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Short communication

# Adapting cognitive remediation to a group home: A brief report

Russell K. Schutt[a,b,*], Larry J. Seidman[a], Shaun M. Eack[c], Barbara Deck[d], Matcheri S. Keshavan[a]

[a] Massachusetts Mental Health Center, Department of Psychiatry, Beth Israel Deaconess Medical Center, Harvard Medical School, United States
[b] University of Massachusetts, Boston, United States
[c] University of Pittsburgh, United States
[d] EIKOS Community Services, Inc., Boston, United States

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ABSTRACT

*Objective:* This pilot project was designed to develop procedures for and test the feasibility of implementing Cognitive Enhancement Therapy (CET) in a group home environment, with a goal of maximizing treatment efficacy by augmenting social engagement in group CET sessions with ongoing social interaction.
*Methods:* Six participants who met criteria including chronic schizophrenia were recruited in a group home with 30 residents. After two months of CET, pre-and posttest measures, including cognitive tests, were administered and qualitative interviews were conducted periodically. Interaction was observed in the house and staff members were interviewed in a focus group.
*Results:* Five of the initial six participants completed the intervention—which continued for a total of 45 weeks—engaging in weekly group CET sessions and computer exercises outside of the formal sessions. All participants liked the computer exercises, and all but one participated in and reported enjoying the group exercises. Observations and staff comments indicated increased social interaction and sustained impact for some residents. Some aspects of cognitive functioning improved for some participants during the initial two months.
*Conclusions:* CET now needs to be tested more formally to determine if it can be delivered successfully in other group homes with a manualized procedure. The idea should be tested that feedback effects due to the sustained social contact may enhance the effectiveness of CET in group homes and lead to larger, sustained gains in community functioning. Clinicians who provide cognitive interventions should focus attention on the social context in which treatment is delivered and consider providing treatment to patient groups whose daily, ongoing social interaction can enhance its effects.


Deficits in social cognition are a core feature of schizophrenia and a key impediment to effective community functioning (Dickinson et al., 2007; Lee et al., 2015; Penn et al., 1997; Seidman 2015), but they can be improved by systematic training (Sergi et al., 2007; Mehta et al., 2013). What remain to be determined are the program features that are most effective in improving social cognition (Keshavan et al., 2014; Vauth et al., 2004).

We present a pilot study to examine the feasibility of delivering a cognitive enhancement therapy program in a group setting in order to augment gains in social cognition. After elaborating our theoretical rationale, we describe our approach to delivering an adapted version of Cognitive Enhancement Therapy (CET) in the social context of a group home. CET is a validated treatment method for enhancing the cognitive functioning of individuals with schizophrenia who have deficits in social functioning (Hogarty and Flesher 1999; Hogarty et al., 2004; Eack et al., 2009). Although CET uses group interaction as a treatment tool and social functioning as a key desideratum, it previously has been delivered only to outpatients who participate in weekly therapy sessions in clinics.

## 1. Cognitive remediation in theory and practice

A growing body of evidence indicates that both neurocognitive and social cognitive deficits can be lessened with systematic

* Corresponding author at: Department of Sociology, University of Massachusetts, Boston, MA 02125, United States.
*E-mail address:* russell.schutt@umb.edu (R.K. Schutt).

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**Table 1**
Interviewer Summary of Participant Comments About CET.

| ID | How has it been going? What do you like about CET? | What have you learned from your CET experience? What problems have you had with CET? |
|---|---|---|
| 1 | going good, good to exercise your mind | Learned to value attention span. Only problem is his low percentages |
| 2 | Going well, enjoys some of the group exercises | Can't pinpoint a specific thing learned. Has had no problems. |
| 3 | CET going better; feels more focused. | Had problems with distractions, feels CET is helping |
| 4 | Finds it worthwhile and challenging in a good way. | Computer activities are entertaining and almost like fun, but still challenging. Finds staying focused during group hard sometimes. |
| 5 | Good, likes all the communication | Getting better at asking people to explain things, has no problems. |

training programs and that the most efficacious programs add a socially oriented dimension to activities (Glynn et al., 2002; Kern et al., 2009; Keshavan et al., 2014; Kurtz and Mueser 2008; McGurk et al., 2007; Roder et al., 2006; Vauth et al., 2004; Wykes et al., 2011). Some research suggests that gains in social cognition are the mechanism by which neurocognitive gains lead to improved community functioning, although there is also support for independent effects of both neurocognition and social cognition on community functioning (Corrigan and Toomey 1995; Eack et al., 2011; Lee, Horan, & Green 2015; McGurk and Mueser, 2004; Hogarty and Flesher, 1999)

