Applications of Mindfulness-Based Interventions with People with Developmental Disabilities and their Caregivers

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Mindfulness

• Road well traveled
• Road less traveled
• Road we are on . . .
Research Interest

- Treatment teams in mental health
- Treatment teams in developmental disabilities
- Obsessive Compulsive Disorder
- Conduct Disorder
- Aggression
- Mental Illness
- Parent training
- Teacher training
- Staff training
- Health wellness
- Sexual Offenders
- Polydipsia
- Developmental disabilities
Methodology

- Case studies
- Single-case experimental designs
- Group designs
- Manualized and non-manualized
- Telehealth
- Virtual Reality (in beta testing)
Components of Mindfulness

- A personal meditation practice
- Behavioral practices (e.g., loving kindness, compassion, and generosity)
- Cognitive strategies (e.g., reflection on the transitory nature of events and emptiness of self)
- Empathic strategies (e.g., tonglen)
Research Applications
Aggression
Mindfulness-Based Procedures

- The individual learns the basic Samatha meditation—based on attention to the breath.
- The individual learns how to shift the focus of attention from a visualized anger producing event in the past to a neutral grounding point in the body—the soles of the feet.
- The individual applies this mindfulness-based strategy during actual episodes of anger.
Mindfulness Training

- Training is individualized, depending on personal learning characteristics, ability to visualize situations, level of cognitive functioning, and motivation

- On average, training takes about 5 to 10 hours of distributed practice with the trainer

- Instruction on data collection

- Practice homework
James: Case Study

Baseline Minfulness Intervention 1 Yr Follow-Up

Physical Aggression
Verbal Aggression
Case Study

Baseline Mindfulness Intervention 1 Yr Follow-Up

- Staff Injuries
- Resident Injuries
Moderate ID/DD

- Limitations of the mindfulness interventions for individuals at this level of functioning
- Modifications
- Trainer creativity—behavioral plus personal practice in meditation
Adult Offenders

- Six adult offenders with mild ID
- Same mindfulness interventions, similar results
- Benefit-cost analysis
  - Savings of about $50,000 in medical costs for staff injury
  - Number of days staff absent from work due to injuries reduced from 310 days prior to intervention to 15 following mindfulness intervention
Physical Aggression

- Gerald
- Jason
- Paul
- Kent
- Patrick
- Harry

Baseline vs. Mindfulness Intervention
Verbal Aggression

Graph showing the change in verbal aggression levels from Baseline to Mindfulness Intervention for five individuals: Gerald, Jason, Paul, Kent, and Patrick. The graph indicates a decrease in aggression levels for all individuals during the intervention period.
Adolescents with Asperger Syndrome

- Three adolescents, lived with family
- John, 15-year-old; hitting, kicking, biting, and scratching
- Paul, 13-year-old; hitting, kicking, slapping, scratching, and destroying property
- George, 18-year-old; punching, hitting, and kicking
Physical Aggression

- Baseline
- Mindfulness Intervention
- 4-Yr Follow-Up

Participants: John, Paul, George
Sibling Injuries

Baseline Mindfulness Intervention 4 Yr Follow-Up

John Paul George
Adolescents with Autism

- Three adolescents, lived with family
- Mike, 14-year-old; hitting and kicking family members
- Chris, 16-year-old; hitting, kicking and biting family members
- Steve, 17-year-old; kicking and biting family members
Physical Aggression

Baseline Mindfulness Intervention 3 Yr Follow-Up

Mike Chris Steve
Community-Based Therapist

- Can the mindfulness-based procedures be taught to community-based therapist?
- Therapist certified by American Health and Wellness Institute trainers
- Effectiveness assessed in terms of outcomes for three individuals with maladaptive behaviors
Kevin

**Verbal Aggression**

- Baseline
- Mindfulness Training
- Mindfulness Intervention

![Graph showing the decrease in Verbal Aggression over time with Mindfulness Training and Intervention](image)
Samy

Graph showing the comparison between Baseline Mindfulness Training and Mindfulness Intervention for Disruptive Behavior and Whining.

