Interventions for psychological trauma in families

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University of Minnesota/Ambit & ADAPT Colleagues

Thousands of traumatized children and military families in MN
Overview

- Traumatic and stressful events
  - Effects on children

- Adult stress responses & posttraumatic stress disorder
  - Effects of PTSD and stress on parenting
  - Impact of parenting on children’s adjustment

- Evidence-based practices for children and families affected by trauma
  - Trauma-informed parent training (ADAPT)
  - (Statewide implementation of trauma-focused cognitive behavioral therapy)
In its definition of posttraumatic stress disorder, the Diagnostic and Statistical Manual uses this definition of trauma: an event or events the person experienced, witnessed, or was confronted with that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others.
Types of traumatic events

- Family violence
  - Abuse and neglect
  - Domestic violence

- War
  - War in country of origin, refugee status
  - Combat exposure

- Terrorism
  - Single or episodic incidents (e.g. Norway)
  - Ongoing attacks (e.g. Israel-Gaza border)

- Community violence

- Also: medical trauma, motor vehicle accidents, other accidents
15 to 43% of girls and 14 to 43% of boys have experienced at least one traumatic event in their lifetime.

Maltreatment incidence is 12 per 1,000 children

1.8 to 4 million American women are physically abused each year.

It is estimated that 7-14 million children witness family violence each year (Edleson et al., 2007)

USA has the highest level of homicide of any developed country in the world.

Homicide is the third-leading cause of death for children ages 5-14, the second-leading cause of death for those aged 15-24, and has been the leading cause of death for African-American youth from the early 1980s into the early twenty-first century.
Both follow-up and follow-back studies have consistently shown a direct link between exposure to violence and subsequent perpetration of violence.

For example, Widom (2001) reported that child victims of maltreatment were 59% more likely to be arrested as juveniles, 28% more likely to be arrested in adulthood, and 30% more likely to be arrested for a violent crime.
The impact of trauma on children

Short Term Effects: Acute Disruptions in Self Regulation

- Eating
- Sleeping
- Toiletting
- Attention & Concentration
- Withdrawal
- Avoidance
- Fearfulness
- Re-experiencing / flashbacks
- Aggression; Turning passive into active
- Relationships
- Partial memory loss
Long Term Effects: Chronic Developmental Adaptations

- Depression
- Anxiety
- PTSD
- Personality
- Substance abuse
- Perpetration of violence
Trauma & Cumulative Risk Overlap

- Risks ‘pile up’ (Rutter, 1985)
- Secondary adversities during trauma events (Pynoos et al., 1996)
- Multi-problem families risk for trauma (Widom, 1989; 1999)
- Other risks contribute to PTSD
Traumatized parents
Why be concerned with trauma and posttraumatic stress in parents?

- Associations between adult trauma and:
  - Child distress and child PTSD
  - Parenting impairments

- How might parents respond differently to other adults (e.g. service providers) when they are dealing with traumatic stress?

- And most important, how might they deal differently with their children?
Parents who are traumatized may be:

- Suffering from PTSD and related disorders (e.g., depression, anxiety)
- Using drugs to mask the pain
- Disempowered
- Parents of children who have become “parentified” (i.e. responsible beyond their years)
How might parents’ trauma histories affect their parenting?

- A history of traumatic experiences may:
  - Compromise parents’ ability to make appropriate judgments about their own and their child’s safety and to appraise danger; in some cases, parents may be overprotective and, in others, they may not recognize situations that could be dangerous for the child.

- Make it challenging for parents to form and maintain secure and trusting relationships, leading to:
  - Disruptions in relationships with infants, children, and adolescents, and/or negative feelings about parenting; parents may personalize their children’s negative behavior, resulting in ineffective or inappropriate discipline.
  - Challenges in relationships with caseworkers, foster parents, and service providers and difficulties supporting their child’s therapy.
Trauma history can:

- Impair parents’ capacity to regulate their emotions.
- Lead to poor self-esteem and the development of maladaptive coping strategies, such as substance abuse or abusive intimate relationships that parents maintain because of a real or perceived lack of alternatives.
- Result in trauma reminders—or “triggers”—when parents have extreme reactions to situations that seem benign to others.
Find it hard to talk about their strengths (or those of their children)

