

Cognitive Enhancement Therapy – A Clinical Approach for CMHCS

ICCMHC Conference
October 10, 2013



Ray Gonzalez, ACSW, LISW-S

Center for Cognition and Recovery

2011 SAMHSA Science & Service Award

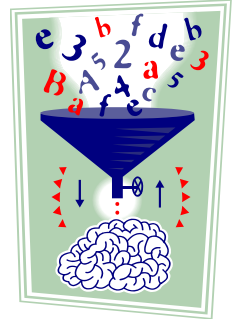
www.cetcleveland.org



True or False ?

- Cognitive problems are due to laziness and lack of effort
- Cognitive problems will go away when symptoms like hallucinations go away
- Cognitive problems are caused by medications
- Cognitive problems are caused by being in the hospital or nursing home or at home too long

CET is an active treatment that changes our clients' brains:



- To have increased capacity to learn
- To remember what they learn
- To act in real time
- To improve their social cognition
- To act wisely in novel social and vocational situations
- To have hope

HOPE VIDEO CLIP

Similar Cognitive Deficits Found in Schizophrenia, Bipolar Disorder, Chronic Depression and ASD

- Attention/Distractibility
- Processing Speed
- Working Memory
- Executive Functioning
- Results in Social Cognition Deficits, e.g.
 - Perspective Taking
 - Emotion Perception and Management
 - How to function in novel social and vocational situations

Ray Gonzalez, ACSW Disclosures

- Executive Director of The Center for Cognition and Recovery (CCR) a nonprofit LLC, division of JFSA of Cleveland
 - The CCR has received grants from The Cleveland, Morgan, Mount Sinai Health Care and Woodruff Foundations for the development and dissemination of CET
 - OSU School of Social Work grad with 36 years as psychiatric social worker; Optimist
-

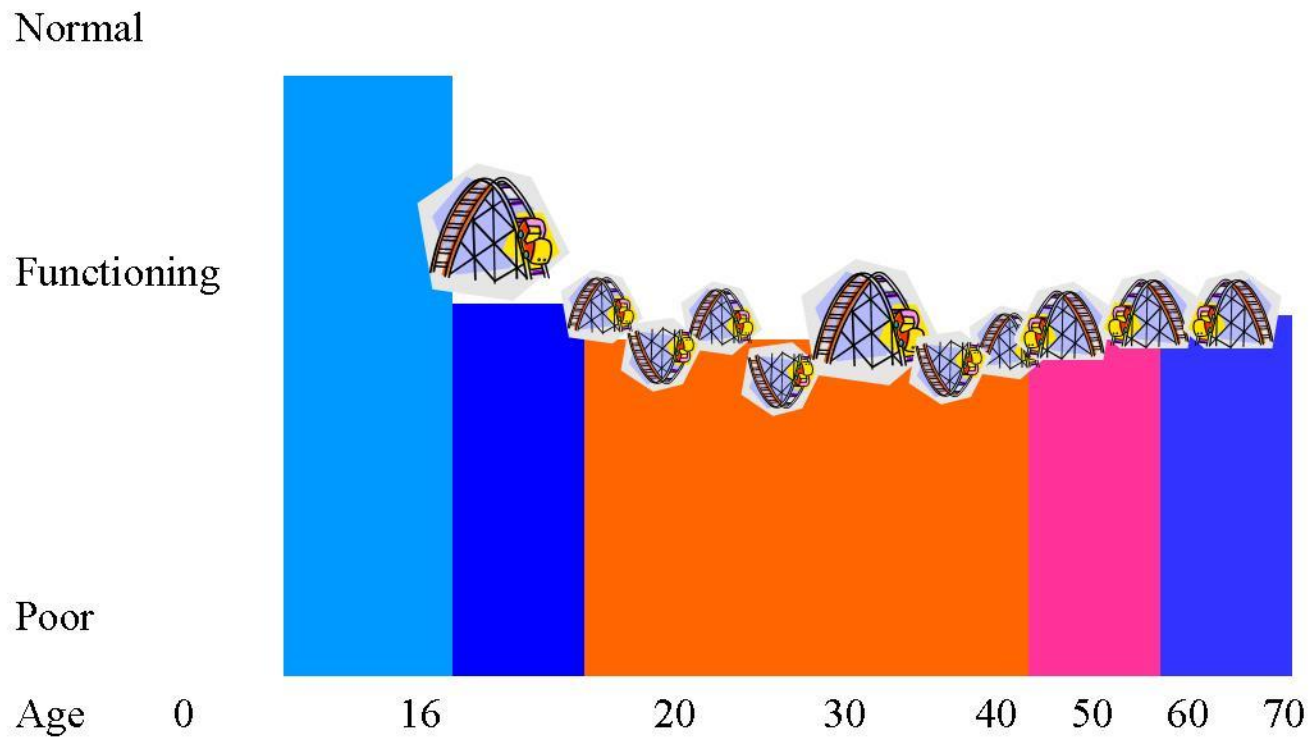
Anita's Recommendation

When Anita, a CET Graduate, was asked why she would recommend CET to other people recovering from a mental illness, she answered:

I would recommend CET to help those with mental illnesses reach their true potential. And while potential can sometimes be measured in terms of work and productivity, I would say that even more importantly is the subjective aspect, enjoying the lives that we were meant to live.



Typical Course of Schizophrenia

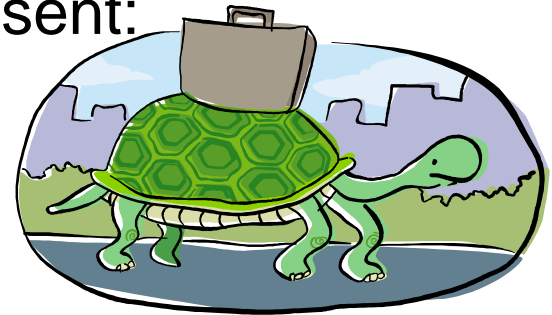


Negative Symptoms Of Schizophrenia

- Flat or blunted emotion
- Lack of motivation or energy, often on Auto Pilot
- Limited or impoverished speech
- Lack of pleasure or interest in things

Cognitive difficulties are also usually present:

- Slow thinking process
- Concrete thinking
- Poor concentration and memory
- Difficulty understanding or expressing feelings
- Difficulty integrating thoughts, feelings and behaviors



What is CET?



- Aims to remediate the brain
- For stable clients who have plateaued but have not fully recovered
- Combination of specialized computer exercises, social cognition groups and individual coaching
- Utilizes a coaching methodology
- 48 once-a-week sessions
 - 80 to 90% attendance rate
 - 85% graduation rate

Components of CET



1. Specialized computer exercises done in pairs
2. Homework reporting in class, no one can hide
3. Weekly Psycho-ed talks



4. Cognitive Group Exercises done in pairs

5. Individual 'coaching' once a week

Why CET?