Cognitive Enhancement Therapy (CET) is an enriched cognitive training program that integrates computer-based cognitive exercises with an active social-cognitive group experience designed to facilitate perspective-taking, *gistful* processing of information, and social context appraisal. Its efficacy has been established in randomized trials based in hospital clinics (Hogarty et al., 2004; Eack et al., 2009). Because it gives special attention to improving social functioning, CET is well-suited to delivery in a social context in which ongoing social interaction between participants can enhance the effects that have been obtained when it is delivered on a weekly basis to groups of individuals who only interact during the CET sessions. Prior research on the impact of social context on individual functioning suggests that such an environmentally oriented approach should create a "virtuous circle" of self-reinforcing positive feedback between individual functioning and engagement in the social environment (Caplan et al., 2006; Schutt et al., 2005, 2007, 2015; Schutt, 2011:91-119; Seidman et al., 2003).

## 2. Methods

We designed a pilot effort to demonstrate the feasibility and acceptability of and potential for delivery of CET in a group home—EIKOS, a private psychiatric residence in Boston serving 30 persons with psychiatric or developmental disabilities. We also sought to identify ways in which CET may need to be adapted for this setting and patient population. The study was not powered to test treatment efficacy.

### 2.1. Subject selection

After approval from the Beth Israel Deaconess Medical Center Institutional Review Board, staff announced the pilot study to residents and asked each individually about their interest. Eligibility was based on: a DSM-IV diagnosis of schizophrenia or schizoaffective disorder, as determined by chart review; 18 years or older; English as a first language (or were capable of communicating fluently in English); stability of positive symptoms; maintenance antipsychotic medication regimen; presence of social and cognitive disability (assessed with the Cognitive Style and Social Cognition Eligibility Scale; Hogarty et al., 2004); an IQ of at least 80 (estimated by the WRAT-4 reading test) (Griffin et al., 2002); and for whom staff indicated no medical contraindications (Hogarty et al., 2004; Hogarty and Greenwald, 2006). Six of the 15 residents met these criteria, gave informed consent to participate, and were enrolled. None was a proficient computer user at baseline.

### 2.2. Measurement

The six participants were assessed for neurocognitive performance at baseline and in a posttest using the MATRICS battery (Green et al., 2008; Neuchterlein et al., 2008) and for functional abilities using the UCSD Performance-based Skills Assessment (UPSA) (Patterson et al., 2001). Self-efficacy, depression, residential experience, and residential preferences and satisfaction were measured with baseline and posttest interviews, open-ended questions about living in the group home also were asked at baseline, and there were additional questions about the CET experience at the study's halfway point and in the posttest. A project research assistant recorded observations at least one day each week during the pilot. Staff participated in a focus group at the project's end.

### 2.3. The treatment process

CET is a manualized treatment program that combines computer-based training to improve such neurocognitive skills as attention, memory, and problem solving with group sessions to develop social cognition (Hogarty and Greenwald, 2006). The computer-based neurocognitive training sessions engage a pair of participants for an hour of training in attention, memory, and problem-solving that is coached by a clinician and uses software developed by Ben-Yishay et al. (1985) and Bracy (1994). The group sessions involve 6–8 participants, also led by a clinician, with participant presentations, discussions, and exercises, as well as homework activities. CET is designed to be delivered over 60 weeks, beginning with computer exercises for several weeks that continue after the group sessions begin.

In this adaptation of CET for a feasibility study in the group home environment, four house staff were selected to deliver CET after an all-day training session and a 2-h orientation session at the group home, and review of the CET manual. A computer was installed in a separate room for the computer sessions (available at other times also), while the group sessions were used in a larger room at the home that was reserved for this purpose at the required times. The treatment period for research purposes was shortened to two months due to funding limitations, with the group sessions starting after two weeks of computer training and continuing for 6 sessions until the post-test period. The same exercises and manual were used as described in the manual during this period, and additional sessions continued after the first six months until the entire program had been delivered. The trained staff supervised all sessions, with weekly phone supervision of the staff by a CET expert.

The six residents were matched in three pairs for the computer training on the basis of cognitive functioning as reflected in the WRAT Reading score and the cognitive style inventory (one all-male pair, one all-female, and one mixed). One of the six participants dropped out of the project when the group sessions