Need support in managing children’s behavior

Have difficulty labeling their children’s emotions, and validating them

Have difficulty managing their own emotions in family communication

When posttraumatic stress symptoms interfere with daily interactions with children, parents should seek individual treatment
Diagnostic criteria for PTSD include a history of exposure to a traumatic event meeting two criteria and symptoms from each of three symptom clusters:

- **intrusive recollections**
  - Includes nightmares, flashbacks & associated physiologic reactivity

- **avoidant/numbing symptoms**
  - Avoiding thoughts, feelings, conversations, activities etc, associated with the traumatic event
  - Inability to recall an important aspect of the event
  - Diminished interest or participation in activities, estrangement or detached feelings
  - Restricted range of affect, sense of foreshortened future

- **hyper-arousal symptoms**
  - Sleep problems, hyper vigilance, exaggerated startle, irritability or anger, concentration difficulties
How does adult posttraumatic stress disorder affect parenting?

- Growth in fathers’ PTSD is associated with self-reported impairments in parenting one year after return from combat

Traumatized parents

- Trauma and adversity affect children’s adjustment because they impair parenting:
  - Disrupt emotion socialization of parents
    - Increase experiential avoidance
    - Increase emotion dismissing
    - Increase withdrawal and coercion, bids for attention and other atypical family processes
  - emotion socialization includes:
    - discussion of emotions,
    - teaching about and responding to children’s emotions
    - responding to own emotions
  - increase coercive parenting
Trauma elicits proximity-seeking in children (Bowlby, 1969) — (parents proximal)

Much research on effects of parental functioning on child outcomes following traumatic events

Little research on effects of parenting practices on child outcome following traumatic events

Yet, parenting practices have more influence than parent’s functioning on children’s behavior!
Parenting practices predict children’s recovery from a traumatic incident

- Mothers’ observed effective parenting is associated with steeper reductions in child-reported traumatic stress over a period of four months following a domestic violence incident.

Interventions that buffer parenting show improvements to child internalizing and stress regulation

- Parent training directed at mothers only resulted in improvements to child internalizing (later associated with reductions in externalizing) (DeGarmo, Patterson, & Forgatch 2005)

- Foster parent training associated with changes in children’s cortisol levels (Fisher et al., 2000; 2006)
Interventions to address trauma in a family context

Strengthening parenting: trauma-informed parent training
Stages:
- Modifications
- Feasibility test
- Effectiveness trials

Populations:
- Parents exposed to domestic violence
  - Gewirtz & Taylor, 2009
- Homeless families with high trauma exposure
  - Randomized controlled trial of PMTO groups in family supportive housing (NIMH funded)
- Immigrant families fleeing war (SAMHSA funded)
  - Completed feasibility trials with 10 Somali moms in public housing
- Military families with parents deployed to combat
  - Underway: An RCT of After Deployment, Adaptive Parenting Tools (NIDA funded)
• Theoretical framework II:
  • Social interaction learning: Patterson, Gottman
    • Gottman & Katz – meta emotion philosophy: dismissing, rejecting, or invalidating parenting practices may impede children’s emotion regulation; emotion coaching may enhance it.
  • Mindfulness: e.g. Kabat-Zinn
    • Emotionally uncontrolled and coercive interactions may be overlearned and automatic (i.e., mindless; Langer & Imber, 1979)
    • Mindfulness interventions have been used with success in a variety of contexts (e.g. Kabat-Zinn, 1992; Linehan, 1993; Hayes et al., 2000).
Population presenting problems

- Complex trauma
  - Exposure to domestic violence
  - Maltreatment
  - Homelessness
- Exposure to combat – military families
We implemented PTC in the context of an RCT of the Early Risers prevention program, in 8 housing agencies (N=16 in the sample; 134 families).

At baseline we found that mothers’ parenting self-efficacy was associated with observed effective parenting – and with child adjustment (Gewirtz et al., 2009).