- 50 + years of research showed that there were major cognitive deficits associated with schizophrenia but no active treatments
- Developed in response to the observation that lack of vocational success was not due to lack of skills training or general intelligence



What vocational success there was, had more to do with the improved social cognition of the clients who were successful

- "It's important for the field to recognize that while we've been waiting now for 30 years for a drug that will improve social outcomes, we've been ignoring the results of many studies showing that psychosocial treatment achieves psychosocial results.



And that most of those results are in some ways more meaningful for patients and their families than just the absence of a relapse.”

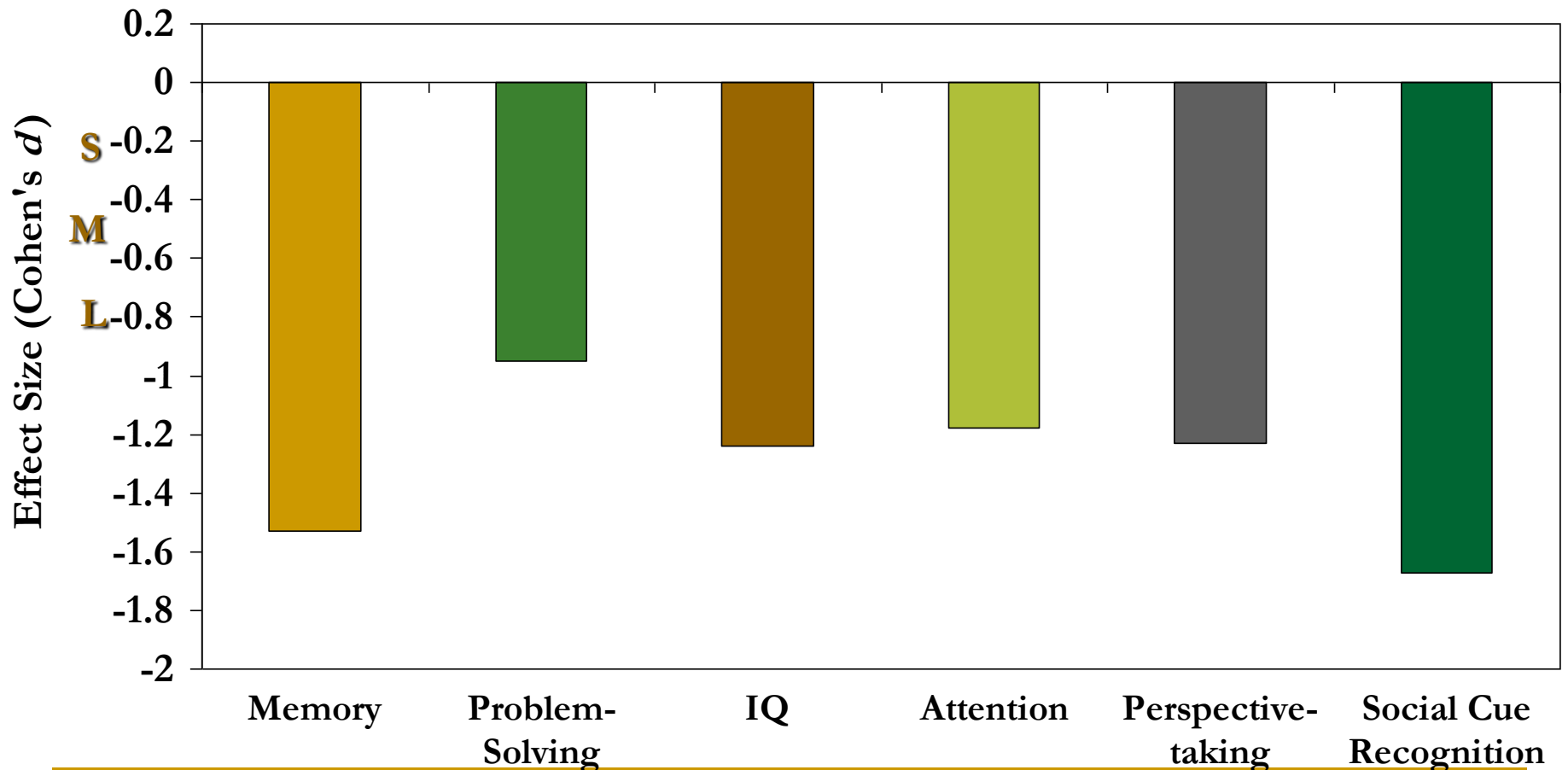
William McFarlane, MD, Director of the Center for Psychiatric Research at the Maine Medical Center Research Institute, 9/10/10

History of CET

- Developed by Gerard Hogarty and Samuel Flesher at the EPICS Program at the University of Pittsburgh Medical School
 - CET Research funded by NIMH grant
 - 121 Subjects CET (N=67) or EST (N=54) and treated for two years, between January 1995 and February 2002
 - Initial study published in the Archives of General Psychiatry, Sept. 2004 & study on the Neuroprotective Effects of CET Against Gray Matter Loss in Early Schizophrenia also in the Archives of General Psychiatry, May, 2010
 - Additional CET studies published on durability 12/06, 11/09; for persons in early psychosis 11/09, all in Psychiatry Services
-

