Fear and Anxiety Among Individuals with Autism Spectrum Disorders: Behavioral Approaches to Conceptualization and Intervention

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Presentation Overview

• Anxiety conceptualization
• Prevalence
• Assessment
• Intervention

ANXIETY PREVALENCE
What is Anxiety/Fear?

• Normal and adaptive
• Why do we like to be scared?
  – Sensation seeking
  – Opponent-Process Theory (i.e., the ahhh...)
    • Typical in substance abuse
    • Feeling after we are scared
  – Social reinforcement

Anxiety & Fear Cont.

• Common early-childhood fears
  – Monsters, ghosts, darkness, preschool/child care, animals
  – Consider development: concrete fears to more abstract and social fears with age
• So...fear and stress is normal but...
  – When it becomes excessive/affects lives negatively/can’t be controlled you get an Anxiety Disorder

Three-Component View of Anxiety

[Barrios & Hartmann, 1997]

1. Cognitive or subjective reactions
2. Motoric or behavioral reactions
3. Physiological reactions
Anxiety/Fear Etiology

- Had a bad experience or trauma
  - Two-factor theory (Experienced then avoided)
  - Approach-withdrawal theories (emphasis on r+ of avoidance response)
  - Cognitive distortions
- Saw someone else have a bad experience
  - modeling/vicarious exposure, social learning
- Heard about someone who had a bad experience (i.e., negative information)

Anxiety in Adults

- **Prevalence**
  - 12-month Prevalence: 18.1% of U.S. adult population
  - Women: 22.8% of those ages (e.g., 1% of U.S. adult population) are classified as having an anxiety disorder

- **Demographics**
  - Race: Non-Hispanic whites are 20% less likely, and Hispanics are 20% more likely to experience an anxiety disorder over their lifetime

Anxiety in Children & Adolescents

- **Lifetime Prevalence of 13 to 15 year olds**
  - Lifetime Prevalence: 35.1% of 13 to 15 year olds
  - Lifetime Prevalence of “Severe” Disorder: 6.6% of 13 to 15 year olds have “severe” anxiety disorder

- **Demographics**
  - Race: Statistically significant differences were found between non-Hispanic whites and other races
Comorbid Anxiety

- Commonly comorbid with:
  - Medical conditions (Sian, et al., 2015; Roy-Bryne, et al., 2006)
    - Irritable bowel syndrome, asthma, cardiovascular disease, cancer and chronic pain
  - Sleep Difficulties (Sian, et al., 2015)
  - Challenging Behavior (Sian, et al., 2015)
  - Depression (Sian, et al., 2015)
    - 67% have some anxiety disorder, 75% in lifetime
  - Bipolar Disorder (Sian, et al., 2015)
    - 51.2% across lifetime
  - Other anxiety disorders (Leyfer, et al., 2006)
  - ASD (sample 109 children 5-17yr) (Leyfer, et al., 2006)
    - 44% specific phobia, 37% OCD, 2.4% GAD

PREVALENCE & PHENOMENOLOGY OF FEAR AND ANXIETY IN CHILDREN WITH ASD

Anxiety in Children with ASD

- Difficulties in assessing prevalence:
  - Relatively small sample sizes
  - Large age ranges
  - Large range of intellectual abilities
  - Different measurement tools
Anxiety in Children with ASD

- “Lack of fear in response to real dangers and excessive fearfulness in response to innocuous objects or situations” (APA, 2000, pg. 72)
- Kanner noted anxiety in his initial description
- Prevalence estimates of 11% to 84% (White, et al., 2009)
- Possibly the most commonly occurring comorbid diagnosis (Leyfer et al., 2006)
- Can be moderated by many factors (e.g., Age, IQ, Subtype, Assessment Method) (Van Steensel, Bogels, & Perrin, 2011)

- Associated with:
  - Social avoidance
  - Difficulties keeping relationships
  - Reduced overall family functioning
  - Increased externalizing behaviors
  - Sleep difficulties

  (Bellini, 2004)