- Disruptive Behavior
- Whining

[Graph showing a decrease in disruptive behavior and whining across Baseline, Mindfulness Training, and Mindfulness Intervention phases.]
Monica

- Baseline Mindfulness Training
- Mindfulness Intervention

Graph showing
- Physical Aggression
- Verbal Aggression
- Property Destruction
- Rectal Digging
- Urinary Incontinence
Peer as Therapist

• Initial case study (James), taught mindfulness intervention by therapist at age 27, and now 33

• Three participants, all with mild ID and low rates of aggression:
  • Joshua: age 29, employed as a busboy at a fast food restaurant
  • Jeremy: age 28, employed as a bagger at a grocery store
  • Jonas: age 32, employed at garden nursery
Health Wellness
Initial Study: Prader-Willi Syndrome

• The syndrome, genetic disorder, satiety issues

• Risk Factors
  • morbid obesity
  • Challenging behaviors

• Control, Management and Treatment

• Diets, drugs, surgery, and lifestyle change
Participant

• Jason
• 17-year-old, IQ = 75
• Weight = 260 lbs
• Height = 4ft 9 in
• BMI = 57.2
• Goal: reduce and maintain weight at 200 lbs
Mindfulness-Based Practices

- Physical exercise
- Food awareness
- Mindful eating
- Visualizing and labeling hunger
- Meditation on the soles of the feet
First Three Phases

- Phase A: Baseline
- Phase B: Exercise Alone
- Phase C: Exercise + Picture Perfect

Chart showing weight (lbs) over months from 3 to 36.
With Mindfulness

Phase D: Exercise + Picture Perfect + Mindfulness

WEIGHT (LBS.)

270 260 250 240 230 220 210 200

0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105

WEIGHT (LBS.):
- 235 lbs
- 230 lbs
- 225 lbs
- 220 lbs
- 215 lbs
- 210 lbs
- 205 lbs
- 200 lbs
Three-Year Follow-Up
Weight at End of Phase

Jason

Baseline | Exercise | Ex + Picture Perfect | Ex + PP + Mindful Eating | Year 1 | Year 2
---|---|---|---|---|---
250 | 260 | 240 | 200 | 180 | 150

0 | 50 | 100 | 150 | 200 | 250 | 300
Second Study

- Enhanced 5-component program

- Plus healthy eating principles:
  - plant based—eat fresh vegetables (both raw and cooked), fruits, whole grains, legumes/beans, and nuts (especially a handful of walnuts and almonds daily)
  - whole foods—eat foods that are natural, preferably organic, local, seasonal and, if at all possible, unprocessed
  - low fat—choose foods that provide healthy fats from plant sources, such as avocados and nuts, but avoid low fat processed foods; if meat is a choice, eat leaner meats and seafood; choose low fat dairy products
  - variety—as much as possible, eat foods with a wide spectrum of vitamins, minerals, phytonutrients and antioxidants
  - spices—if using spices is a choice, emphasize turmeric, saffron, ginger, garlic, and cinnamon
  - sodium—eat foods low in sodium; and
  - caution—avoid as much as possible refined, highly processed foods that have artificial flavors, colors, preservatives, sweeteners and hydrogenated fats.
Three Participants with Prader-Willi Syndrome

- **Miles**
  - Age = 19, weight = 351 lbs, height = 5 ft 3 inches
  - BMI = 62.3

- **Mingus**
  - Age = 17, weight = 153 lbs, height = 4 ft 8 inches
  - BMI = 34.3

- **Monk**
  - Age = 16, weight = 149 lbs, height = 4 ft 7 inches
  - BMI = 34.6
Mingus
Monk
BMI at End of Phase

- **Miles**: Before (68) - After (25)
- **Mingus**: Before (34) - After (26)
- **Monk**: Before (32) - After (26)
Smoking Cessation
Mindfulness Practices

- Intention

- Mindful observation of thoughts:
  - Focus on successive thoughts
  - Observe the beginning, middle and end of each thought
  - Observe thoughts as clouds passing through awareness
  - Observe the desire to smoke as thought clouds

- Meditation on the Soles of the Feet
  - If the urge to smoke is too strong
Research Studies

Staff Training in Mindfulness
Mindful Caregiving

- Mindfulness-based training for caregiver staff
- Carers of adults with profound multiple disabilities
- Outcome measured in terms of levels of happiness observed on the faces of the individuals:
  - any facial expression or vocalization typically considered to be an indicator of happiness among people without disabilities including smiling, laughing, and yelling while smiling’’
## Mindful Practices