Cognition in Schizophrenia

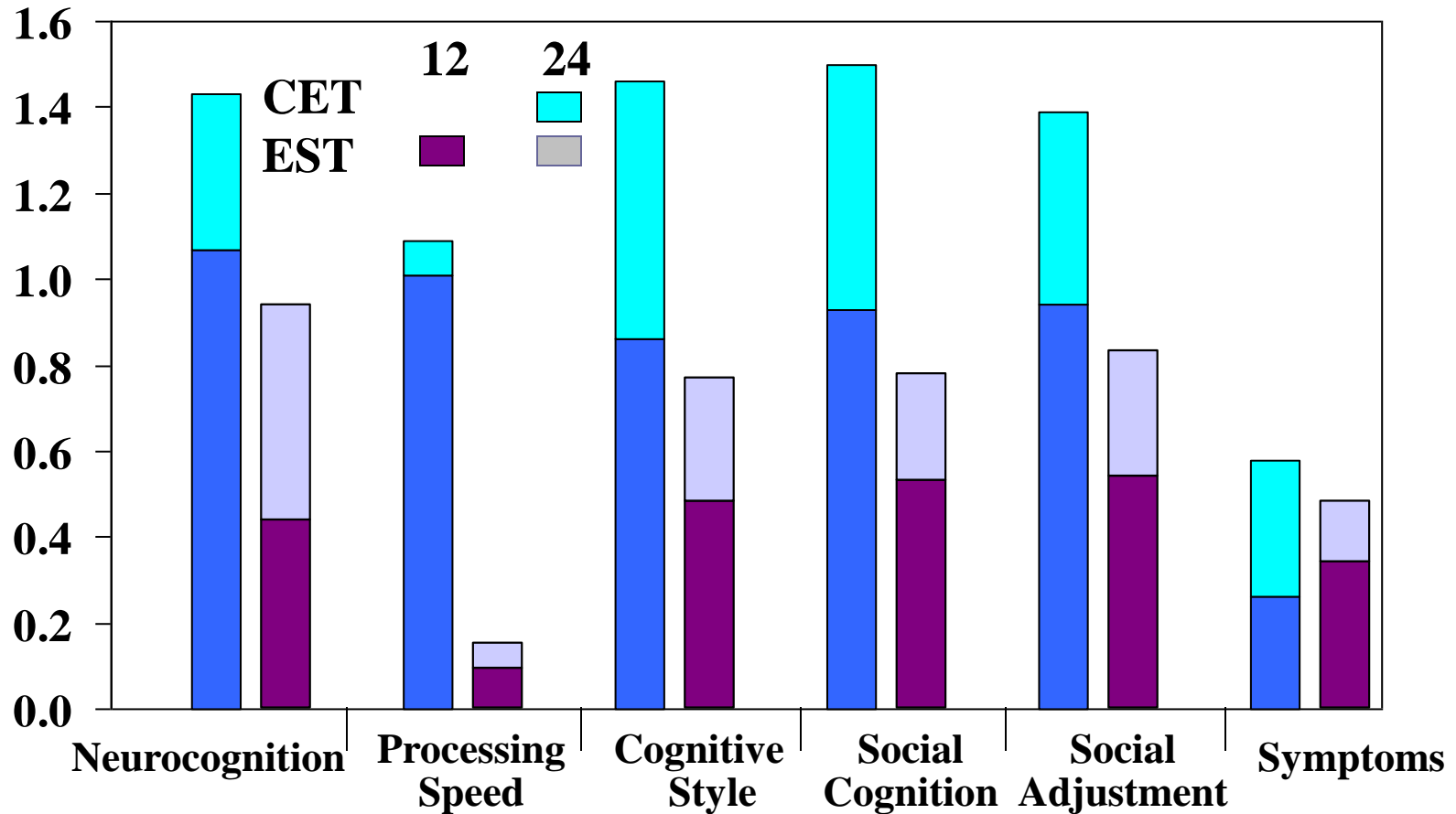
by permission of S. Eack, Ph.D., Univ of Pittsburgh



Corrigan & Green, 1993; Heinrichs & Zakzanis, 1998; Schneider et al., 2006; Sprong et al., 2007

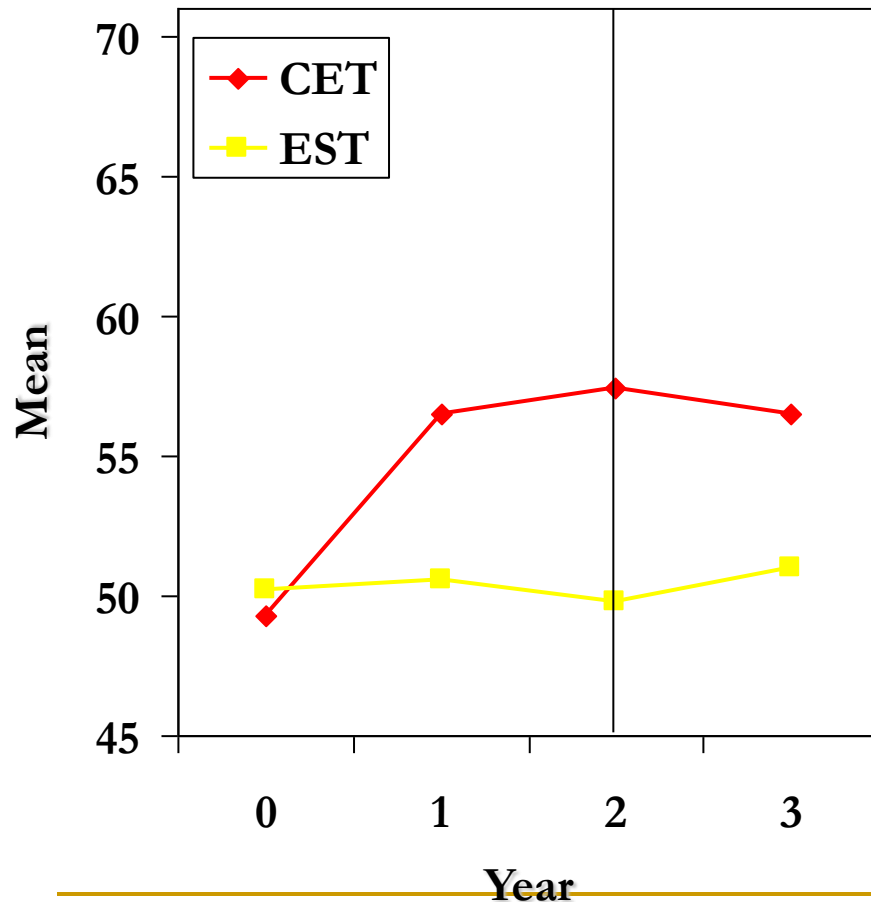
Effect Sizes of CET & EST (Enriched Supportive Therapy) at 12 and 24 Months by Composite Index