Phobias in Children with ASD

- Specific phobia most commonly diagnosed anxiety disorder for children with ASD
  - Rates ranging from 31% to 44% to 64% (Leyfer et al., 2006; Muri, Steeneveld, Meesters, & Meeuwen, 1998; Sukhodolsky et al., 2008).
- Higher rates of Specific Phobia than typically developing children
  - Average rate of 5% for typically developing children (Ollendick, 2010)
Helping people overcome the challenges of autism.

\[\text{Mean age} = 9.7; \text{Mean IQ} = 79.5; \text{AD & PDDNOS}\]

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### Table 1
Numbers (percentage) of children with pervasive developmental disorders (*N* = 44) who fulfilled the full DSM-IV-R criteria for anxiety disorders

<table>
<thead>
<tr>
<th>Disorder</th>
<th>No. (%) of PDD Children (<em>N</em> = 44)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simple phobia</td>
<td>28 (63.6)</td>
</tr>
<tr>
<td>Social phobia</td>
<td>9 (20.2)</td>
</tr>
<tr>
<td>Agoraphobia</td>
<td>20 (45.5)</td>
</tr>
<tr>
<td>Panic disorder</td>
<td>4 (9.1)</td>
</tr>
<tr>
<td>Separation anxiety disorder</td>
<td>12 (27.3)</td>
</tr>
<tr>
<td>Avoidant disorder</td>
<td>8 (18.2)</td>
</tr>
<tr>
<td>Overanxious disorder</td>
<td>10 (22.7)</td>
</tr>
<tr>
<td>Obsessive-compulsive disorder</td>
<td>5 (11.4)</td>
</tr>
</tbody>
</table>

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### Phobias in Children with ASD

- Children with an ASD have more intense fears than children with Downs Syndrome and mental and chronological age matched controls
  - More likely to have fears related to medical/dental procedures
  - Less likely to have fears of dangerous situations and items that could cause harm

(Evans et al., 2005; Gilla et al., 2009; Matson & Love, 1990; Turner & Romanczyk, 2012)

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**Turner & Romanczyk, 2012**

![Pie chart showing percentage of different types of phobias](chart.png)

- Animal 6%
- Stranger 3%
- Environmental 14%
- Social 17%
- Situational 15%
- Harm 10%
- Medical 21%

*Fig. 1. Percentage of four types endorsed on the child fear survey.*

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Relationship Between Fear and Core ASD Symptoms

• Deficits in social communication may impact ability to learn appropriate and inappropriate fear responses from social world
• Typically developing children quickly learn fear responses from mother’s behavioral reaction
• Deficits in language abilities also may impact development of type of fear and their expression

ASSESSMENT OF ANXIETY IN INDIVIDUALS WITH ASD
Current Status

- Comprehensive and standardized methods are non-existent (Adams & Oliver, 2011)

Emotional Expression

- Autism:
  - Atypical expression of emotional states
  - Contextually-incongruous emotional reactions
- Preliminary Data:
  - 33% of children with AD vs. 100% of children with AS or PDDNOS demonstrated a typical fear response (Turner & Romanczyk, 2012)
- Severe ID and Down Syndrome:
  - Display unreliable and atypical fearful facial expressions

What Does Anxiety/Fear Look Like in Children With ASD?

- Verbalizations (content)
- Vocalizations (volume, tone)
- Facial expressions
- Body tenseness
- Approach/avoidance behaviors
- Aggression
- Noncompliance
- Self-injury
- Self-stimulatory behavior
Assessment Model

- Best practice = multi-modal assessment
  - Self-report
  - Informant report
  - Behavioral Observations
  - Physiological measurement
- Assessment of individual child characteristics

Adams & Oliver (2011); Hagopian & Jennett (2008)

Rating Scales

- May be most useful in initial stages
- Third-party and self-report measures
- Intellectual & communication abilities need to be considered
- No widely used rating scales developed specifically for individuals with ASD

Self-Report

- Examples:
  - Glasgow Anxiety Scale
  - Anxiety, Depression & Mood Scale (ADAMS)
  - FSSC-R & FSSC-II
  - Multidimensional Anxiety Scale for Children (MASC)
  - Screen for Child Anxiety Related Emotional Disorders (SCARED)
  - Revised Child Anxiety and Depression Scales (RCADS)
  - Youth Self Report (YSR)
- Can be useful for individuals with a mild to moderate range of ID