<table>
<thead>
<tr>
<th>SESSION</th>
<th>TOPIC</th>
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<tbody>
<tr>
<td>I</td>
<td>Preliminaries</td>
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<tr>
<td>II</td>
<td>Observing your mind</td>
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<tr>
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<td>Being in the present moment</td>
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<tr>
<td>V</td>
<td>Beginner’s mind</td>
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<td>VI</td>
<td>Being the activity</td>
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<tr>
<td>VII</td>
<td>Review and wrap-up</td>
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Transfer of Mindfulness

- Assessed the transfer of mindfulness training of care staff to the behavior of their own children
- Same staff as in the previous study
- Care staff had 5 children whose behavior was monitored
- Noncompliance was the target behavior
Reduction in Non-Compliance

% Reduction

Janet
Wendy
Dawn
Joseph
Jason

% Reduction
Mindful Staff Increase Learning

- 15 group home care staff, 5 in each home
- 10 men and 5 women
- 18 individuals, 6 in each home
- Behavioral training that preceded mindfulness training was not as effective as desired
- Mindfulness-based training provided only to the care staff, but the outcomes were measured on the individuals
<table>
<thead>
<tr>
<th></th>
<th>BASELINE</th>
<th>MINDFULNESS TRAINING</th>
<th>MINDFULNESS PRACTICE</th>
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</thead>
<tbody>
<tr>
<td>Jason</td>
<td>2.25</td>
<td>1.88</td>
<td>0.81</td>
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<tr>
<td>Joseph</td>
<td>4.00</td>
<td>3.56</td>
<td>0.88</td>
</tr>
<tr>
<td>Dawn</td>
<td>6.43</td>
<td>4.50</td>
<td>3.56</td>
</tr>
<tr>
<td>Wendy</td>
<td>0.58</td>
<td>0.38</td>
<td>0.19</td>
</tr>
<tr>
<td>Janet</td>
<td>0.25</td>
<td>0.25</td>
<td>0.06</td>
</tr>
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Results

Baseline Behavioral Training
Mindfulness Training

Interventions for Aggression
Objectives Mastered
Physical Restraints
Social Validation and Staff Satisfaction

![Bar chart showing Social Validation and Staff Satisfaction across Baseline, Behavioral Training, and Mindfulness Training.]
Mindful Staff Do Not Use Restraints

- 23 care staff in 4 group homes provided mindfulness-based training
- 20 individuals ranging from mild to profound levels of ID/DD served in these homes
- 9 individuals had concomitant mental illness
# Mindfulness Practices

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<td>Focused attention on arousal</td>
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<td>VI</td>
<td>Beginner’s mind</td>
</tr>
<tr>
<td>VII</td>
<td>Being one with the individual</td>
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<tr>
<td>VIII</td>
<td>Non-judgmental acceptance</td>
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<tr>
<td>IX</td>
<td>Letting go</td>
</tr>
<tr>
<td>X</td>
<td>Loving kindness</td>
</tr>
<tr>
<td>XI</td>
<td>Problem solving</td>
</tr>
<tr>
<td>XII</td>
<td>Using mindfulness in daily interactions</td>
</tr>
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Physical Restraints

Baseline Mindfulness Training

AM Shift

PM Shift

Mindfulness Practice

Graph showing Physical Restraints with data points at Baseline, Mindfulness Training, and Mindfulness Practice for AM and PM shifts.
Parent Training in Mindfulness
Parents with Children with Autism

- Three mothers, three children with autism
- 12-week mindfulness parenting course, similar to staff training program but refined for parenting
- Assessed changes in children’s behaviors
Aggression, Non-compliance and Self-Injury
Aggression
Non-Compliance (Child 1 & 2)
Self-Injury (Child 3)
Parents with Children with ID/DD

- Four mothers, four children with ID/DD
- 12-week mindfulness parenting course, same as in the previous study
- Assessed changes in children’s behaviors
Negative Social Interactions with Siblings

The graph shows the decrease in negative social interactions with siblings across different stages: Baseline, Mindfulness Training, and Mindfulness Practice. Each line represents a different child (Child 1, Child 2, Child 3, and Child 4), and it is observed that all children show a decrease in negative interactions during the training period, with the most significant decrease occurring during the practice period.
Mindfulness-based Interventions

Is it a viable therapeutic modality for individuals with developmental disabilities?
Is Mindfulness a viable Therapeutic Modality in the field of Developmental Disabilities?
For information

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