

On the Utility and Efficacy of *Acceptance & Commitment Therapy*

for Adults with Developmental Disorders

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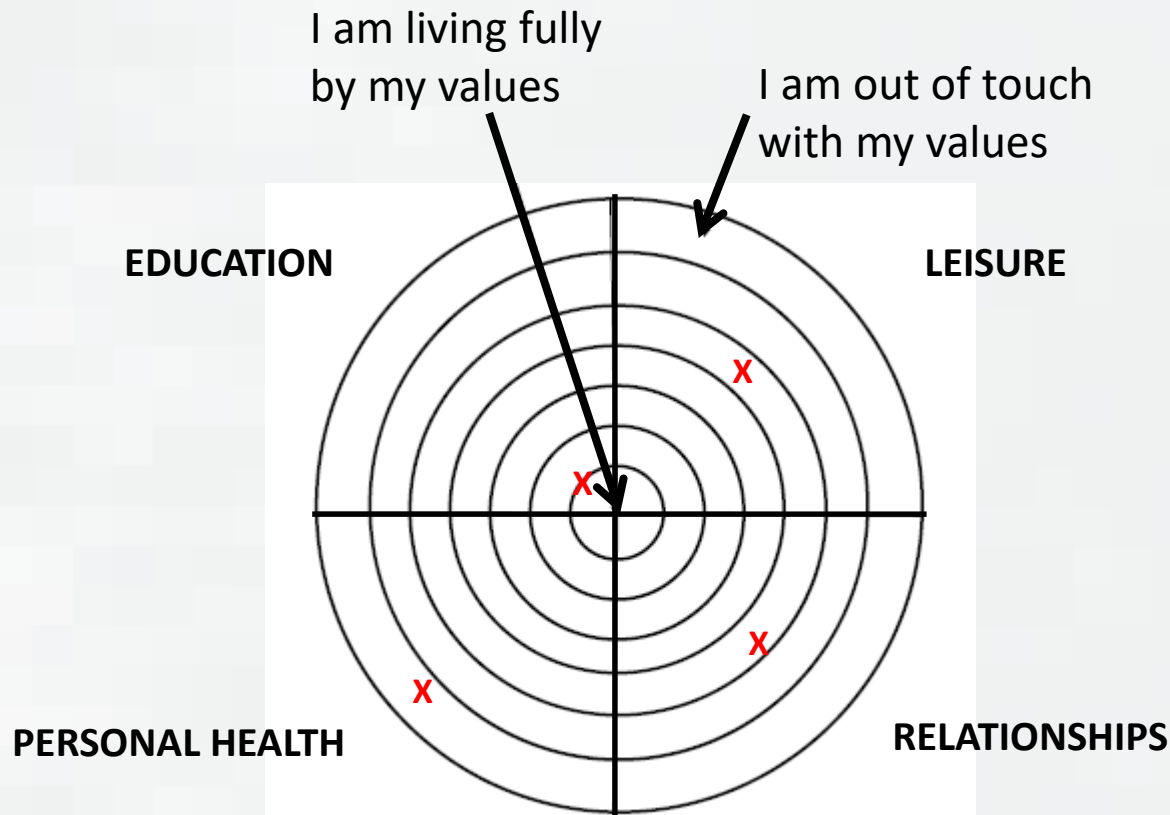
Objectives

- Provide an overview of components of Acceptance and Commitment Therapy (ACT) and how ACT might be adapted and applied for individuals with developmental disabilities and their caregivers
- Showcase research on the use of ACT for clients & staff
- *ACT IS ABOUT HEALTHY, ADAPTIVE LIVING FOR EVERYBODY, it is not just a treatment for psychopathology, nor does it have to be “talk” therapy.*
- *THE WORK OF BEHAVIOR ANALYSTS, STAFF, PARENTS, AND CLIENTS IS AFFECTED BY INTERNAL PRIVATE EXPERIENCES*

Valued Living: Domains

https://www.thehappinesstrap.com/upimages/Long_Bull's_Eye_Worksheet.pdf

(or search "ACT Bullseye Russ Harris")



(Lundgren; Harris, 2008)

Values

- In ACT, the goal is for individuals to live a valued life.
- “chosen paths that the individual defines as important and meaningful.”
- Actions & qualities of actions, so stated as verbs: “Give generously;”
- *Not* things we have, or nouns: “A fashionable wardrobe.”
- “a life driven by values is characterized by fullness, purpose, and vital engagement”
- **Values aren't ever achieved, unlike*

Goals.

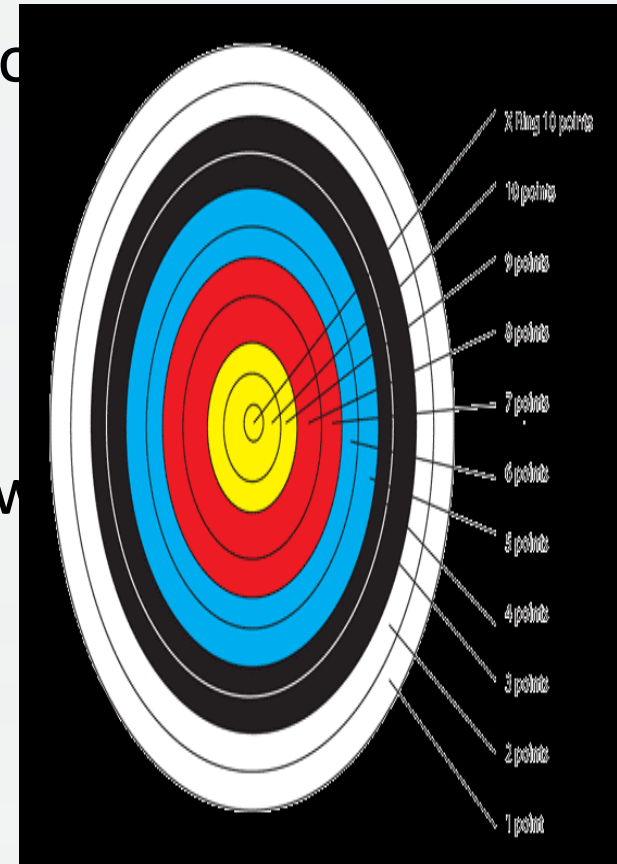
EX: I value enjoying classical music.

A goal may be to obtain a 2nd MS in music.