Hogarty, Flesher--Archives of General Psychiatry, Sept. 2004

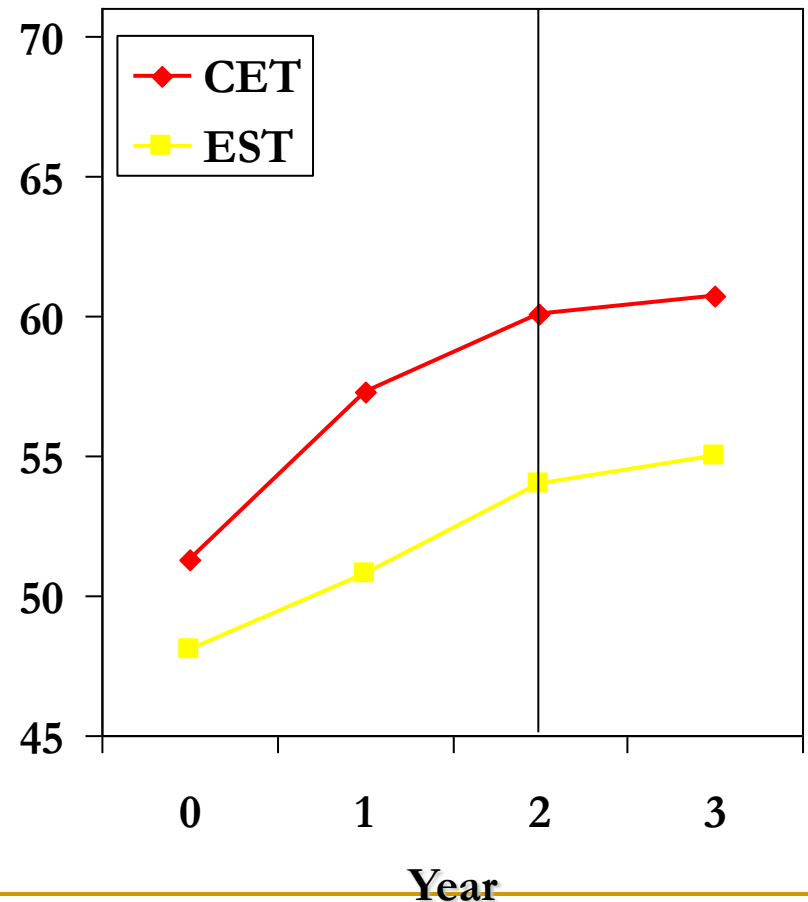


CET For Chronic Schizophrenia: Lasting Effects ($N = 106$)

Processing Speed

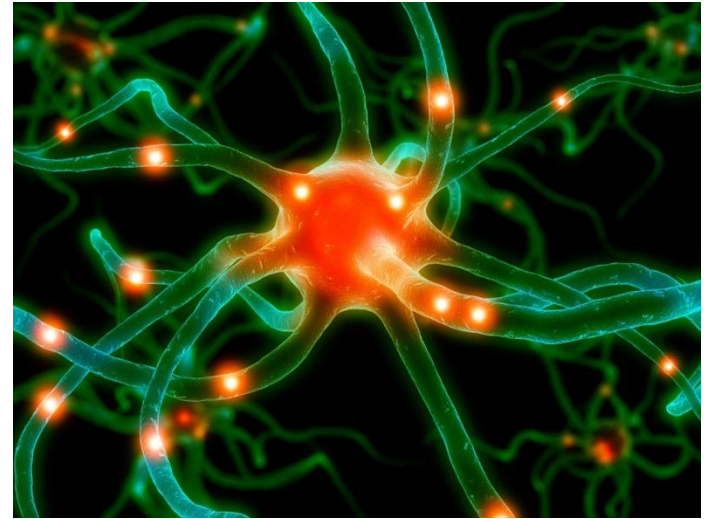


Neurocognition



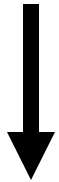
Cognitive remediation is based on Neuroplasticity

- Neuroplasticity refers to the brain's ability to re-organize itself through forming new neural connections or by adding cells
- Neuroplasticity allows the neurons in the brain to adjust their activity and organization in response to new situations or to changes in the environment



Plasticity can be a double edged sword

Adaptive plasticity



**Maturation,
Improved function**



**Pathology,
symptoms**



Aberrant plasticity

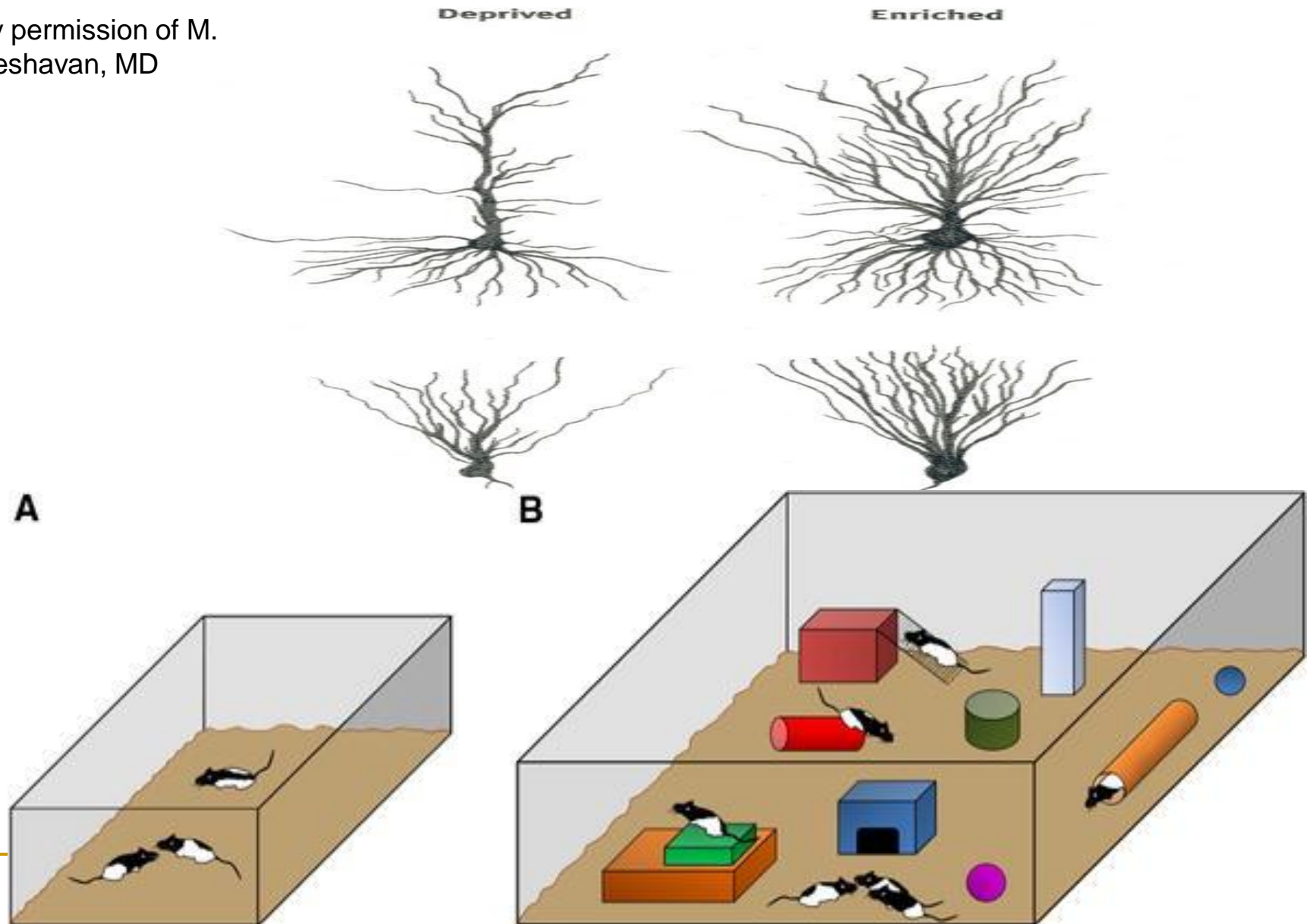
by permission of M.
Keshavan, MD

Impact of Impaired Cognitive Functioning on Physical Health

- Reduced awareness of own physical health
 - Difficulty in communicating with others, esp. primary health care providers
 - Poor memory results in poor follow through on medical treatment, e.g. medication compliance, MD appts., diet etc.
 - Few social supports
 - Lack of self initiation
-

