EXAMINING PEERS® FOR YOUNG ADULTS: IMPROVEMENTS IN SOCIAL SKILLS AND DEPRESSION AND RELATIONS TO BRAIN ACTIVITY

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Outline

- Transition to adulthood
- Adults with ASD: Challenges and Strengths
- PEERS® for Young Adults
- Research findings
- Future directions
Transition to Adulthood

- Young adulthood is a unique period of development for all people.
- Caregivers are aging, who do young adults turn to?
  - Increased importance of peers
  - Increased independence
- **Social relationships** crucial for success in:
  - Workplace
  - Higher education (if pursuing this route)
Transition to Adulthood

- At the same time, young adulthood is a time of rapid brain development for all people
  - Brain not fully developed until about 25-30 yrs.
  - Refinement of existing connections, addition of new connections, especially in “social brain” areas such as the frontal and temporal lobes
  - **Mood challenges** affect brain function and development and can have long-term effects
  - Mood problems may be linked with overactivity and disorganization of brain activity
- Positive experiences are necessary to trigger healthy brain development/good mental health
Adults with ASD

- Dissatisfying social relationships
- Isolation
- Under- or unemployment
- Depression, Anxiety, and Suicidality

Social skill challenges
Strengths of Individuals with ASD

- Loyal friends
- Honest and unbiased in judgment toward others
- Pay close attention to detail
- Passionate commitment to ideas
- Demonstrate originality in approaching problems
- Work diligently/task-focused
- Strong sense of justice and fairness
Intervention for Young Adults

- Capitalize on strengths and brain development
- Teach skills to help navigate new social contexts

PEERS® for Young Adults
PEERS® for Young Adults (YA) Intervention

- Evidence-based on research (Gantman, Kapp, Orenski, & Laugeson, 2011)
- 16-week intervention with publicly available manual
- For young adults who want to improve their relationships
- Caregivers included
- Teaches social skills needed to develop a quality friendship or relationship
PEERS® Sessions

- 1. Conversational Skills Part I: Trading information
- 2. Conversational Skills Part II: Two-way conversations
- 3. Conversational Skills Part III: Electronic communication
- 4. Choosing appropriate friends
5. Use of humor
6. Peer Entry Part I: Entering a conversation
7. Peer Entry Part II: Exiting a conversation
8. Get-togethers and being a good sport
■ 9. Dating Part I: Letting someone know you like them
■ 10. Dating Part II: Asking someone out
■ 11. Dating Part III: Before, during, and after dates
■ 12. Teasing and embarrassing feedback
13. Chronic bullying
14. Rumors and gossip
15. Handling arguments and disagreements
16. Graduation and completion
PEERS® Sessions: Evidence-Based Methods of Instruction

- Direct instruction
  - Structured lessons
  - Concrete rules/steps of social etiquette
  - Valid social skills → what works in the real world

- Role-playing/modeling
  - Appropriate and inappropriate demonstrations

- Behavioral practice
  - Accompanied by in-class coaching and performance feedback

- Homework assignments → so skills carryover to new settings

- Caregivers as social coaches
Objective & Hypotheses

- No known published studies that have repeated the initial PEERS® for Young Adults study at UCLA
- No studies that have evaluated effects on brain function/mood

Hypothesis 1:
Improvements in social skills and decrease in depression

Hypothesis 2:
Changes in brain activity

Site of development

Independent site
Timeline

- YA participants and their caregivers completed questionnaires.
- YAs completed neurological assessment via electroencephalogram (EEG), a direct measure of the electrical activity of the brain.
- 16 YAs with ASD (18-27 years old)
  - EXP = Experimental group who received PEERS immediately
  - WL = Waitlist control group who did not receive PEERS immediately

**EXP**
- Intake
- PEERS
- Outtake

**WL**
- Intake
- No Treatment
- Outtake
Neurological Measures

- Net with 64 sites measuring electrical activity on scalp
- Groups of sensors averaged to correspond to larger brain areas
- No task
  - Eyes open
  - 3 minutes
Results: Behavioral Findings

- Changes:
  - ↓ in depression for EXP group
    - No change in WL group
  - ↑ in social skills for EXP
    - No change in WL group
Results: Neurological Findings

- EXP group showed changes over time that the WL group did not.
- EXP group showing electrical activity more indicative of positive mental health/mood in “social brain” areas.

**EXP: Main Effect for Time**

\[ F(1,28) = 18.23, p < .001; \text{partial } \eta^2 = .35 \]

**WL: No Main Effect for Time**

\[ F(1,28) = 0.18, \text{ns}; \text{partial } \eta^2 = .004 \]
Decreases in electrical activity were significantly related to decreases in depression scores.

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<th>BDI Total</th>
<th>Beta Absolute Power Across All Temporal-Parietal Regions</th>
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\*p < .05
Conclusions

- Decrease in depression reported by young adults
- Decreases in electrical activity in social brain
- \(\uparrow\text{electrical activity} = \text{neural overactivity, dysregulation, excitation}\) (Wang et al., 2013)
- \(\downarrow\text{electrical activity} = \text{better neural regulation/control, organization, efficiency: More is not always better!}\) (Engel & Fries, 2010)

  - Greater decreases in electrical activity from pre- to post-treatment associated with improvements in depression

- Interpret with caution: small sample
Future Directions

- Examine behavioral and neurological measures with larger sample
- Examine EEG data to a task
  - YAs presented with neutral or emotion-laden objects and faces pictures
  - Investigate changes in the activity triggered by these pictures
- Examine how mood affects response to PEERS treatment: are preliminary mental health treatments before PEERS helpful?
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