Valued Domains (Hayes, 2005)

- Marriage/couple/Intimate Relations
- Parenting
- Other family relations
- Friendship/social relations
- Career/employment
- Education/training/personal growth
- Recreation/leisure
- Spirituality
- Citizenship
- Health/Physical well-being





Myths about Happiness:



- **#1: Happiness is the Natural State for All Human Beings**
 - *High prevalence of suicide; probability of any of us suffering from a psychiatric disorder in our lives is 30%. Nearly 100% of all people at some time contemplate suicide.*
 - **#2: If You're Not Happy, You're Defective**
 - *ACT assumes unhappiness is a normal part of being human*
 - **#3: To Create a Better Life, We Must Get Rid of Negative Feelings:**
 - *Our struggle to get rid of negative feelings is what creates unhappiness.*
 - **#4: You Should Be able to Control What you Think and Feel**
 - *The more we try to control our thoughts and feelings, the more unhappiness it creates*
- **Laboratory studies have shown that our moods can drastically change at the drop of a hat. Yet they have the ability to make or break our very existence!***

Psychological Flexibility & Inflexibility

- Ability to contact the present moment fully
- Psychological **inflexibility** involves responding rigidly to one's internal experiences to the point where an individual is not living a life in accordance with what he or she values, often through the avoidance of painful thoughts or feelings (experiential avoidance)
- Psychological inflexibility can restrict an individual's behavioral repertoire and reduce opportunities for external reinforcement, leading to a compromised quality of life (Bluett et al., 2014)
- Standardized measures have been correlated with symptoms of a number of psychological disorders



Individuals with Developmental Disorders

- Poor social skills; limited relationships
- As adults, challenges for independent living and employment
- Long history of receiving services
- Possible history of abuse and neglect
- Stress in parents or staff
- **All may make psychological inflexibility likely*
- SOME STATS:
 - 10-40% of all people with developmental disorders in community settings have a diagnosed mental health condition (www.thearcww.org/helpline)
 - 20-30% of all noninstitutionalized adults with intellectual disabilities are dually diagnosed (Graziano, 2002)
 - High prevalence of anxiety and depression in teens & adults with ASD

Psychological Inflexibility in Staff

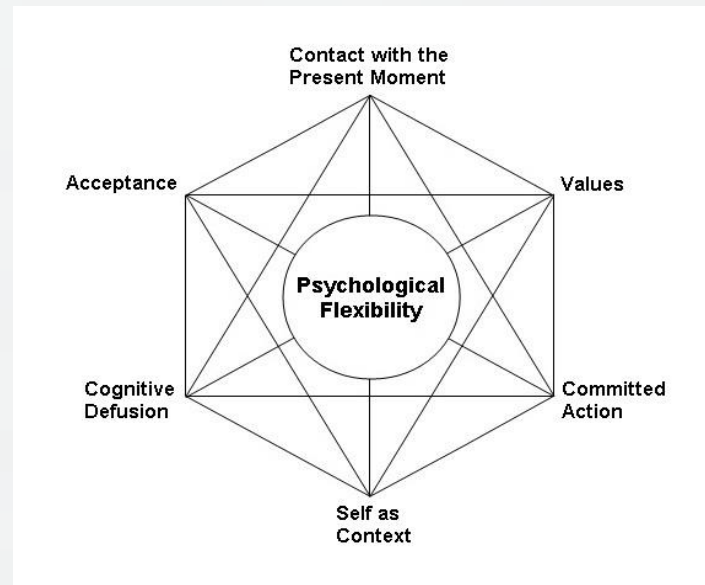
- Focusing on psychological flexibility in the workplace may help reduce a number of common organizational problems (Bond et al., 2010)
- Reports of stress, job burnout, & depression were lower among early childhood special educators, and they showed a willingness to adopt new practices and procedures (Biglan et al., 2011) following ACT interventions
- Why is this important among staff working with individuals with developmental disorders?
 - *Up to 1/3 of front-line staff report stress levels indicative of a mental health problem (Hatton et al., 1999)*
 - *Work may be tedious, monotonous, or frustrating = inadequacy*
 - *Staff shortages, lack of high quality training*
 - *Varied job duties as services become more community based*
 - *Clients' well being is affected by staff interactions*

ACT is Evidence-Based

- Eating Disorders
- Chronic Pain
- Traumatic Brain Injury
- Obsessive-Compulsive Disorders
- Anxiety Disorders
- Depression
- Substance abusers
- People with Schizophrenia
- Work Dissatisfaction, i.e., STAFF!
- PTSD patients
- *****Developmental Disabilities (including IDD & ASD; staff and parents) = recent publications***

Acceptance & Commitment Therapy (ACT)

- Goal is to increase **psychological flexibility**
- Addresses “language and cognitive processes so that an open-centered, engaged approach to living is pursued” (Hayes, Strosahl, & Wilson, 2011)
- Based upon six core processes to enhance psychological flexibility



Cognitive Fusion & Defusion

- Fusion: “the pouring together of verbal/cognitive processes and direct experience such that the individual cannot discriminate the two.....when fused, we formulate a situation symbolically and then organize our behavior to fit the demands of the rules that we are programmed to follow.”
- “In a fused state, a person can follow the same rule over and over again and never really recognize that the desired results are not occurring”
- Defusion: “making closer contact with verbal events as they really are, not merely what they say they are..... Changing the functions of language....”

(Hayes, Strosahl, & Wilson, 2012)

Your Mind Tells Stories:

When you are “Fused,” you are “Believing” those stories (Harris, 2008)

- Imagine the feel, smell, and taste of a lemon
- Imagine reading a great thriller
- *These Thoughts and Feelings are Like Stories*
- Imagine 2 different newspapers’ reporting of the same crime.
- Imagine a documentary about Africa
- **THEY ARE ALL STORIES! STORIES ARE NOT THE EVENT**
- **“Fusion”**: to blend, or meld together.
- *We are often fused with our thoughts and feelings. We react to our thoughts and feelings as though they are the real thing, when thoughts are just stories.*
- This was important for evolutionary reasons. Our minds are in **overdrive!!**



Defusion (Harris, 2008):

- **We need to become DEFUSED from our THOUGHTS:**
- Word Repetition (Banana banana banana)
- “I’m having the thought that
- Musical Thoughts
- Funny Voices or Name that Toon
- Hands as Thoughts
- Give it a name and put it on a Picture a Scene on a t shirt or a stamp