Environmental enrichment leads to neuronal proliferation

by permission of M.
Keshavan, MD



CET may increase gray matter through the increase in the number of new synaptic connections

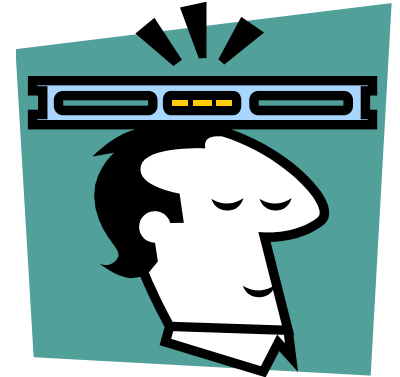


Neuroprotective Effects of CET Against Gray Matter Loss in Early Schizophrenia, Eack, S., et al, Archives Of General Psychiatry, May 2010

- **These differential effects of CET on gray-matter change were significantly related to improved cognitive outcome, with patients who experienced less gray-matter decline and greater gray-matter increases also demonstrating significantly greater cognitive improvement over the two years of the study.**
- **Thus cognitive remediation may benefit cognition in people with schizophrenia by preventing or reversing gray-matter loss.**



CET Improves



- Social cognition (*the awareness to interact **wisely** with others*)
- Processing speed (enables timely responses)
- Cognitive functioning (*attention, memory, problem solving*)
- Meaningful roles (*employment, student, volunteer, care giver, friend*)
- Self-management of mental and physical health
- Acceptance of and adjustment to disability

Goals of CET

by permission of S. Eack, Ph.D., Univ of Pittsburgh

Foster Higher Thinking By Becoming:

Abstract and Gistful vs. Concrete

An Active Thinker vs. Passive Receiver
of Information

Cognitively Flexible vs. Following Rigid Rules

More Spontaneous vs. Rehearsed

More of an Initiator vs. Doing Nothing



Typical CET Day

11:00 – 12:00

Computer Exercises

12:00 – 12:30

Break

12:30 – 2:00

Group

Individual coaching session held with each client during the week to work on homework questions

Computer Work

- One hour a week
- Done in pairs
- Pairs support each other
- A chance for socialization
- Prepares participants for group
- Continues during the course of the group
- Progressively more challenging and more abstract



Attention, Memory, Problem Solving

■ Attention:

- ❑ Establish set
- ❑ Maintain set
- ❑ Shift set



■ Memory

- ❑ Recall, recognition, procedural
- ❑ *Working Memory* is most impaired in mental illness

■ Problem Solving

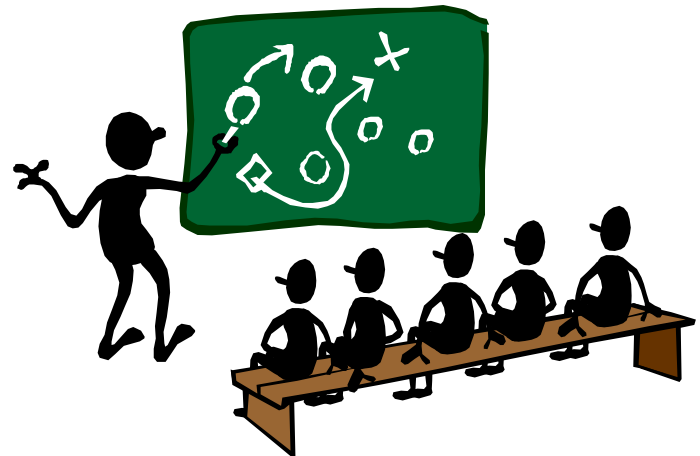


Computer exercises demonstration



Coaching Methodology

- Support
- Challenge
- Be Permissive
- Reward



COGNITIVE ENHANCEMENT THERAPY

Tuesday, January 16, 2007

Group #9

Session 20

Welcome Back: Judy

Selection of Chairperson:

Review of Homework:

- a) Describe a recent situation in which you disagreed with another person
- b) Describe your perspective
- c) Describe their perspective

Psycho-Educational Talk: Foresightfulness

Speaker: Ray

Exercise: Word Sort

Coach: Judy

Participants: Sam and Jo

Feedback: Everyone

Homework:

- a) Tell about a time when you could have been more foresightful.
- b) Tell how being foresightful would have made the situation different.

Next Group Meeting is Tuesday January 23, 2007

Socialization

- Children are told what to do

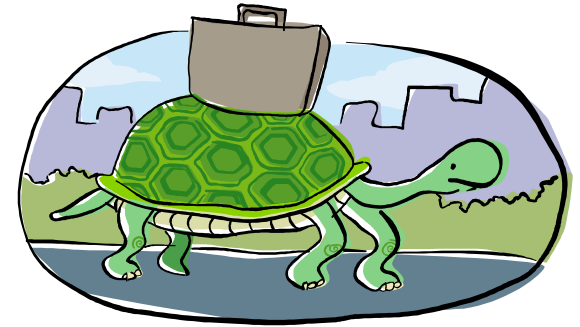


- Adults are expected to “get it”



But.....

Suppose your memory is impaired and it's hard to follow a conversation much less participate in it.



Suppose your thought processing is slowed down and it takes extra effort to process and respond to what is happening around you.

Suppose you can't trust your judgment.

Then what happens?