At two-year follow-up, the Early Risers program had a significant effect on parenting self-efficacy. In turn, self-efficacy was associated with improved parenting practices (observed), and parenting was associated with improved child adjustment (teacher ratings); Gewirtz et al., in press).
A group-based intervention for military families

ADAPT
After Deployment: Adaptive Parenting Tools
National Guard and Reserves (NG/R) are USA’s ‘civilian soldiers’

Dispersed with no common support system

Now face multiple deployments
  - Unprecedented reliance on NG/R troops
  - Typical deployment is 12 months in Army Guard (mean – 2.2)
  - Multiple, shorter deployments in Air Guard

Balance multiple daily demands: work, family, military

Higher rates of PTSD, substance use disorders
Separations from family and children
  - Intense work conditions
  - Exposure to potentially traumatic events

Associations between combat deployment and family functioning (e.g. Karney, 2007; Jensen & Shaw, 1996; McCarroll et al, 2000; Chandra et al., 2010)
  - Depression in spouses
  - Child adjustment problems
  - Domestic violence (also associated with children at home)

Combat related stressors (not just deployment) also affect families
  - Combat-related PTSD associated with marital disruption, spousal abuse, parenting skills & satisfaction (e.g. Glenn et al, 2002, Prigerson et al., 2001; Solomon et al., 1992)
Stressful for families – longer and more complex than previously thought (MacDermid, 2006)

Yet more complex if service member was injured (Cozza et al., 2005)

Key transition times offer special opportunities for prevention (e.g. as parents are readjusting parenting roles)
Effectiveness of a web-enhanced parenting program for military families

- 5 year study (2010-2015) funded by National Institutes of Health/National Institute on Drug Abuse

- 400 NG/R families recruited and followed over a 2 year period beginning summer 2011
  - Random assignment to a parenting program (ADAPT) or parenting services-as-usual (web and print resources)
  - Parents and teachers complete online questionnaires, and observational, self-report, and physiological data are gathered from families at baseline, 12, 18, and 24 months.

- Outcomes: child substance use risk, behavior & emotional problems, parent adjustment (mental health, substance use), parenting, parent emotion regulation, parent emotion socialization
Attention to emotion regulation in family communication (emotion socialization)
- Mindfulness training (to address experiential avoidance associated with PTSD symptoms)
- Emotion coaching (esp. responding to children’s fears)

Attention to military culture and values

Emphasis on united parenting front (for two-parent families)

Addressing common barriers to participation
- Web-component to increase involvement in group program by other caregivers, spouses, etc.
- Stand alone online ADAPT is under development
Multi-method, multi-informant measures gathered at baseline, 6, 12, & 24 months

Online data gathering
- Parent(s) enter through online portal & consent

In-home assessment
- Parent, child self-report (online, with tablets)
- Observational data (family interaction tasks)
- Physiological data (vagal tone, heart rate)

Teacher report
- online
Study baseline data

- 608 adults and 336 children in 336 families in Minnesota National Guard, and in Army, Navy, Air Force, Marines, and Coast Guard Reserve Units

- 57 deployed mothers; 282 deployed fathers

- Married: 9.8 years on average (SD = 5.3)

- Mean number of marriages: 1.2

- Average number of children: 2.39 (SD = 1)

- Mean family income: $71,281 (SD = $34,761)

- Number of deployments (ever): 1-13 for men, 1-5 for women (mean = 3.4 for men, 1.3 for women)

- Number of deployments since 2001: 1-6 for men, 1-5 for women (mean = 1.96 for men, 1.4 for women)

- Deployment status by family
  - Male deployed = 282
  - Female deployed = 31
  - Both deployed = 26

- For more information on baseline data, and intervention process, see Gewirtz et al., 2013, 2014, in press (moms, dads, overall parenting)
ADAPT program content

- 6 key parenting skills
  - Teaching through encouragement
  - Emotion socialization (added)
  - Positive involvement with children
  - Family problem-solving
  - Monitoring and supervision
  - Effective discipline

- Groups augmented with online materials for midweek
  - Skill and practice videos
  - Mindfulness practices downloadable to MP3/smartphones
  - Home practice and information handouts
  - Short quizzes/ knowledge checks