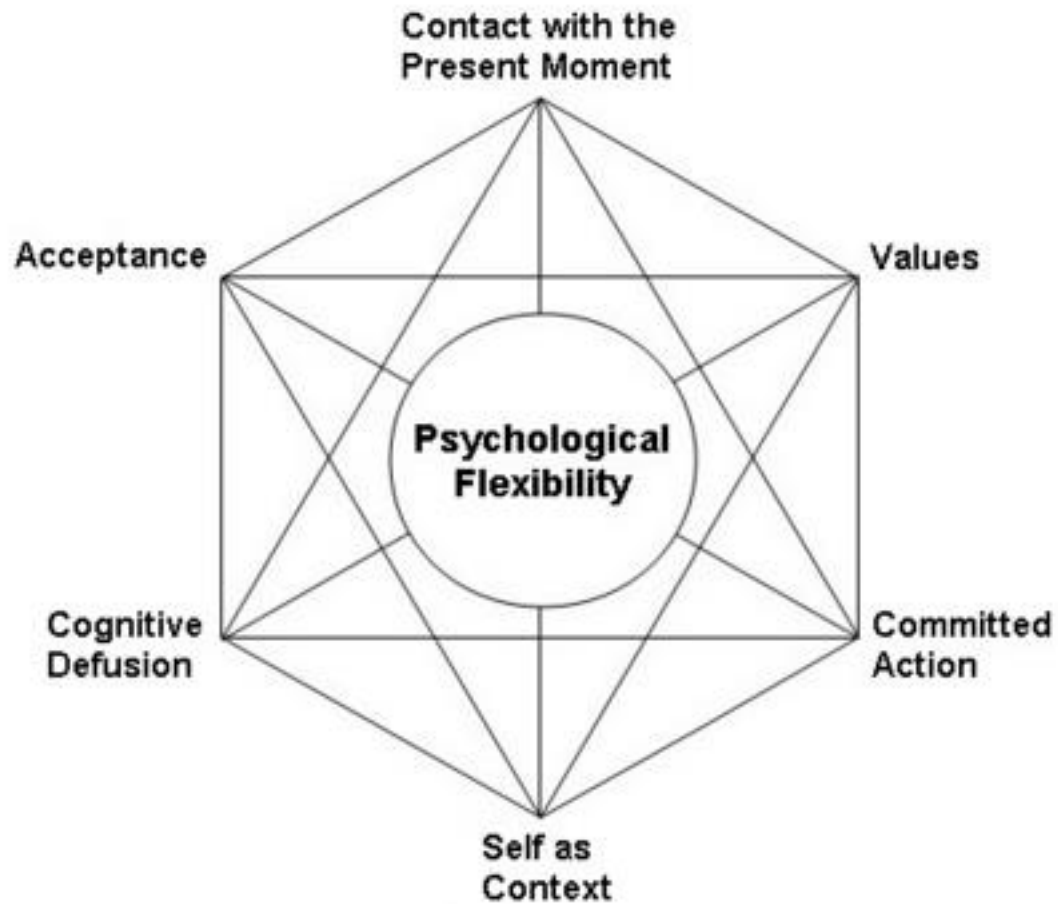


In a state of DEFUSION, we see that thoughts are not always helpful or important; they may not be wise; and they are never threats. Our goal is not to get rid of the thoughts, but recognize them for what they are: Stories.



Eilers & Hayes (2015) from *JADD*

- Showed a decrease in problem behaviors as a function of cognitive defusion exercises plus exposure
- Participants were 3 3-7 year old children diagnosed with ASD with a variety of behavioral excesses (transitions; presence or absence of another person or object; performing tasks in same way; circumscribed interests)
- Defusion exercise (Silly Voices) 30 s prior to exposure to a target situation or stimuli.
- Access to preferred item following 5 min of exposure



Contact with the Present Moment

- Present Moment Awareness
- “Present-moment processes are about living flexibly in the here and now”
- “Skillful intentional allocation of attention”

Mindfulness interventions (John Kabat-Zinn) connect most closely with this concept (left side of hexaflex)

Mindfulness:

- Based on Eastern Meditation
 - A way of paying attention and directing focus
- Involves observing one's thoughts, but not judging or evaluating them.
- Expand, or make room for your feelings
- Awareness of is different from thinking about it.
- Expand and be willing for the feeling to be present.



Notice Five things

- Useful when you find that you have been disconnect and need to bring yourself back to the present moment



1. Pause for a moment
2. Look around and notice 5 objects you can see
3. Listen carefully and notice five sounds you can hear
4. Notice five things you can feel against the surface of your body

Awareness of Breath

Balloon Exercise

- Notice your breathing
- Notice the rise and fall of your rib cage
- Observe how the air moves in and out of your nostrils
- Notice how your lungs expand
- Feel the air fill your lungs and follow the air back out as the lungs deflate



More “Active” Mindfulness Exercises

- Sounds Right: A Mindful Listening Game
- “Seeing Clearly”



Evidence for the Efficacy of Mindfulness with Individuals with Developmental Disorders:

- Decreases in aggression in school settings by adolescents with conduct disorder following mindfulness training (Singh et al., 2007)
- Low frequency, high intensity aggressive behavior decreased in an individual with mild IDD and MI (Singh et al. 2003)



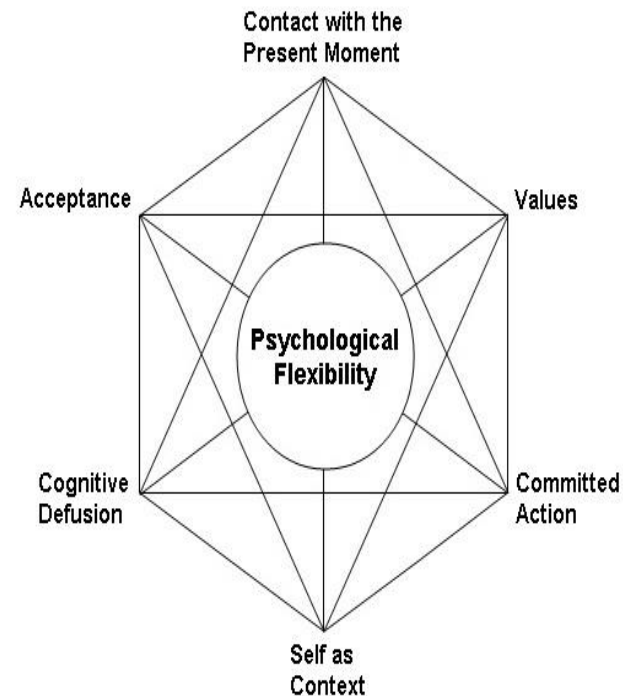
Evidence for the Efficacy of Mindfulness with Parents & Staff:

- Individuals with profound multiple disabilities showed increases in affect associated with happiness after staff received mindfulness training (Singh et al., 2004)
- Aggression, noncompliance, and self-injury all shown to decrease in children with ASD after parents received mindfulness training (Singh et al., 2006)
- Our pilot work



Brazeau, et al. (submitted) On the effects of mindfulness, defusion, and behavioral skills training on job interviewing skills in dually-diagnosed adults with developmental disorders

- Purpose: examine efficacy of mindfulness & defusion in improving performance during job interviews with three adults with dev. Disorders (two of whom were dually diagnosed).



Background

- Poor social skills is a common obstacle to securing meaningful employment in adults with developmental disorders (Siperstein et al., 2014)
- The job interview is a major obstacle
- Many studies have focused on BST to teach job interviewing (ie., Morgan et al., 2014)
- Needed are approaches that target the private emotional experiences of adults with developmental disorders who are job interviewing
 - Higher levels of anxiety associated with higher cognitive functioning (55%+ of individuals with ASD have an anxiety disorder; Davis et al., 2008)
 - Many adults with developmental disorders avoid anxiety-provoking situations where one's deficient social repertoire is evident (White et al, 2009)
 - Much evidence for efficacy of ACT in adults with anxiety, typically measured on questionnaires and role plays (Codd et al., 2011)

Participants

- Mark: 20 year old male with Tourette's syndrome, OCD, ADHD, and GAD. IQ of 89.
- Owen: 20 year old male with ASD, Bipolar disorder, and ADHD. IQ of 77.
- Christina: 21 year old female with specific learning disorder and ADD. IQ of 73.
- **All reported extreme levels of anxiety regarding job interviewing and had difficulties accomplishing practice interviews*
- **All showed many overt indicators of anxiety during practice sessions (fidgeting; shaking hands and feet; minimal eye contact)*

Experimental Design & Variables

- Multiple Probe across participants
- Independent Variable
 - Application of mindfulness (all), defusion (Christina), & BST (Owen & Christina)
- Dependent Variable
 - Performance on interview checklist during mock interview sessions
 - Each interview session contained at least five questions drawn from a set of questions established prior to the study; no feedback delivered