Adams & Oliver (2011); Hagopian & Jennett (2008)
Parent/Caregiver Rating Scales

• Examples:
  – Child Behavior Checklist (CBCL)
  – Behavior Assessment System for Children, 2nd edition (BASC-2)
  – Parent versions are available for SCARED and RCADS, as well
• Informant discrepancies common!
• ~63% correspondence between parent report of children’s fears and children’s observable reactions to matched and unmatched stimuli

Clinician Rating Scales

• Examples:
  – Pediatric Anxiety Rating Scale (PARS)
  – Children’s Yale-Brown Obsessive Compulsive Scale (CY-BOCS)
  – Teacher’s Report Form (TRF)
  – Anxiety Disorders Interview Schedule for the DSM-IV, Parent and Child Reports (ADIS-IV-C)
• Not much evidence for validity of teacher reports for child anxiety

Behavioral Interviews

• Conducted with individual when possible
• Parents and caregivers may need to be primary informant
• Primary goal to define the problematic behavior and identify any controlling variables
• Help develop hypotheses to test during direct observations
Direct Observation

- Direct observation used to confirm findings of rating scales and interviews
- Most successful if you can identify specific stimuli that elicit the response (e.g., needles, removal of caregiver)
- More difficult for individuals with generalized anxiety or situations where you don’t have control of stimulus (e.g., peer behavior)

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Direct Observation

- Structured observations (e.g., behavioral avoidance tasks)
- Naturalistic behavioral observations
- Self-evaluation tasks
- Parent-child interaction tasks

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Behavioral Avoidance Tasks (BAT)

- Exposure to feared stimulus in a controlled and replicable manner
- Highly individualized
- Progressively expose individual to feared stimulus
- Record approach and avoidance behaviors
- Can help with development as assessment of intervention

(Dadds, Rapee and Barrett, 1994; Hagopian & Jennett, 2008)
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Active BAT

Passive BAT

Recording

- Frequency
- Duration
- Distance
- Intensity
Considerations for conducting a BAT

- The stimulus in the natural environment
- Extent of listening repertoire
- Extent of verbal repertoire
- Parent tolerance of negative affect

Advantages & Disadvantages of BAT

- Control over the stimulus
- Replicable
- Limited to stimuli that can be controlled and replicated

Naturalistic Behavioral Observations

- Observation in natural settings that elicit anxiety
- Record approach and avoidance behaviors
- Standardized or individualized
- May need to enlist help of others for data
  
  (Dadds, Rapee and Baret, 1994)
Advantages & Disadvantages of Naturalistic Behavioral Observations

• Observe reactions to stimuli that are not easily controlled or replicated
• More accurate fear response
• Cannot directly assess contingencies

Guidelines

• Identify the stimulus
• Test the hypothesized contingencies
• Choose the setting
  — Analogue setting
  — Natural environment
• Select the recording method
  — Event recording
  — Time-sampling
• Establish termination criteria
  (Dadds, Rapee and Barett, 1994)

Example: Phobia of bees

• BAT

• Naturalistic Behavioral Observation

• Differences in results
Assessment Summary

• Challenges exist assessing anxiety among individuals with ASD
• Assessment should be multi-modal
• Tailor the assessment to the individual child
• Be aware of parent or caregiver feelings
• Be aware of possible noncompliance
• Consider the effect of the setting
• A good behavioral assessment is essential for developing effective interventions

EVIDENCE-BASED TREATMENT OF CHILD ANXIETY

Cognitive-Behavioral Therapy (CBT)

• CBT has the most empirical support for child anxiety disorders

• Approximately 60% of anxious children treated with CBT were diagnosis-free at end of treatment in a large clinical trial (Walkup et al., 2008)

• Children with severe anxiety may benefit from combined treatment
  — CBT + SSRI > CBT alone = SSRI alone > Placebo
Moderators of CBT Outcome

- Poorer outcomes associated with:
  - Older child age
  - Greater severity of anxiety at baseline
  - Comorbid depression (importance of assessment!)

