CETCLEVELAND®

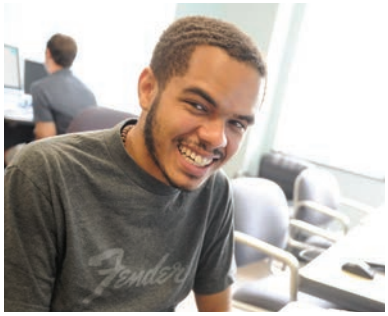
CET COGNITIVE ENHANCEMENT THERAPY

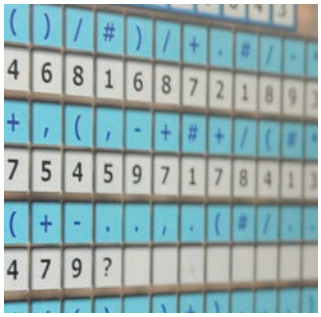
An overview of the Evidence-Based Practice

For people with schizophrenia and related cognitive disorders.

CET IMPROVES:

- Processing speed
- Cognition/thinking
- Social Cognition
- Meaningful roles
- Self-management of mental health and physical health
- Adjustment to and acceptance of disability





Substance Abuse and Mental Health Services Administration
SAMHSA
2011 Science and Service Award Winner

A Foundation for Recovery Success

CETCLEVELAND® is a community-based form of Cognitive Enhancement Therapy (CET), an Evidence-Based Practice designed to help people with schizophrenia and related cognitive disorders improve brain and cognitive development, social cognition, and increase vocational capabilities. CETCLEVELAND® is offered through The Center for Cognition and Recovery (CCR), an innovative organization that provides professional training and consultation to community-based and inpatient mental health and human service organizations that wish to provide CETCLEVELAND® to people recovering from schizophrenia and related mental illnesses.

INTRODUCTION

Brain, Mind & Social Context

Cognitive Enhancement Therapy (CET) is a SAMHSA (Substance Abuse and Mental Health Service Administration) recognized Evidence-Based Practice that helps people with schizophrenia and related cognitive disorders improve their processing speed, cognition, and social cognition. Research strongly suggests that impairments in these mental capacities contribute to functional disability in people with schizophrenia. CET rehabilitates these capacities and, thus, maximizes success in all activities of recovery. As a result, CET participants increase their potential to engage in meaningful social roles and to live independent, self-determined, and satisfying lives in the community.

EVIDENCE-BASED PRACTICE

CET has been proven effective in a study funded by the National Institute on Mental Health (NIMH). The results were published in *The Archives of General Psychiatry* in 2004, a peer-reviewed academic journal.

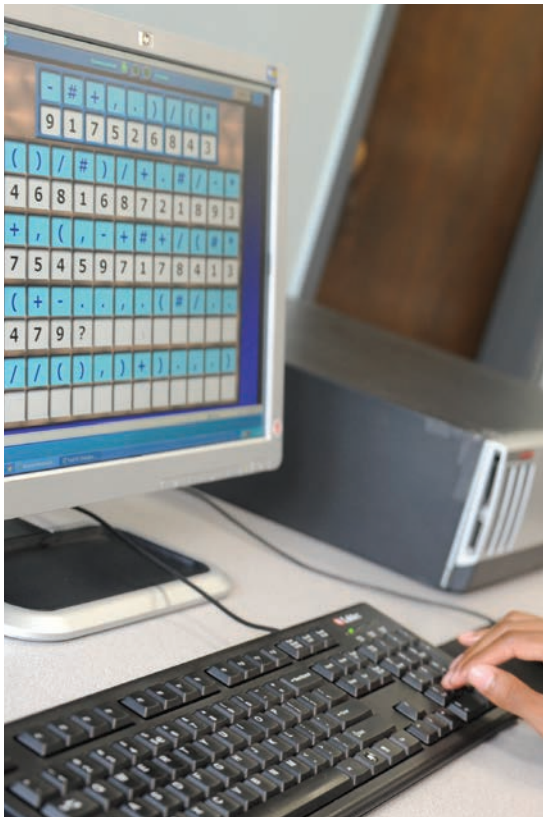
Additional results from an analysis of three years of data from this study were published in 2006. Below are a few facts about the original study:

- Two-year study
- Ages 18 to 55
- N=121 people with schizophrenia and schizoaffective disorder who met criteria for cognitive disability
- Randomized participation in the experimental CET group (n=67) and a control group—Enriched Supportive Therapy (EST) (n=54)
- Outcomes evaluated at 12 and 24 months

A NEURODEVELOPMENTAL INTERVENTION

Research shows that the human brain develops in infancy, childhood, and adolescence in the context of interpersonal (social) relationships with family members, friends, caregivers, and teachers, among others. In addition, brain development and personality development continue in adulthood and throughout life in the context of relationships with other adults.