Steps:	Definition	Complete	Incomplete
Overall comfort level			
Greeting	Greet the interviewer by shaking their hands with a smile and making eye contact		
Posture	They are sitting upright with their back straight so that their body is erect		
Posture	They are positioned in front of the interviewer so that they are face to face		
Eye Contact	When first answering a question they make eye contact with the interviewer		
EC	They maintain eye contact with the interview only breaking for a few seconds during a break in the conversation		
Tone of Voice	They speak at a normal tone of voice when speaking to the interviewer. So that the interviewer does not have to strain to hear their answers		
Fidgeting	They are keeping their body still. Their hands are loosely positioned on their lap or table and their fingers are still.		
Fidgeting	Both of their legs are relaxed and their feet are touching the floor and remain on the floor while seated.		
Rate of conversation or speech	They are talking at a steady rate of speech so that they are easy to understand		
Interview questions			
Question 1	The interviewee begins to respond to the question within 10 s of the question being asked		
Q1	The interviewee responds correctly to the question so that it is applicable to the job		
Q1	The interviewee answers the questions so that it is relevant to the topic and keeps the answers short and concise		
Question 2	The interviewee begins to respond to the question within 10 s of the question being asked		
Q2	The interviewee responds correctly to the question so that it is applicable to the job		
Q2	The interviewee answers the questions so that it is relevant to the topic and keeps the answers short and concise		
Question 3	The interviewee begins to respond to the question within 10 s of the question being asked		
Q3	The interviewee responds correctly to the question so that it is applicable to the job		
Q3	The interviewee answers the questions so that it is relevant to the topic and keeps the answers short and concise		
Question 4	The interviewee begins to respond to the question within 10 s of the question being asked		
Q4	The interviewee responds correctly to the question so that it is applicable to the job		
Q4	The interviewee answers the questions so that it is relevant to the topic and keeps the answers short and concise		
Question 5	The interviewee begins to respond to the question within 10 s of the question being asked		
Q5	The interviewee responds correctly to the question so that it is applicable to the job		
Q5	The interviewee answers the questions so that it is relevant to the topic and keeps the answers short and concise		

State Social Anxiety

Directions: Please read the following 9 items and indicate how frequently you experience these thoughts during an interview or when you think of going or being in an interview.

1 = Very Slightly / Not at all

2 = A Little

3 = Moderately

4 = Very Much

5 = Extremely

Before an Interview:

- | | | | | | |
|---|---|---|---|---|---|
| 1. When thinking about interviewing I become worried, scared, or anxious. | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|

During an interview:

- | | | | | | |
|---|---|---|---|---|---|
| 2. I worried about what the interviewer thought of me | 1 | 2 | 3 | 4 | 5 |
| 3. I was afraid that the interviewer would notice my shortcomings | 1 | 2 | 3 | 4 | 5 |
| 4. I was afraid that they would not approve of me | 1 | 2 | 3 | 4 | 5 |
| 5. I was afraid that they would not hire me | 1 | 2 | 3 | 4 | 5 |
| 6. I was worried that I would say or do the wrong things. | 1 | 2 | 3 | 4 | 5 |

After an Interview:

- | | | | | | |
|--|---|---|---|---|---|
| 7. While I was talking, I was worried about what they were thinking of me. | 1 | 2 | 3 | 4 | 5 |
| 8. I felt uncomfortable and embarrassed during the interview. | 1 | 2 | 3 | 4 | 5 |
| 9. I found it hard to interact with the interviewer. | 1 | 2 | 3 | 4 | 5 |

Intervention

- Sessions consisted of a Mindfulness or defusion exercise followed by an interview session
- MINDFULNESS:
 - *Mindful Breathing (Zettle, 2007)*
 - *Mindful Body Scan (Walser & Westrup, 2007)*
 - *Mindful Walking (Stoddard & Afari, 2014)*
- DEFUSION:
 - *Hands as thoughts*
 - *Boat on the Water*
 - *Name that Toon*
 - *(Harris, 2008)*
- A BST procedure (instructions, modeling, rehearsal, & feedback) was conducted for two of the three participants for a few steps when skills on the question-answering portion of the checklist did not show improvement

Table 2. Exercises used with each participant and hexaflex component targeted.

ACT Exercise	Hexaflex Component	Participant
Mindful Walking	Acceptance, Self as context; Present moment awareness; Defusion	Mark
Mindful breathing	Acceptance, Self as context; Present moment awareness; Defusion	Mark
Mindful body scan	Acceptance, Self as context; Present moment awareness; Defusion	Mark
Mindful Walking	Acceptance, Self as context; Present moment awareness; Defusion	Owen
Mindful breathing	Acceptance, Self as context; Present moment awareness; Defusion	Owen
Mindful body scan	Acceptance, Self as context; Present moment awareness; Defusion	Owen
Mindful Walking	Acceptance, Self as context; Present moment awareness; Defusion	Christina
Mindful breathing	Acceptance, Self as context; Present moment awareness; Defusion	Christina
Mindful body scan	Acceptance, Self as context; Present moment awareness; Defusion	Christina
Boat on the Water	Defusion	Christina
Hands as Thoughts	Defusion	Christina
Name that Toon	Defusion	Christina (only used for one session due to participant requesting that this exercise be discontinued.

