Neuropsychology/Cognition in Schizophrenia: SST procedures to decrease the cognitive load on group members

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Instructional Goals

After attending this presentation, participants will be able to:

1. Articulate the general cognitive challenges found in Schizophrenia.
2. Provide a statement about the cognitive requirements for SST.
3. Demonstrate an overall understanding of the supports inherent in SST to reduce the cognitive load on group members.
Social skill consists of three interrelated functions:

1. **Social perception**
   ability to perceive social cues accurately

2. **Social problem solving**
   ability to analyze the social situation correctly and identify an effective response

3. **Behavioral competence**
   ability to implement the response effectively
Domains of Cognitive Impairment

- **Attention**
  - Deployment
  - Effortful
  - Sustained

- **Memory**
  - Working memory
  - Semantic/episodic memory

- **Processing speed, capacity**

- **Higher level processing**
  - Problem solving
  - Executive functioning
Domains of Cognitive Impairment

• “Theory of mind” (perspective taking)
  – Recognition of facial expressions/other expressions of emotion/social cognition

• Neuropsychological assessment
Table 1 Tasks more or less likely to be affected in schizophrenia

<table>
<thead>
<tr>
<th>More affected</th>
<th>Less affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive</td>
<td>Non-executive</td>
</tr>
<tr>
<td>Effortful</td>
<td>Non-effortful</td>
</tr>
<tr>
<td>Controlled</td>
<td>Automatic</td>
</tr>
<tr>
<td>Serial</td>
<td>Parallel</td>
</tr>
<tr>
<td>Conscious</td>
<td>Unconscious</td>
</tr>
</tbody>
</table>
Components of Illnesses (SMI)

- **Psychotic Symptoms**: e.g. hallucinations, delusions
- **Negative Symptoms**: e.g. anergia, anhedonia, amotivation
- **Cognitive Impairment**: e.g. working memory, executive functions, attention
Neuropsychological Assessment and SMI in Veterans—selected points

• Range of levels from “normal” to severe impairment.
• Structured Clinical Interview for DSM disorders (SCID); Positive and Negative Syndrome Scale for Schizophrenia (PANSS); Scale for the Assessment of Negative Symptoms (SAPS);
• HRB—Category Test, Trailmaking B, TPT Location
• Measurement and Treatment Research To Improve Cognition in Schizophrenia Consensus Cognitive Battery (MATRICS)
• Wisconsin Card Sorting Test (WCST)
• Continuous Performance Tests, Digit Vigilance
Behavioral Components of Social Skill

- **Speech Content**
- **Paralinguistic Features**
  - voice volume
  - pace
  - pitch
  - tone
- **Nonverbal Behavior**
  - proxemics
  - kinesics
  - gaze
  - facial expression
Model of Social Skills, SST, Mediators and Functional Outcome

- Social Skills
  - Mediating Variables
    - Neurobiological Factors
    - Environmental Factors
  - Functional Outcome Domains
    - Social
    - Occupational
    - Independent Living
    - Rehabilitation Success
    - Substance abuse
Model of Social Skills, SST, Mediators and Functional Outcome

Social Skills Training

Social Skills

Mediating Variables

Neurobiological Factors

Environmental Factors

Functional Outcome Domains

Social
Occupational
Independent Living
Rehabilitation Success
Substance abuse
SST and Cognitive Impairment

Good Verbal Memory

- Pretreatment
- Post-treatment

Poor Verbal Memory

- Pretreatment
- Post-treatment

Review of Training Procedure

• **Instructions**: what to do and why
  - keep it simple
  - keep it relevant

• **Modeling**: illustrate how to do it
  - keep it simple
  - keep it relevant

• **Role Play**: rehearsal
  - keep it brief
  - make it successful

• **Positive Feedback and Shaping**: 
  - keep it positive

• **Repeat Role Plays**: 
  - repeated practice
Areas of Support for Cognitive Functions: Selected Examples

• Overall group sequence, posted in more than one location (Premack principle)
• Small groups with active focus on enhance participation
• Steps of the current skill on the board and held by attendees
• Modeling of the skill with discussion (multimodal encoding)
• Successive approximations and error free learning (decreasing cognitive load)
• Generalization of training built in (specific outside practice to decrease need for abstraction)
### Review of Areas of Effectiveness

<table>
<thead>
<tr>
<th>Outcome Domain</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptoms</td>
<td>N</td>
</tr>
<tr>
<td>Relapse</td>
<td>N</td>
</tr>
<tr>
<td>Behavioral skills</td>
<td>Y</td>
</tr>
<tr>
<td>Social role function</td>
<td>Y</td>
</tr>
<tr>
<td>Specialized skill</td>
<td>Y</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>Y</td>
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Example References


Questions???