Research also shows that the brain has a natural capacity to repair developmental delays and trauma. This is called **neuroplasticity**. This healing activity is more likely to occur when interventions induce people to use their brains. CET is designed to do this.



POSITIVE OUTCOMES OF CET

Research shows that after 12 months, participants in CET attain significant improvement in the mental capacities listed below. Participants also maintain these improvements at 36 months and continue to develop them over time.

I. Processing speed

Processing speed is a cognitive capacity that is a pre-requisite for all learning. People with schizophrenia and related cognitive disorders frequently experience impaired processing speed.

II. Cognition/Thinking

- Motivation, initiative, and energy
- Attention/concentration
- Working memory
- Verbal memory
- Problem solving
- Cognitive flexibility
- Mental stamina

III. Social Cognition

- Perspective-taking (of self and others)
- Gistful thinking (i.e., understanding the themes and meanings of verbal and non-verbal messages and avoiding digressions about unimportant details)
- Motivational account (i.e., giving a clear account of one's own actions and the actions of others)
- "Thinking on your feet"/Problem solving
- Abstract, active thinking vs. concrete passive thinking
- Role flexibility
- Fun/sense of humor
- Recognition and appreciation of spontaneity, especially in social situations
- Recognition and appreciation of the joy of achieving personal goals of the self and others
- Understand and master social norms.

IV. Meaningful roles

CET is designed to help participants eventually become socialized into meaningful adult roles that they identify as goals in their recovery plans. These roles often include the following:

- Friend
- Spouse
- Employee
- Parent
- Student

V. Self-management of mental health and physical health

This includes learning to know and to respond effectively to one's own subjective cues of distress. Early on in CET, the social cognition talks focus on helping individuals recognize the signs of stress that could lead to an exacerbation of the illness or to poor performance.

VI. Adjustment to and acceptance of disability

A NEURODEVELOPMENTAL DISORDER

CET views schizophrenia as a **neurodevelopmental** disorder. This means that some parts of the brain have not yet completely developed. For instance, research conducted with functional magnetic-resonance imaging (fMRI) has identified **reduced** activity in the prefrontal cortex of people with schizophrenia and related disorders. The prefrontal cortex is the center for attention, working memory, judgment, and decision making. It helps each of us transform emotions into thoughts and wise, appropriate actions. It also helps us regulate and edit emotions and thoughts. Impairments in cognition and social cognition among people with schizophrenia appear to be strongly correlated with delays in neurodevelopment.

STRUCTURED ACTIVITIES THAT EXERCISE THE BRAIN AND MIND

CET provides holistic, structured activities to help people with schizophrenia and related mental illnesses jump-start neurodevelopment, cognitive development, and social cognition. Therapists in CET are called Coaches. Similar to a coach on a sports team, they help each group member to set goals, meet real life challenges and succeed. These interventions occur in every CET session and include the following:

- Computer-based cognitive exercises/ interactive software
- Group-based interactions
- Individual (one-on-one) coaching sessions with each CET participant

A HOLISTIC INTERVENTION

Cognition/thinking and social cognition (the ability to interact wisely with others) are so closely related that it seems inaccurate to separate the two. However, we separate them for conceptual reasons—to help you make the distinction between the internal process of perceiving, feeling, and thinking and the external process of using feelings, thoughts, and perceptions to interact wisely with other people. Cognition and social cognition are so closely related that they influence and support each other. For example, CET challenges participants to pay attention (a cognitive capacity) so they can understand people better (a social-cognitive capacity). This is important because when participants understand other people better, it is easier for them to pay attention. This is why CET addresses both cognition and social cognition simultaneously.

Not Behavioral Therapy

CET is different from other psychotherapeutic techniques such as Cognitive Behavioral Therapy (CBT) that focus on helping people change the content of their thoughts and behaviors (e.g., to change negative ideas about the self into positive ones; to change asocial behavior into friendly interactions).