Social Validity-Owen

1. The Mindfulness sessions helped reduce my anxiety during interviews.

1	2	3	4	5
Strongly Disagree		Neutral		Strongly Agree

2. Overall I enjoyed the Mindfulness sessions.

1	2	3	4	5
Strongly Disagree		Neutral		Strongly Agree

3. I think my interview skills improved throughout the course of the study.

1	2	3	4	5
Strongly Disagree		Neutral		Strongly Agree

4. I will use the Mindfulness exercises in the future.

1	2	3	4	5
Strongly Disagree		Neutral		Strongly Agree

5. I felt a change in my anxiety overall.

1	2	3	4	5
Strongly Disagree		Neutral		Strongly Agree

6. The interview training session helped me understand how to answer interview questions.

1	2	3	4	5
Strongly Disagree		Neutral		Strongly Agree

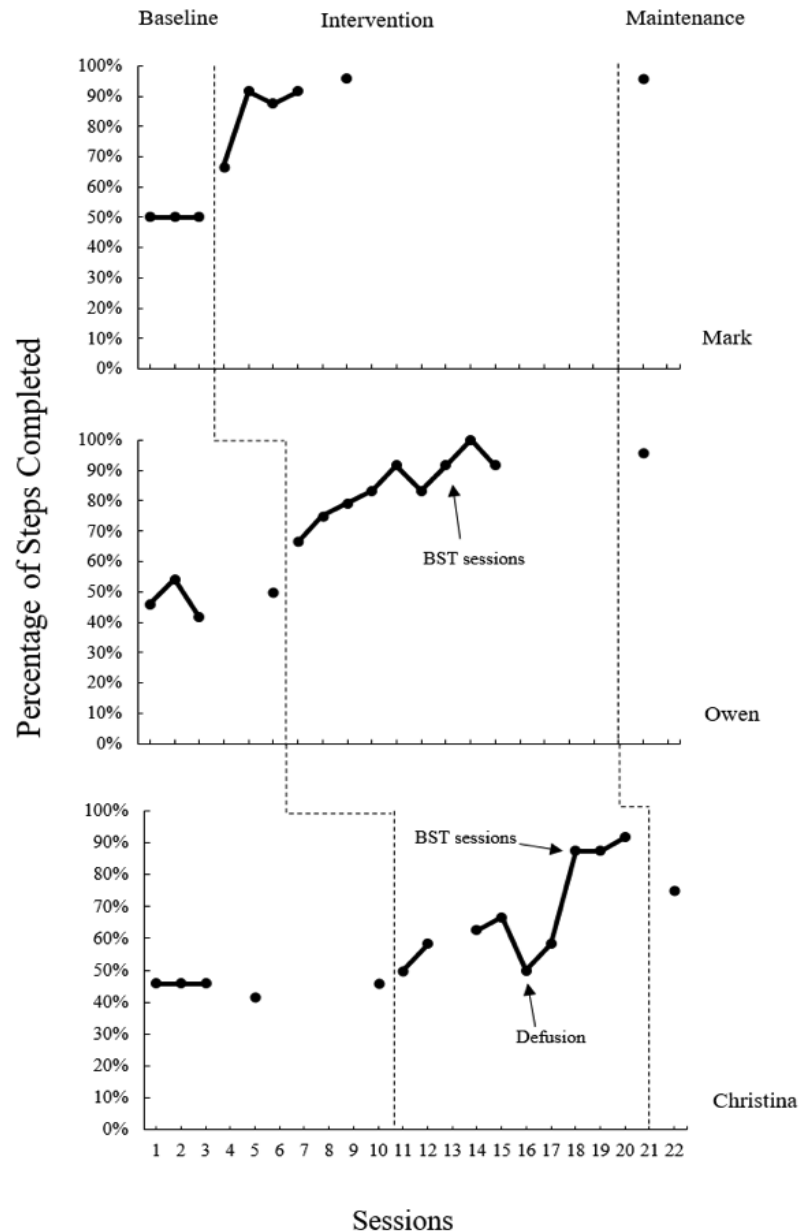
7. I feel more confident with my interview skills.

1	2	3	4	5
Strongly Disagree		Neutral		Strongly Agree

8. I would feel prepared for an interview in the future.

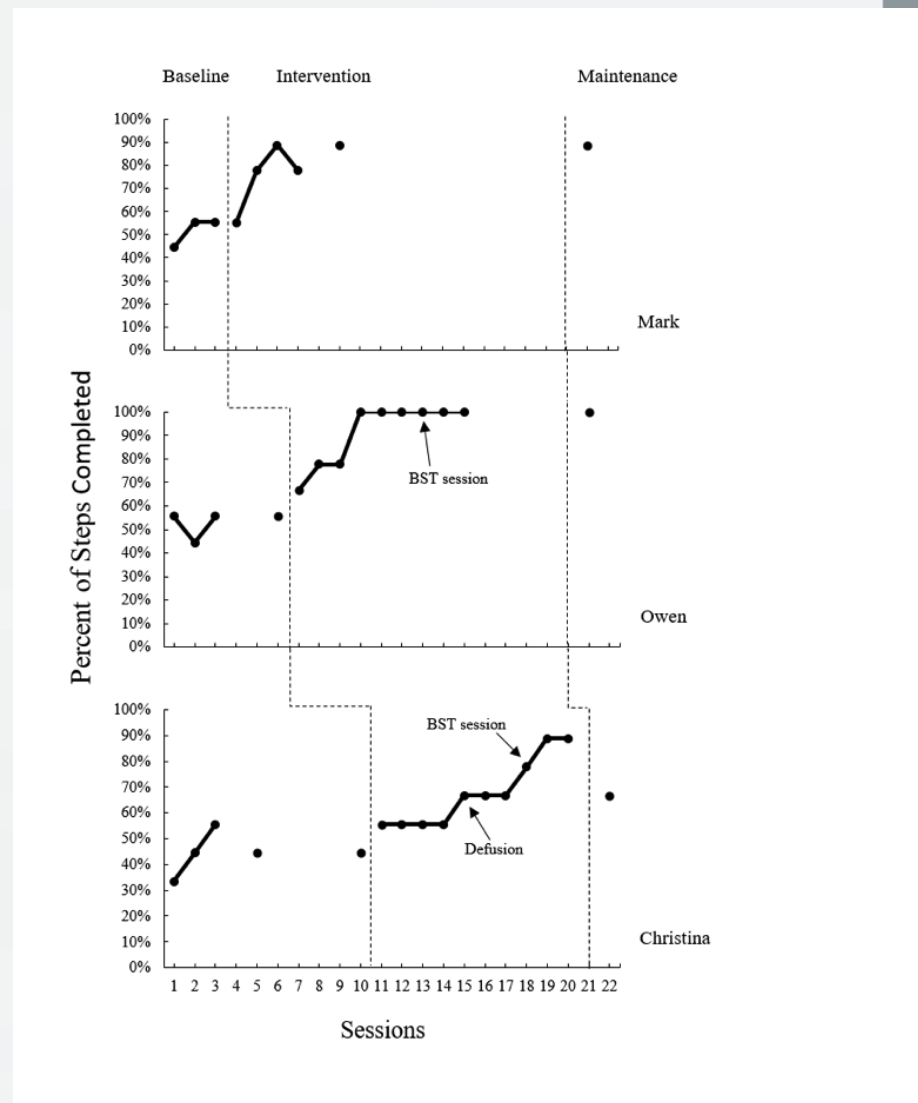
1	2	3	4	5
Strongly Disagree		Neutral		Strongly Agree

- Mark:
 - Baseline: mean percentage of responding was 50%
 - Intervention: mean percentage of responding was 86%
- Owen:
 - Baseline: mean percentage of responding was 48%
 - Intervention: mean percentage of responding was 84%
- Christina:
 - Baseline: mean percentage of responding was 45%
 - Intervention: mean percentage of responding was 64%