Desocialization

- If adults (your clients) don't "get it" people walk away
- When people walk away
 - Socialization stops
 - Learning stops
 - Deviance grows
 - People become desocialized



Desocialization

- Deviant roles are established
- Others begin to reinforce deviant roles
- Deviance becomes familiar if not always comfortable
- No learning about the generalized other
- The best mental exercise is social interaction



Psycho-Educational Talks Lectures and Posters

Orientation and Group Norms

Group Norms	1
Note-Taking	4
Group Psychotherapy and CET	7
Feedback	10

Neuropsychology

Internal Coping	13
Frontal/Limbic (Motivation and Arousal)	16
Regulating Your Limbic System	19
Nutrition, Exercise and Sleep	22

Memory and Gist

Verbatim and Gist I	25
Verbatim and Gist II	28
Memory	31

Thinking Styles

Divergent and Convergent Thinking	34
Disorganization	37
Cognitive Flexibility I	40
Cognitive Flexibility II	43
Cognitive Flexibility III	46

Perspective Taking

Perspective Taking (Intellectual)	49
Perspective Taking (Feelings)	52
Role - Taking	55
Front Stage - Back Stage	59
Emotional Context and Nonverbal Cues	62

Motivational Account and Criticism

Motivational Account	66
Criticism	69

Social Cognition and Understanding People

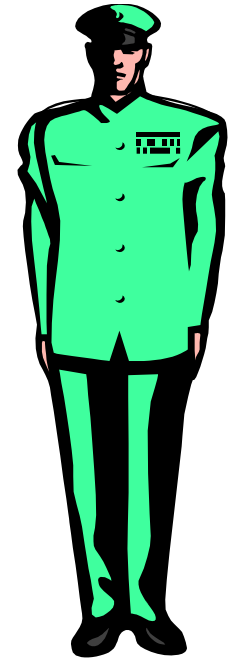
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Relationships: Child and Adult	85
Efficient Speech – Polite Speech	88
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Interpersonal Effectiveness	100
Building Alliances	103
Social Cognition – Gist Extraction	106
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Disability, Acceptance and Graduation

Acceptance of Disability	112
Idealism and Realism	116
Medications	120
Vocational Effectiveness	123
Career Effectiveness	126
Generalization: The Transfer of Learning	130
Transitions	134
Obstacles to Implementing CET	137
Putting the Pieces Together (It’s the Vision Thing)	141

Cognitive Flexibility

- Causes of Inflexibility
- Benefits of Flexibility



Motivational Account

What is a Motivational Account

- ❖ Explain Yourself
 - Your actions
 - Your ideas
- ❖ Tailor Your Explanation to Your Audience

Before Doing Something Stop and Think:

- ❖ Can you explain what you are doing or are about to do?
- ❖ Who is your audience?
- ❖ What is the context?
- ❖ Is your explanation acceptable and credible?



Your Perspective

+

Perspective of Your Audience

Motivational Account

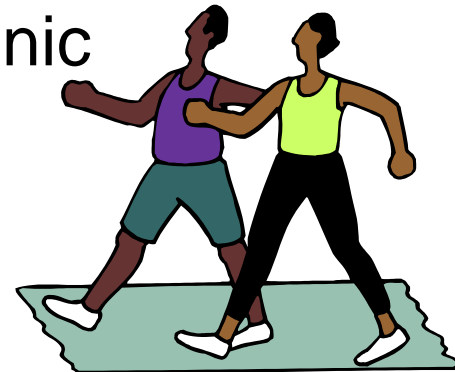
Homework on Motivational Account

- Give an example of the situation in which it was important to give a motivational account
- Tell why was important to give a motivational account
- How could you have given a better motivational account?



Nutrition, Exercise and Sleep

- Proper nutrition, exercise and sleep are important in ensuring optimal mental health
- Medications work best with a healthy diet, regular exercise and proper sleep
- Many psychotropic medications promote weight gain
- Weight gain is associated with many chronic medical conditions
- Balanced diet and regular exercise help to control weight
- Regular exercise causes the release of mood enhancing neurotransmitters
- Having a good sleep routine promotes mental health



Homework on Nutrition, Exercise and Sleep

- Name two things you have learned about nutrition, exercise and sleep as they applied to your mental health
- How can you apply what you learned from the talk to improving your mental and physical health?



"White Bread"

25 Words

Sort into five categories (five words each) and then again into another five categories.



FEED BACK

Social Cognition Exercise: Condensed Message

- **The Facts:** an art dealer went to Paris on one of his frequent trips and took up residence at a hotel where he used to stay whenever he was in the city. He was just about to conclude a series of promising deals with some art galleries when he came down with the flu and developed a high temperature.
- Since he was such a good customer of the hotel, he received excellent medical care and plenty of attention from the staff. He was quite comfortable, but his business mission was about to fail if help did not arrive within two days at the most. His wife, who currently held another job, had been his able and trusted business partner in previous years.
- The art dealer decided to inform his wife of his condition, without alarming her, and ask her to come and help out with the business. Unable to reach her by phone or fax, he arranged to send his wife an e-mail which she would receive early the next morning when she went to work.
- **The Circumstances:** the e-mail server at the hotel limits outgoing e-mails to 12 words or less.
- **Assumptions:**
 - The wife could get away from her job at a moment's notice.
 - The couple had an excellent relationship. They communicate with each other in direct and precise language.
- **What would the twelve word (or less) e-mail be?**

■ _____
■ _____

CET Attendance & Graduation Rates

- Average attendance and graduation rates are 85-90% across all sites
- Much of the attendance success can be attributed to how much participants value the program.



- *“I like coming to CET because they treat me like I have a brain”*
- *“We feel that we got our son back after he went through CET.” Marty and Gerry Conway, parents of PLAN Member Neil.*
- *“CET was invaluable, I learned to laugh again and it brought out the happy side of me”*

A Meta-Analysis of Cognitive Remediation for Schizophrenia; T. Wykes Am. J of Psychiatry, May 2011



- Conclusions: cognitive remediation benefits people with schizophrenia, and when combined with psychiatric habilitation, this benefit generalizes to functioning, relative to rehabilitation alone.
- What is more important than the surface characteristics (e.g., using a computer) is the technique of specific and explicit training of strategies and the use of various transfer techniques, as shown in the improved functioning outcomes for these approaches.