Instead, as CET focuses on the internal mental *process*, it naturally addresses the social content (speech and actions) that arises spontaneously among participants in the moment, in the room where the computer-based, group-based, and one-on-one therapeutic work of CET is taking place. CET participants do not become more competent in formulating specific kinds of thoughts and actions; rather, they become more competent in dealing wisely and effectively with a wide range of possibilities in the ever-changing spontaneous world of social interactions at home, work, school, and in the community.

Transforming Treatment

Current treatments for schizophrenia include a combination of medication, psychological counseling, and group-based interventions such as social-skills training, illness-management, and family psychoeducation, among others. Some treatment plans also include employment. Many interventions teach individuals daily living skills to enhance their performance of daily living tasks. Yet, these treatments often fall short, because they do not address the underlying neurodevelopmental and cognitive impairments that inhibit recovery.

In contrast, CET helps individuals enhance the mental capacities that produce awareness and wise social interactions that support them in *all aspects of* their treatment plans and their recovery journeys, which are lifelong and constantly changing. CET is not designed to replace other treatments that focus on symptom control, relapse prevention, and practical living skills. Rather, CET is designed to complement them.

ADJUSTMENT TO DISABILITY, COMBATING STIGMA AND SELF-STIGMA

Perhaps the most unique aspect of CET is the special attention it gives to helping participants adjust to and accept their disabilities. In the first few weeks of CET, participants learn a great deal about their impairments from social cognition presentations, discussions and from their experiences with the computer-based cognitive exercises. This understanding facilitates a personal process of adjusting to disability.

Through this process, participants learn that they *are not* a "schizophrenic" or "mentally ill"—that the disorder does not define their entire person or self. Rather, participants learn that they *have* an illness—that they not only have limitations but also strengths, talents, skills, interests, and much more. Going through this process of self-discovery and self-acceptance helps participants cope with stigma and to become realistically hopeful about their recovery.

A Multidisciplinary Approach

The creators of CET, Hogarty and Flesher, have intentionally used theory and research from multiple professional disciplines to arrive at the neurodevelopmental approach to rehabilitation. They developed CET because they were witnessing the limitations of other biopsychosocial treatments in their clinical practices and were reading about the limitations *behind* or *beneath* the symptoms (what was producing the limitations) so they could help people move beyond them. CET is built upon theory, research, and practice from the following disciplines:

- Cognitive psychology
- Psychology of disability
- Developmental psychology
- Social psychology
- Social work
- Neurophysiology
- Sociology
- Neuropsychology
- Vocational rehabilitation
- Psychiatry
- Cognitive Remediation

TRAUMATIC BRAIN-INJURY RESEARCH

CET is also inspired by rehabilitation programs for patients with traumatic brain injury. These programs are designed to utilize the brain's neuroplasticity to stimulate healing and to encourage participants *to compensate for* impairments. Research shows that these programs rehabilitate sectors of the brain that support cognition and social cognition. Programs using CET have been developed by:

- Yehuda Ben-Yishay, Ph.D., and colleagues at New York University: cognitive training and psychosocial cognitive remediation
- Odie Bracy, Ph.D., of Psychological Software Services, Indianapolis: computer software developed for use in the rehabilitation of traumatic brain injury
- H.D. Brenner, Ph.D., of Switzerland: Integrated Psychological Therapy (IPT)—cognitive rehabilitation methods that integrate exercises for basic cognition with social interactions for social problem-solving
- William Spaulding, Ph.D., of the University of Nebraska: IPT

SOCIALIZATION AND SOCIAL ROLES

There is a belief among many providers of mental health services that people with schizophrenia and related mental illnesses experience impairments in social cognition and social interaction after the onset of their first psychiatric episode. Some also believe there is a regression to an earlier stage of psychological development. However, research suggests that "high-risk children who eventually develop schizophrenia" simply fail to develop their ability to interact wisely with others at the same rate and with the same amount of success as their peers who are not at-risk. As a result, people with mental illness are often socialized into limited roles in life, such as the role of an underemployed or unemployed patient.

CET intentionally challenges service providers and CET participants to use an interpersonal process called secondary socialization to help participants enhance their social cognition and, thus, expand their opportunities for achieving social roles that they have identified as part of their recovery plans.