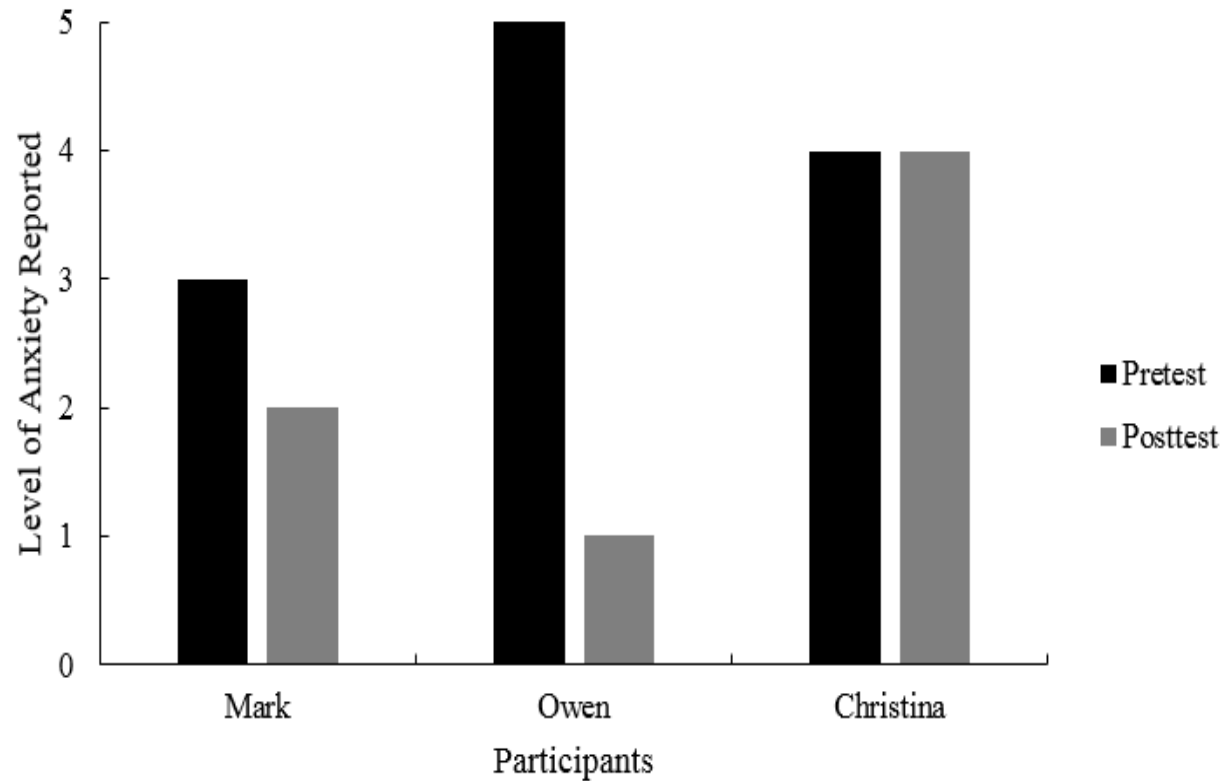


Percentage of Steps Completed on Comfort Level Portion of Checklist

Steps:	Definition	Complete	Incomplete
Overall comfort level			
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Posture	They are sitting upright with their back straight so that their body is erect		
Posture	They are positioned in front of the interviewer so that they are face to face		
Eye Contact	When first answering a question they make eye contact with the interviewer		
EC	They maintain eye contact with the interview only breaking for a few seconds during a break in the conversation		
Tone of Voice	They speak at a normal tone of voice when speaking to the interviewer. So that the interviewer does not have to strain to hear their answers		
Fidgeting	They are keeping their body still. Their hands are loosely positioned on their lap or table and their fingers are still.		
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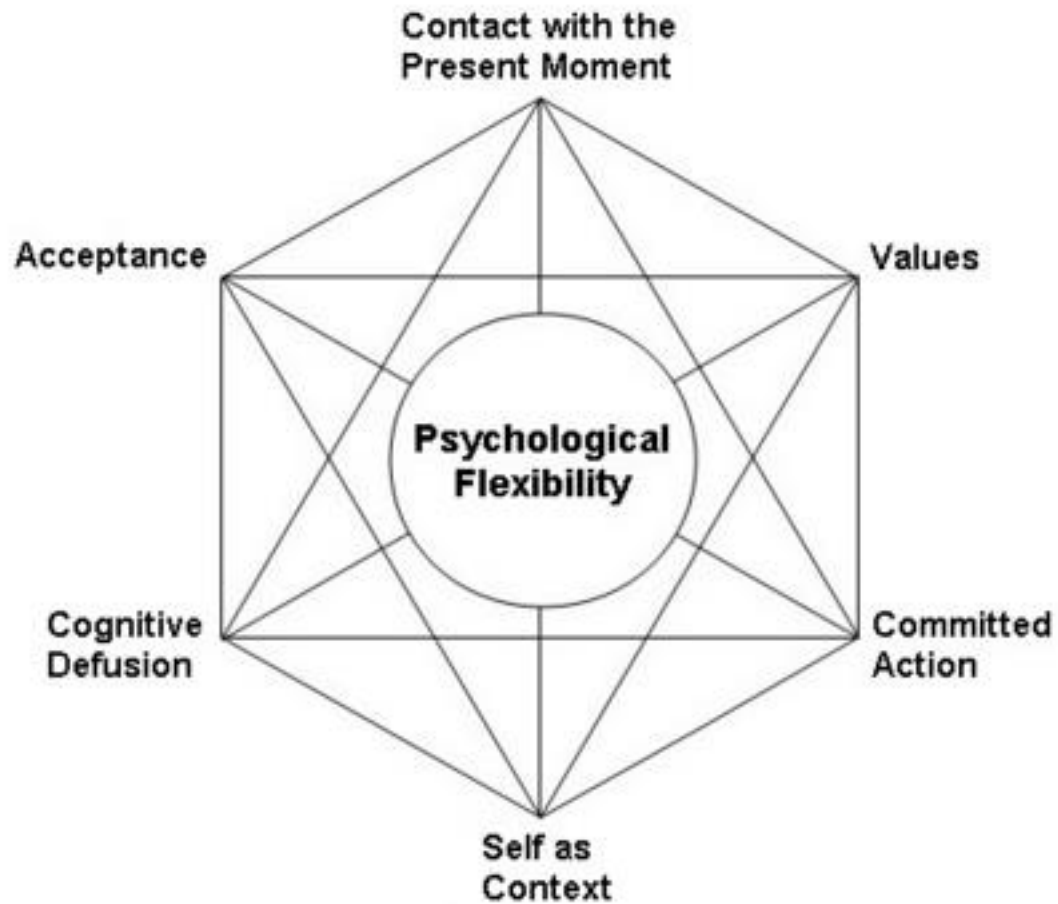


Pre and Posttest (State Social Anxiety)



