

\*Converted STRW to telehealth due to COVID-19

#### Pilot RCT with 11<sup>th</sup>/12<sup>th</sup> graders (n = 64)

- STRW made significant gains in DLS (VABS-3, GAS) compared to control

#### Pilot RCT with 9<sup>th</sup>/10<sup>th</sup> graders (n = 48)

- STRW made significant gains in DLS (VABS-3, GAS) compared to control  
- Used multi-modal assessment of DLS

Phase 3:  
**EFFICACY**  
Currently  
Enrolling

#### STRW Telehealth Efficacy RCT with 11<sup>th</sup>/12<sup>th</sup> graders (n = 192)

- Examine efficacy of STRW telehealth vs. telehealth active control group in a multi-site RCT  
- Assess impact of STRW on young adult outcomes (work, college) 6-months post-high school graduation

# Cincinnati Children's & UNC TEACCH

## RCT of the STRW Intervention in Autistic Teens

- **Overall goal:** Assess the efficacy of STRW-Telehealth in a fully powered, multi-site RCT of autistic teens without ID ( $n = 192$ ) compared to an active control group.
- **Aim 1:** Examine the efficacy of STRW-T on daily living skills compared to an active control group (PEERS-Telehealth).
  - Outcome measures include the Vineland-3, ABAS-3, DLS-GAS, daily phone diaries
- **Aim 2:** Evaluate whether the improvement on DLS outcomes by STRW-T participants are sustained at a 6-month follow-up.
- **Aim 3:** Examine the effects of the STRW-T intervention on outcomes in college, work, and quality of life after high school graduation.

# Cincinnati Children's & UNC TEACCH

## RCT of the STRW Intervention in Autistic Teens

Session	STRW Content
Pre-STRW	<b>Pre-STRW</b> – caregiver and teen dyad set individualized daily living skills goals together
1	<b>Overview of STRW</b> – importance of targeting daily living skills to meet goals in adulthood
2	<b>Morning Routine</b> – basic hygiene and self-care tasks, breaking down steps in morning routine
3	<b>Morning Routine</b> – develop contract with morning routine as first goal to be targeted
4	<b>Clean Bedroom</b> – identify steps of cleaning the bedroom (vacuum, put belongings away, take trash out)
5	<b>Laundry</b> – sort clothes, do laundry using a washing machine and dryer, and fold and put clean clothes away
6	<b>Kitchen/Cooking</b> – safe kitchen practices, no-cook recipes, cook in the microwave
7	<b>Kitchen/Cooking</b> – mix and measure ingredients, cook in the oven
8	<b>Kitchen/Cooking</b> – clean the kitchen using a checklist, cook on the stove
9	<b>Grocery Shopping</b> – navigate and purchase items at the grocery store, put groceries away at home
10	<b>Money Management</b> – increase understanding of spending money (cost, quality, need vs. want)
11	<b>Money Management</b> – use a checking and/or savings account, use a debit card, money diary, savings contract
12	<b>Money Management</b> – save up for items, create and stick to a weekly/monthly budget
13	<b>Money Management</b> – plan an event with a predefined budget
14	<b>Graduation</b> – review progress made during STRW and set future daily living skills goals

# Autism Study for High School Juniors and Seniors

## What

A study to learn more about treatments that facilitate a successful transition from high school to adulthood for autistic teens. Teens and their caregiver will be randomized to participate in either a weekly social skills intervention or a daily living skills intervention.