Clients who are candidates for CET

- Stable
- Improved functioning but not well with poor attention, concentration, focus and especially poor working memory
- Have problems with social cognition and vocational functioning
- Stuck in their recovery process, spinning their wheels



-
- Response to CET: Initial interview and graduation talk
-

Dissemination Lessons Learned

- CET works best with clients who:
 - ❑ Are stable but not fully recovered
 - ❑ Have major cognitive deficits
 - ❑ Are recovering from schizophrenia or have major social cognition disabilities
 - ❑ Are able to read at a fifth grade level or higher
 - ❑ Have had some prior vocational or educational successes
 - ❑ Are at least marginally interested in recovery although CET is designed to work on amotivation

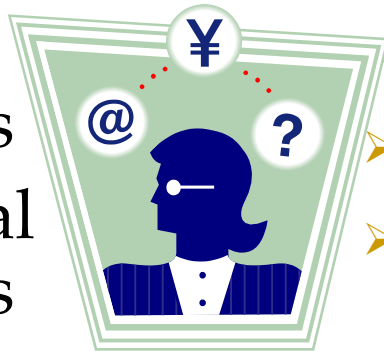


Ways CET benefits clients

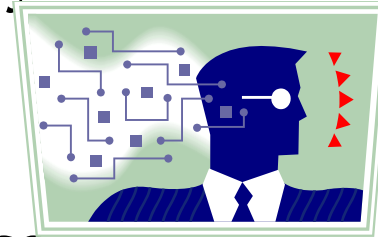
- Attention
- Memory
- Motivation
- Affect



- Awareness of social context
- Vocational effectiveness
- Interpersonal effectiveness



- Active Thinking
- Awareness of illness/disability
- Dependability
- Spontaneity
- Foresightfulness
- Perspective Taking
- Cognitive Flexibility
- Mental Stamina



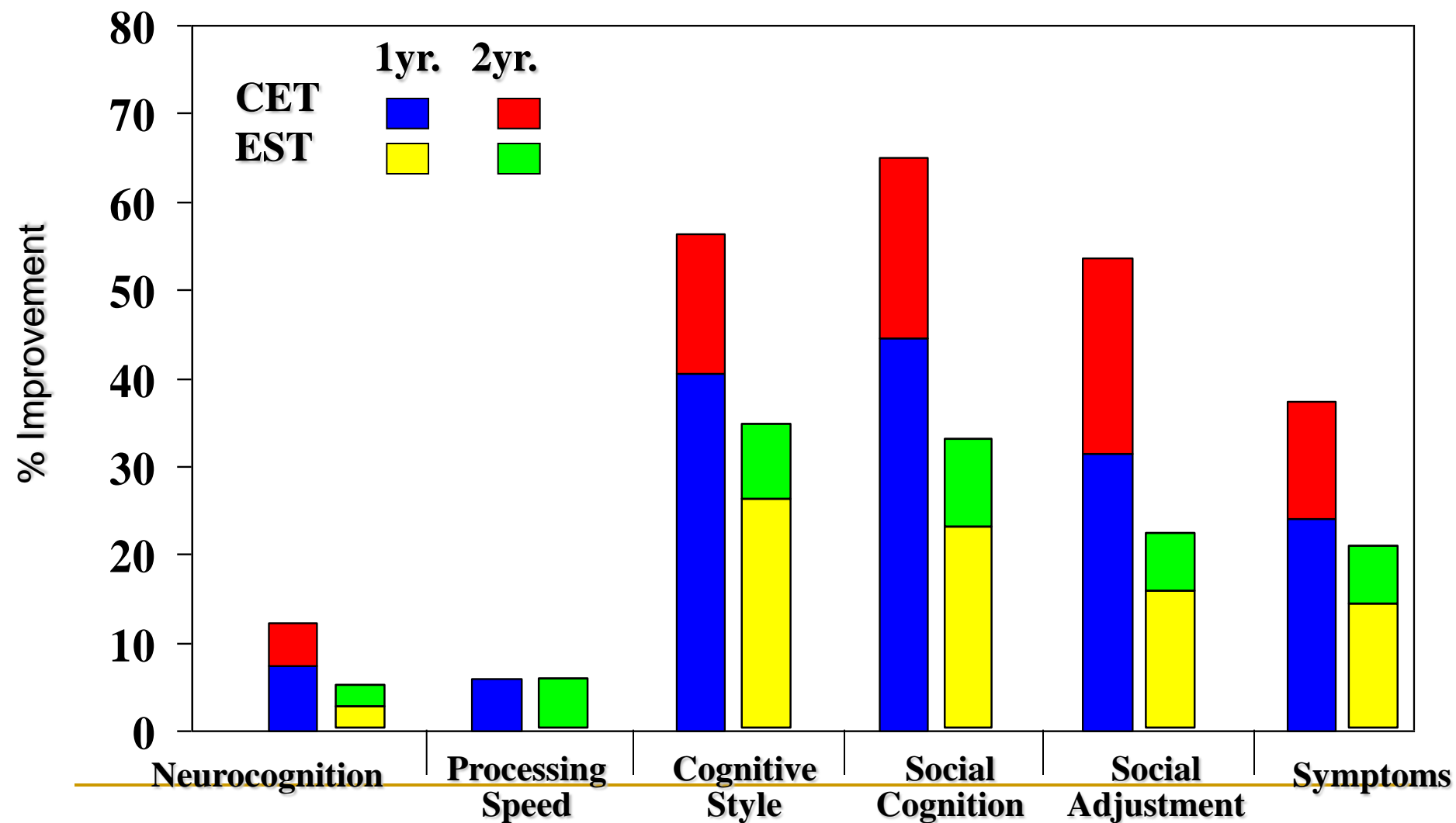
CET in Health Home: Didi Hirsch



- Received a SAMHSA Integration Grant 10/12
 - First to formalized using CET to improve physical health as well as mental health
 - Improved physical health results have been seen in other CET Programs
 - Will use CET as part of their overall Health Home Program
-

CET Effects on Early Schizophrenia

($N = 58$)



Effects of CET on Employment Outcomes in Early Schizophrenia; Eack, et al

Variable	CET (N = 24)		EST (N = 22)	
	N	%	N	%
Competitively employed	13	54	4	18
Job status				
Full time	6	25	3	14
Part time	7	29	1	5
Employment pattern				
Achieved employment	10	42	2	9
Maintained employment	3	12	2	9
Lost employment	0	0	6	27
Job category ^a				
Professional	1	5	0	0
Clerical/sales	5	23	1	5
Skilled manual labor	1	5	0	0
Unskilled labor	4	18	3	14
	M	SD	M	SD
Weekly earnings	207.92	337.97	69.77	156.47
Satisfaction with employment status ^b	2.46	1.56	3.77	1.69

Agencies that have trained staff

- Center for Cognition and Recovery, Cleveland
- Mercy Behavioral Health, Pittsburgh
- Community Support Services, Akron
- Jewish Family Services (JFSA), Cleveland
- PLAN of Southwest Ohio, Cincinnati
- Northcoast Behavioral Healthcare, Ohio DMH
- PLAN of North Texas, Dallas Texas
- West Virginia University Hospitals, Morgantown W VA
- City Mission of Washington, PA
- JEVS, Philadelphia PA
- JF&CS of St. Louis MO
- Bridgehaven MHS, Louisville KY
- LACDMH, Los Angeles, CA