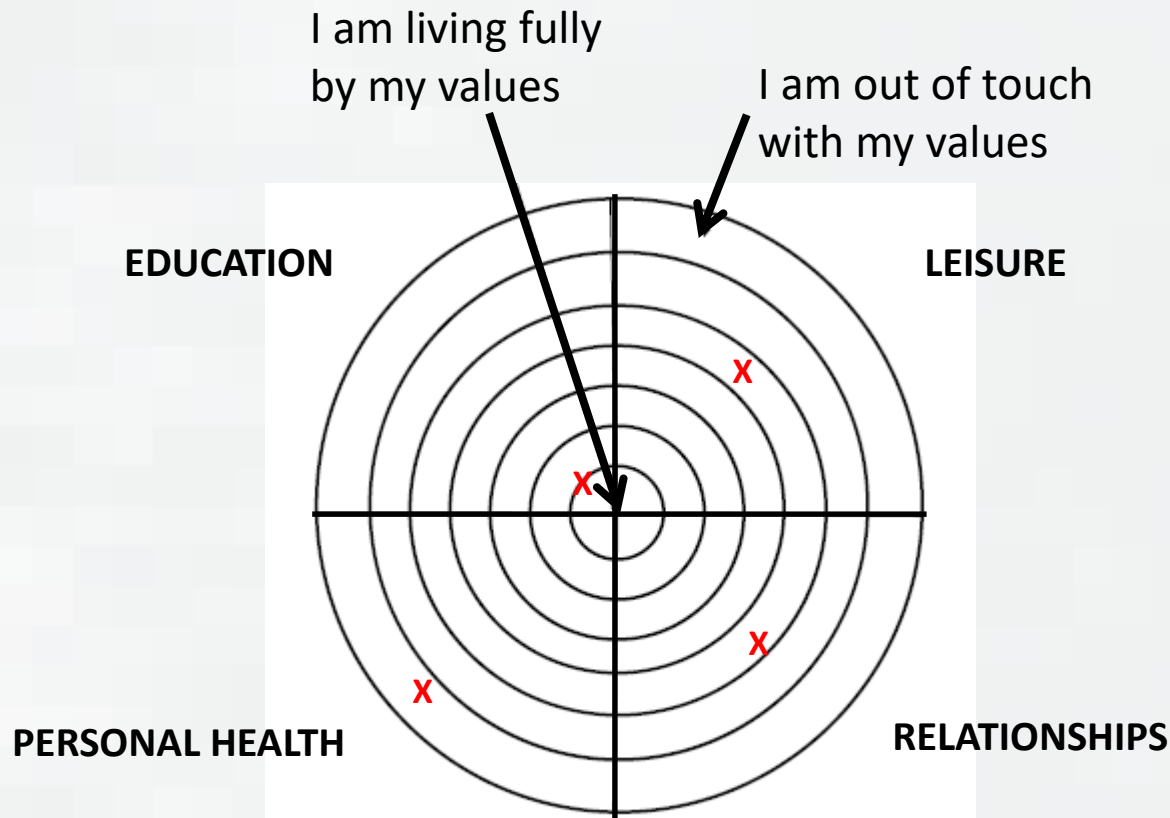
Implications

- Easily able to implement components of ACT with more common ABA procedures
- More “willingness” to endure aversive situation as a function of defusion & mindfulness
- Customized for the participant
- Initial assessment needed



Valued Living:

**** *Committed actions*



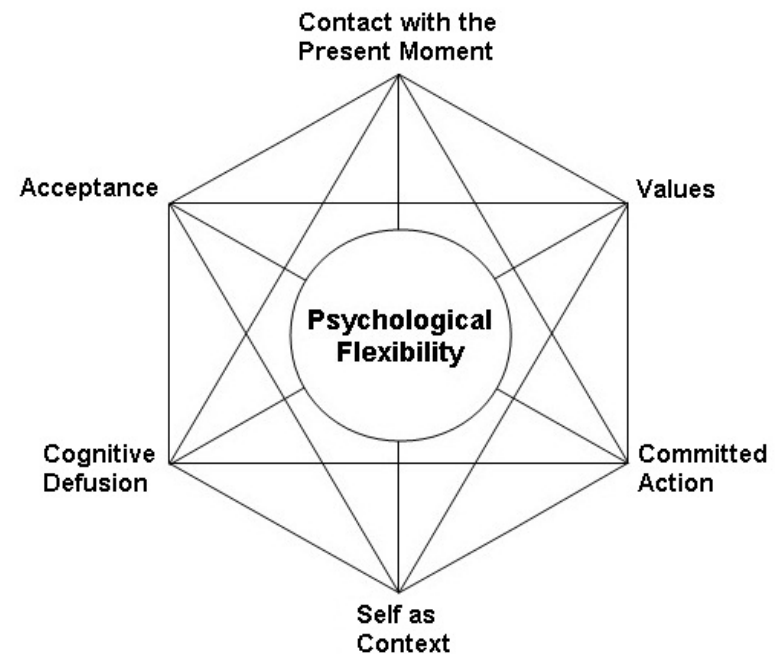
(Lundgren; Harris, 2008)

Psychological Well-being and Values

- Bond et al. (2006): People who are NOT acting according to their chosen values are likely denying themselves contact with positive reinforcers that foster good mental health and successful performance at work
- People with chronic pain who engaged in activities consistent with their values reported higher levels of physical and emotional functioning (McCracken & Yang, 2006)
- Changes in values and committed actions correlated with seizure reduction in patients with epilepsy (Lundgren et al., 2008)
- Lower likelihood of suicidal ideation among those Veterans who were able to identify their values (Bahraini et al., 2013)

Castro, Rehfeldt, & Root (*in press, JCBS*) On the Role of Values Clarification for Direct Care Human Service Agency Staff

- Purpose: Establish a functional relationship between values and committed action trainings and direct-care staff interactions with clients (using objective and reliable measures of behavior change)



Participants

Three direct care staff members at an adult rehabilitation facility; worked in separate classrooms and observed to engage infrequently with clients.

– **Monica**

- 71 year old female
- 28 years employment at facility

– **Jennifer**

- 36 year old female
- 2 year employment at facility

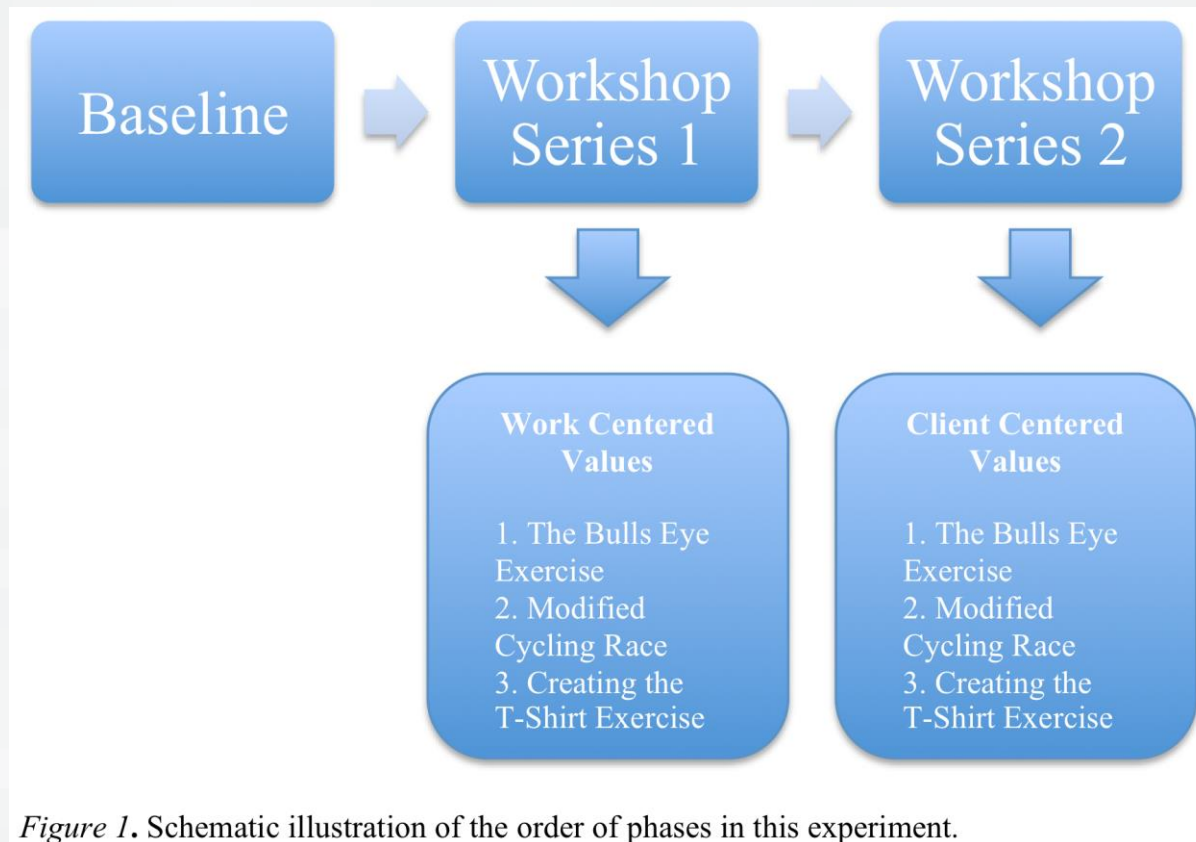
– **Amanda**

- 39 year old female
- 8 year employment at facility

Response Measurement

- Dependent Variable
 - The instances of staff engagement with clients during a 15 min observation
- Staff Engagement
 - Initiated engagement without verbal or gestural prompts for attention from individuals within classroom.
 - Be within two feet from the individual, physically oriented, and providing verbal and/or gestural engagement that met the individuals needs.
 - Demands placed or remarks from across the room would *not* be considered as engagement