## Who

Teens diagnosed with autism with at least average cognitive abilities (IQ>70) who are in their last 2 years of high school and their caregiver

## Pay

Up to \$440

## Contact

Carrie Fassler | [carrie.fassler@cchmc.org](mailto:carrie.fassler@cchmc.org) | 513-803-3580



[cincinnatichildrens.org/clinical-studies](https://cincinnatichildrens.org/clinical-studies)  
[facebook.com/CincyChildrensStudies](https://facebook.com/CincyChildrensStudies)  
[instagram.com/CincyChildrensStudies](https://instagram.com/CincyChildrensStudies)

CCHMC IRB: 2023-0476: V1  
Stock photo with model

BRV602358  
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Check out our website at: [www.STRW.org](http://www.STRW.org)



Surviving and Thriving in the Real World

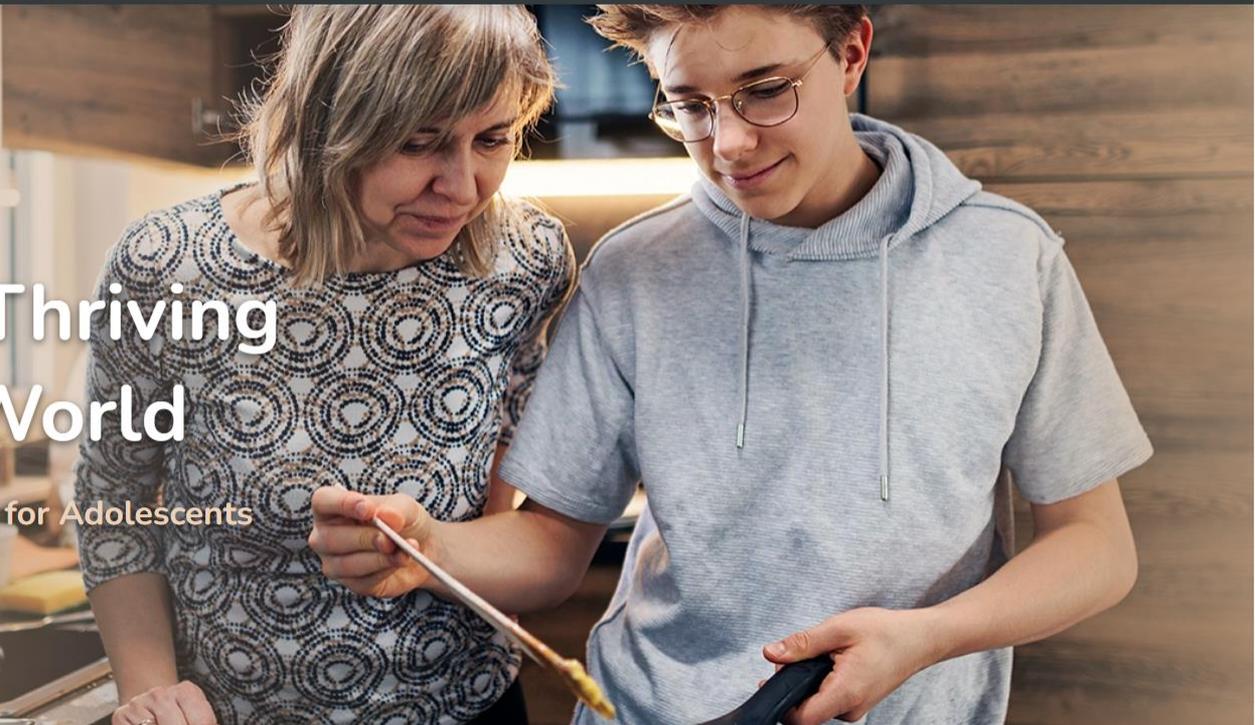
HOME ABOUT > FOR THERAPISTS > FOR PARENTS > RESEARCH CONTACT  



# Surviving and Thriving in the Real World

A Daily Living Skills Intervention for Adolescents

LEARN MORE



# STRW Clinician Training

More info at [www.strw.org](http://www.strw.org)

## SURVIVING AND THRIVING IN THE REAL WORLD (STRW)

A DAILY LIVING SKILLS INTERVENTION  
FOR NEURODIVERGENT ADOLESCENTS

STRW CLINICIAN TRAINING

**OPEN  
FOR 2025**

Monday 7/28 &  
Tuesday 7/29

9AM - 5PM EST

We are excited to offer a clinician training for the Surviving and Thriving in the Real World (STRW) intervention that targets age appropriate daily living skills in neurodivergent adolescents!