134 CET groups completed as of 9-2013
with 945 CET Graduates

32 CET groups currently running

Current Disseminations: Tri-City MHC, Pomona CA
5/16/12; InterAct Michigan, Kalamazoo MI 10/30/12;
Connections and Horizon House, both in Wilmington,
DE 3/12; DiDi Hirsch, Los Angeles CA, 2/27/13;
Spindletop Center, Beaumont TX 3/19/13; Lake Shore BH,
Buffalo, 3/13/13; Veterans Affairs, Parma & Cleveland, OH
5/13; Lakes Regional Center, Terrill TX, 8/5/13; The
Mental Health Coop, Houston TX 8/19/13; Gulf Coast
Center, Galveston, TX 10/24/10

8 new CET sites in development in CA, NJ, KS, OH, OR,
PA, WA

Lessons Learned—Coaching Involves:

- Relearning patterns of interacting with group members, e. g., the support and challenge that coaching requires
- Developing a new awareness of functional impairments of group members
- Developing the skill to ask thoughtful questions of group members that challenge them to think for themselves rather than guess at what is expected of them.
- Being able to allow clients to fail and succeed with the right amount of support and challenge
- Learning a remediation/rehabilitation treatment orientation
- Becoming competent in neurocognitive software programs



Lessons Learned:

Dissemination Challenges

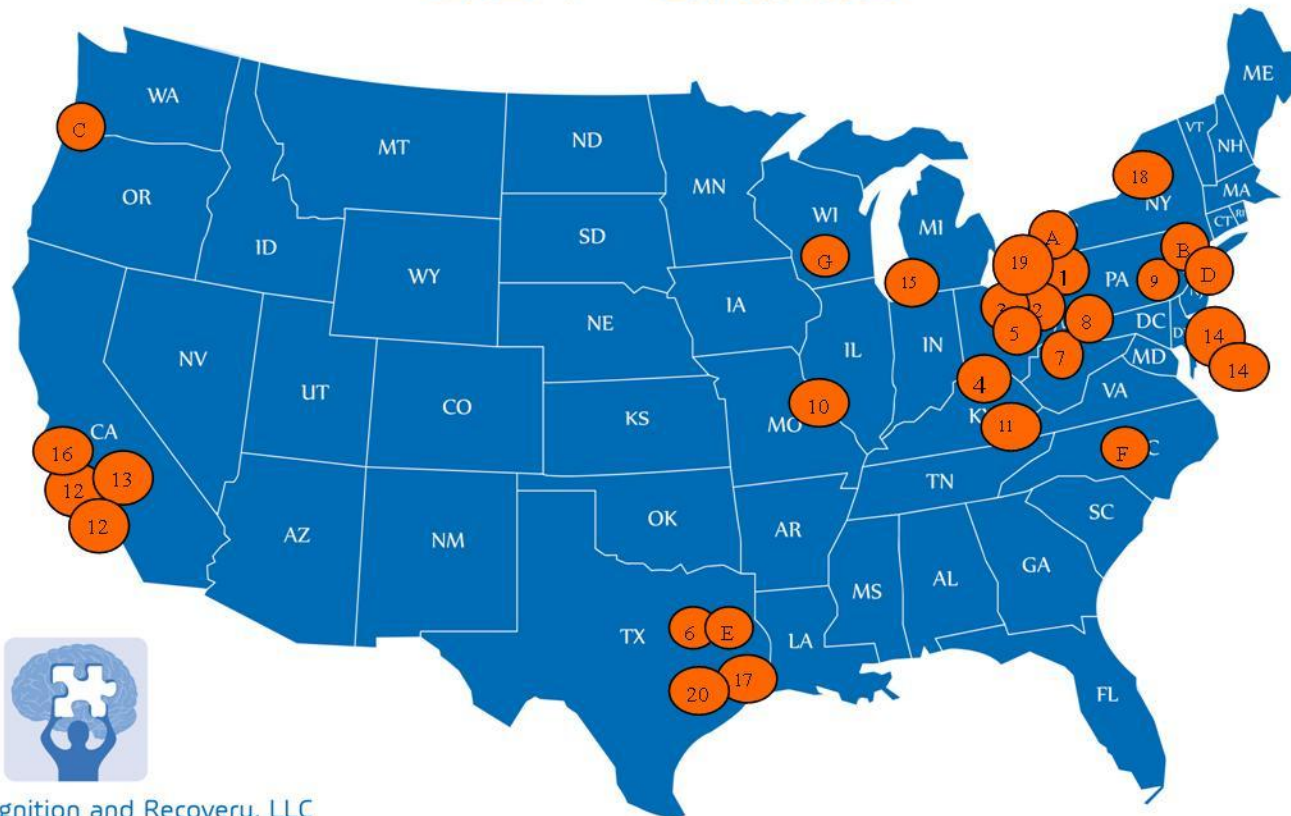
- CET and cognitive remediation is still a “new concept” for most agencies
 - Moving from maintenance treatment to active treatment requires major paradigm shift
 - Finding initial funding for CET
 - Agencies, staff, families and clients want a shorter timeframe than 48 weeks
 - But with the right combination of innovative leadership, CET can happen, e.g. Pomona Valley CET Advocates & LA Agencies
-

Daryl's Comments on how CET has helped

- CET helped, but how, I still do not know. Something inside me changed in social situations. I started to think about how others might feel or think, (perspective taking).
- I remember working with Anita and she became discouraged doing the computer exercises because I mastered them quicker. I had to learn to be a partner and not a competitor.
- I also got more of the gist and found myself not assuming what others knew, but gave them a motivational account for my actions or thought processes.



CET Cities



CET Sites

1. Pittsburgh, PA
2. Akron, OH
3. Beachwood, OH
4. Cincinnati, OH
5. Northfield, OH
6. Dallas, TX
7. Morgantown, WV
8. Washington, PA
9. Philadelphia, PA
10. St. Louis, MO
11. Louisville, KY
12. LACDMH, CA 2 sites
13. Pomona, CA
14. Wilmington, DE 2 sites
15. Kalamazoo, MI
16. Inglewood, CA
17. Beaumont, TX
18. Buffalo, NY
19. Cleveland, OH
20. Houston, TX

CET Sites in Development

- A. Erie, PA
- B. Philadelphia, PA
- C. Portland, OR
- D. Brick, NJ
- E. Terrell, TX
- F. Asheville, NC
- G. Oconomowoc, WI



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of Cleveland



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Center for Cognition and Recovery

2011 SAMSHA

Science and Service Award

Treatment of Mental Illness and
Recovery Support Services

Center for Cognition and Recovery, LLC

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