Socialization

Social cognition is the ability to interact wisely with others. *Socialization* is the process of learning from other people (e.g., parents, other caregivers, relatives, peers, etc.) the informal rules of interacting wisely and effectively. It is also the process by which individuals learn to negotiate the various roles they play throughout life, such as child, sibling, student, group member, adult, spouse, parent, and employee, among others. Socialization takes place across the lifespan. There are basically two kinds of socialization, which are briefly described below.

PRIMARY SOCIALIZATION

In childhood, individuals learn the concrete rules of the physical world and interpersonal relationships with instruction and discipline of parents and other adults who must set limits for them (e.g., "do" and "don't", "right" and "wrong"). This is called *primary socialization*. Primary socialization is very directive and is particularly well-suited for the minds of children, who possess the following mental capacities, among others:

- Concrete thinking (e.g., attention to many specific details)
- Verbatim memory (e.g., memory of many specific details)

SECONDARY SOCIALIZATION

In adolescence and young adulthood, the socialization process begins to change. Individuals learn how to detect, evaluate, test, and utilize the unwritten and often unspoken rules of social interactions with peers and adults. This knowledge is gained through trial, error, and success. In other words, individuals learn what is right (acceptable) and wrong (unacceptable or inappropriate) actions in many different social settings with feedback from many

different people. This is called *secondary socialization*. It is the process that adults use to socialize each other throughout life. Secondary socialization requires individuals to utilize social-cognitive capacities successfully (for a list, see "Positive Outcomes" section on page 3).

NOT "GETTING IT"

With secondary socialization, people expect each other to get *the gist* (i.e., themes, main ideas) of their interactions and not get stuck on or distracted by details. In other words, people expect each other "to get it", and to get it quickly. Individuals who do not appear "to get it" are often excluded from social networks rather quickly and are not socialized into adult roles. In and concrete thinking for learning are at-risk of missing the gist of social situations and, therefore, are at-risk of not being socialized into adult roles. This appears to be the case with many people who are vulnerable to schizophrenia and related mental illnesses.

TRANSITION FROM PRIMARY TO SECONDARY SOCIALIZATION

The first debilitating episode of mental illness typically comes during a time when a young person is attempting to negotiate the move from primary socialization (e.g., the predictable structure of family and school) to secondary socialization (i.e., the more spontaneous, unstructured interactions of autonomous adult relationships). The triggers that lead to a first episode might include the following:

- The first time away from home at college or in the military
- The challenge of getting and maintaining employment
- Starting a career
- Negotiating numerous friendships, romantic relationships, and work environments

Social Roles & Schizophrenia

There is an understandable temptation for health and human service providers and family members to utilize primary socialization with people who have impaired cognition and social cognition. Unfortunately, caregivers who rely upon primary socialization tend to be directive and to "do for" the people they are trying to help. This approach denies them the benefits of secondary socialization and self-directed, wise actions. As a result, people with mental illness often get socialized into the role of a patient and do not develop the capacities to participate in many life-roles, including the following: friend, spouse, parent, student, employee.

COMPONENTS OF CET

The "Gist" of CET

CET uses the process of secondary socialization to help people with schizophrenia and related mental illnesses recover the ability to continue neurodevelopment and the development of cognition and social cognition. CET places emphasis upon "unrehearsed but clinically guided" real-life interpersonal experiences. This enables participants to attain age-appropriate social-cognitive capacities and achievements.

By exposing CET participants to the more challenging demands of secondary socialization, CET coaches/therapists help participants exercise their brains and enhance their capacities for the adult roles to which they aspire. CET coaches refrain from responding to participants with the directive approach of primary socialization. Instead, they respond to participants as adults.

Eligibility Criteria

- Individuals who meet criteria for cognitive disability:
  - Schizophrenia
  - Bipolar Disorder
  - Chronic Depression
  - High Level Autism Spectrum Disorder
  - Schizoaffective Disorder
- 18 years of age or older
- In recovery phase of treatment
- Stable symptoms
- Medication compliant
- Does not have a substance use disorder, or are abstinent if there is an SUD
- IQ of 80 or above
- Able to read at a fourth-grade level
- English or Spanish speaking

Core Components

1 TIME-LIMITED

- 1 day per week
- 48 weeks
- 3-1/2 hours per week
  - Computer-based cognitive exercises (1 hour)
  - Social cognition group (1-1/2 hours)
- Individual coaching session with each participant (.5 to 1 hour)

2 SMALL GROUPS & PERSONALIZED ATTENTION

Enrollment in each CET group is no less than 8 and no more than 12 participants. This enables the two CET coaches/therapists to provide personalized attention to each participant. The small group size enables participants to develop supportive peer-relationships and networks.