### Details:

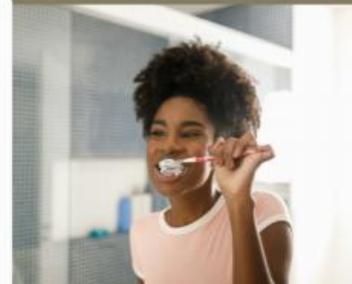
- The training has been designed for clinicians including psychologists, social workers, therapists, and occupational therapists.
- The training will provide an in-depth overview of the 15-week intervention so that clinicians can then facilitate STRW independently.
- Attendees will receive all materials that are needed for running the STRW intervention via telehealth.

**Cost:** \$450 per attendee

**Location:** Zoom link will be sent after registration

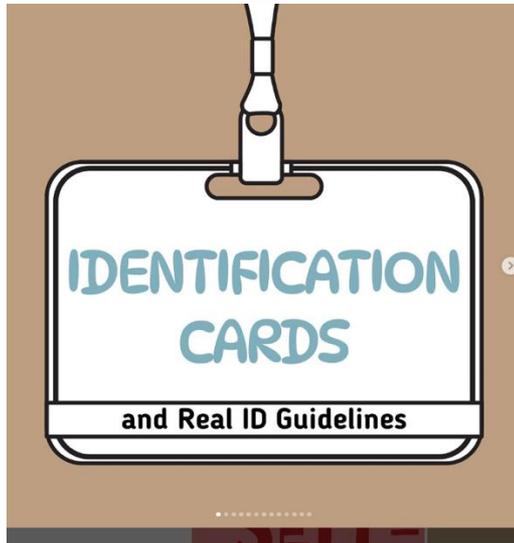
**Apply for the training by completing this [FORM](#).**

Contact Amie Duncan at [amie@strw.org](mailto:amie@strw.org) for additional information or to apply!



# Follow our Life Skills Lab on Social Media!

Facebook: Surviving and Thriving in the Real World  
Instagram and YouTube: STRW Life Skills



## Step #2

### Prepare the Dirty Clothing to Wash

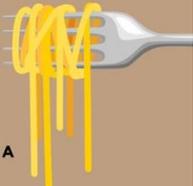
- 1 CHECK POCKETS TO MAKE SURE THEY ARE EMPTY 
- 2 SPRAY ANY STAINS WITH STAIN REMOVER OR SPOT TREATMENT 
- 3 ZIP UP ALL ZIPPERS AND UNBUTTON ALL BUTTONS 

**PRO TIP:**  
All stain removers are different! Make sure to follow the instructions on the bottle to know the best way to apply the treatment to the stain.

Swipe 

## pasta playlist!

BY BARILLA



USING YOUR CAMERA, SCAN THE QR CODE FOR PLAYLISTS TIMED TO **perfectly** BOIL DIFFERENT NOODLE TYPES

# ALARM CLOCK ADVICE



WITH NICO

AND MAEVE!

# Next Steps

- Assess the use of STRW for autistic adolescents in outpatient clinics and community settings
- Adapt STRW intervention for other populations
  - Adolescents with epilepsy
  - Autistic adolescents with an intellectual disability
  - Neurodivergent young adults
  - Autistic middle schoolers

# Take Home Messages

- DLS are critical areas to target in autistic teens to facilitate a smooth transition from high school to the adult world.
- The STRW intervention is now the first evidence-based intervention package that demonstrates statistically significant and clinically meaningful improvements in DLS for autistic teens.

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  - Graduate trainees and fellows at UNC - TEACCH
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    - Eunice Kennedy Shriver NICHD, 1R01HD113529-01

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# Questions?

[Amie.Duncan@cchmc.org](mailto:Amie.Duncan@cchmc.org)

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