CBT for Child Anxiety

- Psychoeducation
- Cognitive Techniques
- Behavioral Therapy

Psychoeducation

- Normalize the experience of anxiety
  - How can anxiety be adaptive?
  - When is anxiety unhelpful?
  - “Fight or flight” response
- Discuss “cycle of avoidance”
- Goal of CBT is to “turn down” the volume of anxiety – not to turn it off completely!
Cognitive Techniques

• Youth with anxiety tend to:
  – Assume a negative event is going to occur
    • “I’m definitely going to have a panic attack if I go into the cafeteria.”
    • “I’m going to fail that test!”
    • “Everyone is going to laugh at me at that party.”
  – Assume the worst possible outcome will occur
    • “If I have a panic attack, I’ll die!”
    • “If I fail the test, I’ll flunk out of school.”
    • “No one will be friends with me.”

• Goal is to help the child or teen:
  – Come up with realistic probability of negative event occurring
    • “I haven’t always had a panic attack in the cafeteria, so I may not have one this time.”
    • “I’ve studied for this test, so chances are I’ll pass.”
  – Figure out how to cope if the negative event does occur
    • “If I have a panic attack, it won’t last forever.”
    • “Even if I fail, I can study harder next time, and maybe get some extra help from the teacher.”

Behavioral Therapy

• Relaxation Training

• Exposure Therapy
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Relaxation Training
• Deep breathing exercises
• Visualization
• Meditation
• Mindfulness
• Progressive muscle relaxation

Exposure Therapy
• Considered the “cornerstone” of CBT for anxiety disorders
• Goal is to reduce avoidance behaviors
  – Overt vs. covert avoidance
  – Overt: missing school on test days
  – Covert: frequently asking others for reassurance, only going to a crowded place if friends are with you
• Learn how to approach anxiety-provoking stimuli or situations

Exposure Therapy
• Collaborative process between clinician and child
  – Clinician and child decide what targets should be
• Typically conducted in a graduated format
  – Don’t start with most feared situation
  – Go from less fear-provoking situations to greater fear-provoking situations
  – Allows child to gain confidence before proceeding to more difficult tasks
Fear Hierarchy

A Typical Fear and Avoidance Hierarchy Used in Cognitive-Behavioral Therapy for Social Anxiety Disorder

<table>
<thead>
<tr>
<th>Situation</th>
<th>Subjective</th>
<th>Avoidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Giving a presentation to my English class</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Going up to bat when I play softball</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>Talking to an attractive girl</td>
<td>80</td>
<td>90</td>
</tr>
<tr>
<td>Talking about myself</td>
<td>75</td>
<td>80</td>
</tr>
<tr>
<td>Making a phone call in front of someone else</td>
<td>65</td>
<td>80</td>
</tr>
<tr>
<td>Coming late to class and walking in front of</td>
<td>50</td>
<td>70</td>
</tr>
<tr>
<td>other students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unexpectedly seeing someone I know</td>
<td>40</td>
<td>50</td>
</tr>
<tr>
<td>Small talk with counter people at the coffee shop</td>
<td>35</td>
<td>50</td>
</tr>
</tbody>
</table>

EMPIRICALLY SUPPORTED TREATMENTS FOR ANXIETY AND PHOBIC AVOIDANCE FOR INDIVIDUALS WITH ASD

Anxiety Intervention Literature (1978 – 2010)
Treatment Components

- Jennett and Hagopian (2008) created a definition for each treatment component since some described treatments varied from article to article.
- Seven main treatment components were listed as:
  1. In vivo exposure
  2. Hierarchy
  3. Contingent Reinforcement
  4. Prompting
  5. Modeling
  6. Extinction/Blocking
  7. Use of Distracting Stimuli

Case Example

- Graduated exposure for a blood draw

CBT for Individuals with ASD

- CBT is widely considered an effective treatment for anxiety in the general population.
- Modified CBT treatment for ASD show significant reductions in:
  - Parent & clinician rated anxiety
  - Higher rates of remission
  - Increased adaptive behavior to stressors
  - Improved independent living skills
  - Generalization to multiple settings
Modified CBT

• Common Modifications:
  – Social skills training
  – Coping skills instruction
  – Emotion identification
  – Addition of visual aides
  – Greater parent involvement

Case Example

• Graduated exposure + coping instruction for community outings
Case Example

• Graduated exposure + coping instruction + self monitoring for accepting changes

THANK YOU!!