Multiple baseline design across 3 staff



Workshops

- **Workshop Series 1**
 - Three 20-40 min sessions
 - Centered on work values
- **Workshop Series 2**
 - Three 20-40 min sessions
 - Centered on the value of client interactions
- During each session, three to four individuals participated along with the participants during both Values Workshop 1 and 2
- *Values clarification exercise (Bulls' Eye; Cycling Race) assessed current values and how close one is to moving towards that value (Harris, 2013; Lundgren, Luoma, Dahl, Strosahl, & Melin, 2012)*

Modified Cycling Race

- Original purpose is to use the context of a bicycling race and the t shirts one may wear as a discussion for values and committed actions
- Here, our focus is on sports events for charities (ie., special Olympics) and the shirts one may wear, as well as the company shirts an individual may wear when he or she attends work
- How do the “t shirts one wears” reflect one’s values?
- Paper (or real) t shirts are then created.

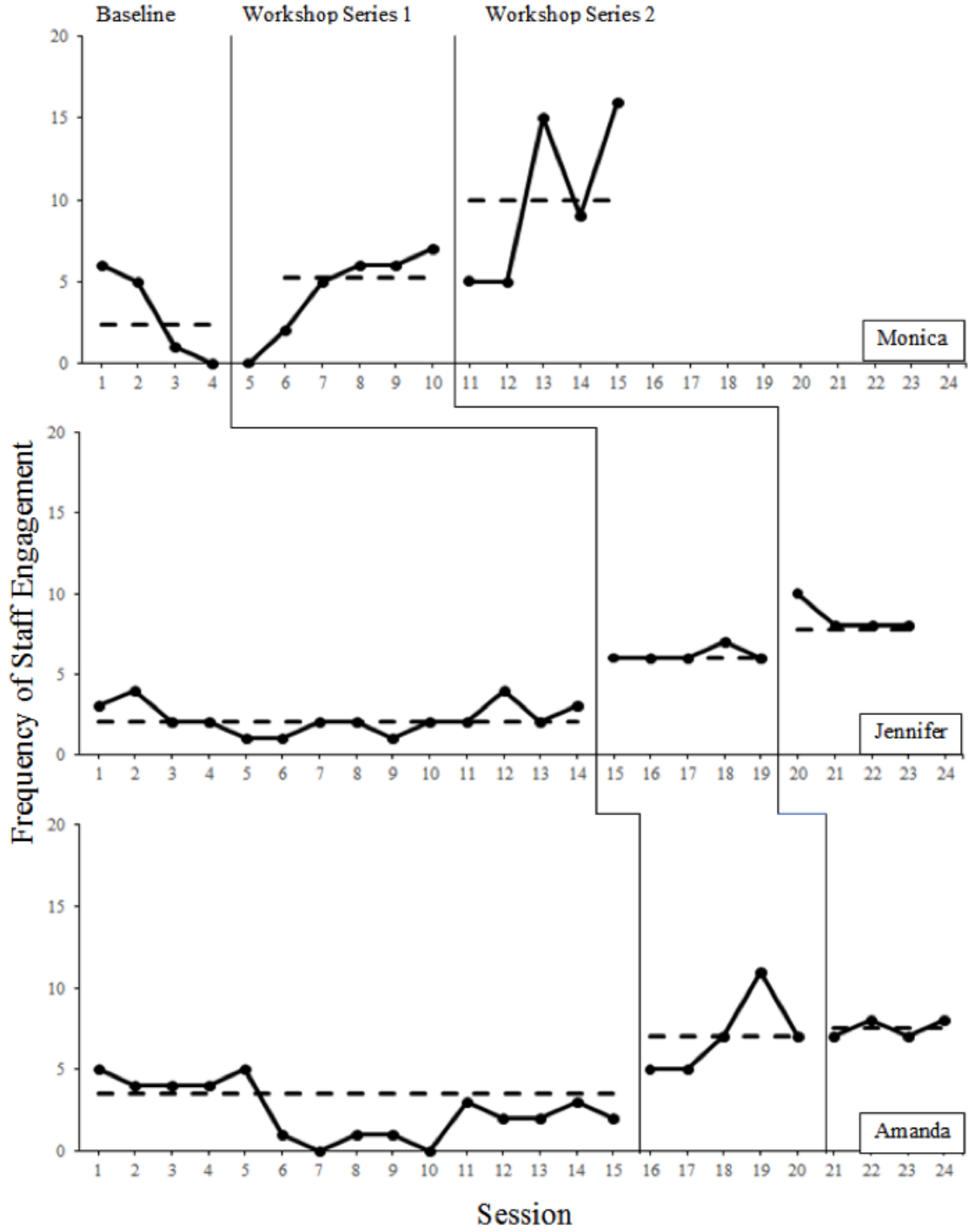


Table 1. Participants' responses to each question on the social validity questionnaire. Response options included Strongly Agree, Agree, Neither Agree Nor Disagree, Disagree, and Strongly Disagree.

Question	Monica	Jennifer	Amanda
Did you enjoy this type of workshop-style learning?	Agree	Agree	Strongly Agree
Do you feel that you came into more contact with your values after the workshops?	Agree	Neither Agree Nor Disagree	Agree
Do you feel that you were able to apply what you learned in each workshop to your own classroom?	Agree	Agree	Agree
Do you feel that the given time for the workshops was appropriate?	Agree	Agree	Strongly Agree
Would you recommend these workshops to other direct care staff?	Strongly Agree	Agree	Agree

Implications

- All participants showed an increase in the frequency of their engagement with clients from 11-16 instances of engagement relative to their baseline levels
- All rated the workshops favorably
- Functional relationship using objective, reliable measures of behavior change
- Values workshops permitted for much to be learned about staff and how they viewed their work values from a managerial perspective
- **CONTEXT MATTERS!!!**

Final Thoughts:

- Evidence-based Practice for people with ASD & IDD:
 - ACT as tx package for disorders seen in dual diagnoses
 - Mindfulness & ASD: Twelve articles
 - (Cachia, Anderson, & Moore, 2016), (Singh et al., 2011), etc.
 - Laboratory Studies on Defusion
 - (Healy, Barnes-Holmes, & Barnes-Holmes, 2008).
 - Committed action = goal setting
 - (Skinner, 1953; 1971; Miltenberger, 2015).
- Behavior analysts cannot ignore the private experiences of clients and staff. Here is the technology.

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