3 CET COACH/THERAPIST

CET coaches can be social workers, counselors, psychologists, nurses, case managers, vocational counselors or related disciplines who are trained to help participants enhance cognition, social cognition, and other mental capacities. Coaches are abstract thinkers who are able to refrain from using the process of primary socialization of "doing for" clients. Coaches engage with participants in a process of secondary socialization to help them reflect upon, become aware of, and utilize their feelings, thoughts, and perceptions to plan and execute wise actions that get effective results. In other words, CET coaches help bring out the best in each person.

There are two coaches in each CET group. They provide group coaching as well as individualized one-on-one coaching to each participant in separate non-group sessions. Coaches guide participants through the process of utilizing computer-based exercises, group-based exercises, and one-on-one interactions to stimulate cognition and social cognition. Coaches respectfully challenge incomplete, hard-to-understand, and inappropriate speech and actions as a way to help participants become more aware of how they are perceived by others. Coaches support participants through the difficult feelings that arise as they learn new ways of thinking and interacting. Difficult feelings often include frustration, shame, fatigue, apathy, confusion, and disappointment, among others. Coaches also support participants through pleasant experiences of joy and pride that come with accomplishments. They also encourage everyone to enjoy the humor that arises spontaneously during group activities.

Like CET participants, coaches learn to tolerate the ambiguity of spontaneous social interactions in CET groups and learn that there are no right or wrong answers, just effective and ineffective speech and actions.

4 INDIVIDUALIZED ASSESSMENT

Before the onset of CET, coaches meet individually with each participant to assess him or her for the following:

- Cognitive impairment
- Social-cognitive impairment
- Cognitive style (e.g., unmotivated, disorganized, or rigid thinking)

5 INDIVIDUALIZED TREATMENT PLANNING

CET coaches collaborate with each participant to help him or her identify goals that pertain to his or her cognitive development. Together, they develop a treatment plan. The plan is posted in the room where the CET group meets (with the participant's permission) to serve as a constant reminder of each person's individual goals. As the participants progress thru CET, the treatment plan is updated to focus on new goals.

6 WORKING WITH A PARTNER

Each CET participant works with another participant as a partner during the computer exercises and the social cognition group. The partnerships provide participants with a sense of familiarity, safety, trust, and belonging. The partnerships also challenge individuals to exercise attentiveness and listening, to offer support, to collaborate, and to engage in negotiation and conflict resolution. When CET participants interact one-on-one with a partner, they are able to experience and process a limited number of social cues, which minimizes anxiety and stress. When they work in groups, they are challenged to process multiple social cues simultaneously.

7 COMPUTER-BASED COGNITIVE EXERCISES

Before the social cognition group work of CET begins, CET participants, in a group setting, work with a peer-partner on computer-based exercises. This helps participants acclimate to the CET environment. CET uses a variety of software that challenges participants to exercise and rehabilitate specific capacities, such as attention, memory, processing speed, sorting, categorizing, and predicting, among others. The software has been obtained from the rehabilitation research, theory, and practice of multiple disciplines.

8 SPECIFIC GROUP STRUCTURE

Many people with schizophrenia and related cognitive disabilities tend to feel overwhelmed and threatened by spontaneous, unpredictable interactions. Therefore, the structure of each group session is intentionally similar each week. This provides a framework of predictability, which provides another level of safety and trust. The group structure is also designed to provide an environment that encourages and allows for spontaneity and unpredictability of social interaction. Below is a brief outline of the group structure that follows a set agenda:

- Welcome back
- Selection of participant to chair the homework section of the group (encourage leadership and peer collaboration among participants)
- Each member discusses homework questions (connects social cognition talk to real life).
- Social cognition talk & discussion (i.e., curriculum topics) (see #11)
- Group-based cognitive exercises (requires participants to interact with a partner in front of the whole group)
- Each group member provides feedback to the persons who have completed the cognitive exercise.
- Reading of next homework assignment (connects talk to real life)

9 GROUP-BASED WORK

As part of the structure of the weekly CET session, participants attend a social cognition group that addresses a curriculum which focuses on a different topic/lesson each week. Each participant takes turns chairing the discussion. The group work encourages participants to engage in many learning activities, some of which are listed below:

- Pay attention (and manage mental drifting)
- Be aware of and sensitive to changing verbal and social contexts—to figure out how to respond appropriately in new and complex social situations
- Think and speak gistfully (i.e., identify and articulate themes and avoid digressions about unimportant details)
- Take notes to pay attention and to organize, analyze, and prioritize information
- Give and receive respectful, relevant feedback
- Work in teams and negotiate with peers and coaches
- "Think on your feet" to solve problems spontaneously as social situations change
- Engage in homework assignments about social-cognition scenarios that are increasingly challenging
- Explore and understand the nature of one's own mental illness

10 HOMEWORK

After the weekly group, each participant prepares a homework assignment individually with a CET coach in a separate, one-on-one session. Homework compliments the social cognition presentations and discussions by requiring participants to reflect upon and apply to their daily lives the concepts they learned during the group. During the next group session (in the following week), each participant is required to answer the homework questions in front of their peers and coaches, who ask mostly open-ended questions to help each person reflect and elaborate upon his or her presentation spontaneously—in the moment and without rehearsal. This interaction requires participants to "think on their feet", to process information "on the spot", and to exercise their brains. In this way, participants learn to hold several thoughts and feelings in their minds, to compare and synthesize their ideas, and to engage in speech that is relevant to the situation.

11 SPECIFIC CURRICULUM

The CET curriculum covers 48 weeks of CET's duration. Each session focuses on a different social cognition topic. This content provides a focal point of discussion with which to practice, exercise, and master the cognitive and social-cognitive processes. Some examples of the social cognition topics in the curriculum include the following:

- Rationale for CET
- How the brain works
- Attention and memory
- Methods for dealing with criticism
- How to take the perspective of others
- How to accept and adjust to a disability/impairment
- How to cope with stigma
- How to establish meaningful life roles

Each group member passes milestones during his or her work in CET by making presentations without notes. The milestone events culminate in a graduation speech.

12 GRADUATION

At the end of CET's 48-week curriculum there is a formal graduation celebration that is attended by CET participants, coaches, family members, and others invited by the graduates. The purpose of the event is to publicly acknowledge the hard work and accomplishments. At the celebration, each CET participant speaks publicly about his or her experiences and achievements in CET. It is an opportunity to publicly demonstrate new social competence.

ADDITIONAL COMPONENTS

FAMILY CET

CET strives to integrate family members into the recovery process. Family members are invited to some of the milestone-events that take place periodically in CET group. They are also invited to graduation. A brief multiple-family group social cognition class is available for family members. This gives them the knowledge, awareness, and capacity to understand the disability and to avoid the directive "do for" interactions of primary socialization and to engage in secondary socialization while interacting with their loved ones. Family members who understand and use CET concepts and techniques are equipped to compassionately support and advance recovery.

POSTCET

POSTCET is an opportunity for those who have graduated from CET to hone their enhanced cognitive and social skills in the familiar structure that CET provides. Participants are challenged to apply concepts they have learned in CET on a more abstract level within an orientation toward more independent functioning. It is usually one hour per week and more informal.

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SOURCES

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For more information and recent research on Cognitive Enhancement Therapy, visit our website at **www.cetcleveland.org**.

ABOUT THE CENTER FOR COGNITION AND RECOVERY, LLC

The Center for Cognition and Recovery provides training and consultation to community-based and inpatient mental health and human service organizations that serve people recovering from schizophrenia and related mental illnesses. Services include:

- CETCLEVELAND® Training for coaches/therapists
- Ongoing consultation with CETCLEVELAND® coaches/therapists
- Education of mental health professionals and students
- CETCLEVELAND® fidelity to model
- Pre and Post Testing
- Assistance with grant writing to public funders and private foundations
- Bilingual programming in Spanish

EXPERIENCED TRAINERS

CCR trainers are professionals in social work, nursing, psychology, counseling, vocational rehabilitation and other related disciplines. They are also experienced CET coaches who have provided direct service to individuals recovering from mental illness.

CETCLEVELAND®

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mhac Mental Health & Addiction Advocacy Coalition

NAMI Ohio National Alliance on Mental Illness

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