- Taught via:
  - Role play
  - Discussion
  - Practice
We evaluated the effectiveness of the ADAPT program at 6 and 12 months post-baseline. Examined the program’s effect on several dimensions of parenting:

- Parenting self-efficacy (T2)
- Parent reports of ineffective discipline (T3)
- Observed parenting (T3)

Recently examined program effects on child outcomes (T3)

- Behavior problems and adaptive skills (parent report)
Parenting self-efficacy
(Parent locus of control measure)

Intent to Treat Pre-Post Analysis
Multi-Level Regression Addresses Nesting within Couples
(i.e. non-independence in the data)

N= 290 moms, 269 dads at T1, in 312 families
N= 191 moms, 155 dads at T2, in 218 families
Basic Intent to Treat Pre-Post Hypothesis and Analysis
Auto-Regressive or Analysis of Covariance
Multi-Level SEM Pre-Post Hypotheses and Analysis
Addressing Non-independence or Nesting within Couples

**BETWEEN FAMILIES Model**
(between couples)

**WITHIN FAMILIES Model**
(within couples)
Parenting self-efficacy (standardized coefficients)

BETWEEN FAMILIES (between couples)

WITHIN FAMILIES (within couples)

T2PLOC ICC = .34
QQ plot Parenting self-efficacy post intervention

ADAPT
PLOC.T2, t=-3.15, p=0

1, M=3.77, Sd=0.48, N=194

0, M=3.60, Sd=0.47, N=152
Self-Report Parenting – poor discipline

Three Wave Multi-Level Model

baseline to 12 months

Intent to Treat Pre-Post Analysis
Multi-Level Growth Model
Alabama Parenting Questionnaire – short form
Poor Discipline

N= 290 moms, 268 dads at T1, in 311 families
N= 195 moms, 157 dads at T2, in 206 families
N= 140 moms, 119 dads at T3, in 151 families
Poor Discipline (standardized coefficients)

BETWEEN FAMILIES
(between couples)

WITHIN FAMILIES
(within couples)

\( d = .37 \) MLR single level

ICC_s T1, T2, T3 = .23, .14, .13
Observed Parenting Practices
baseline to 12 months

Intent to Treat Pre-Post Latent Variable Analysis
T1 to T3

Family Interaction Tasks: Problem Solving, Discipline, Positive Involvement, Skill Encouragement, Monitoring

N= 297 moms, 275 dads at T1, in 320 families
N= 85 moms, 76 dads at T3, in 92 families
ITT Effect on Pre-Post Change in Mothers’ Parenting

$d = .41$
ITT Effect on Pre-Post Change in Couples’ Parenting

$R^2 = .23$

$d = .28$
This Shows Baseline by Treatment Effect, the ADAPT moms below the mean at Pre intervention were more likely to be above the Mean at Post-Intervention
1. ITT and risk by treatment interaction decreased child externalizing behaviors at T3.
2. Intervention effects parenting through risk by treatment interaction.
3. Main effect of T1 fathering and risk by treatment interaction effect growth in fathers’ mindfulness.
4. Risk by treatment interaction indicating that lowest T1 fathering grew more relative to counterparts, and in turn, growth in fathers’ mindfulness predicts decrease in child externalizing behaviors at T3.
We analyzed parenting data from first group of families to complete 6- and 12-month follow up using an intent-to-treat approach

Results indicate that the ADAPT intervention significantly improved parents’
- Parenting self-efficacy (mothers and fathers)
- Reports of ineffective discipline (mothers and fathers)
- Mothers’ observed parenting
- There is a treatment by baseline interaction such that the ADAPT intervention seems most effective in improving parenting and fathers’ mindfulness for mothers and fathers with lower baseline parenting

Preliminary child behavior data indicate behavior improvements in children in the ADAPT condition, per parent report

Caveats: these are data from about one third of our final sample.

Next steps: analyze full 12-month (and then 24-mo) dataset, linking outcomes in mediation models, dosage and fidelity analyses
Implementing interventions for childhood trauma
Trauma-focused cognitive behavior therapy (Cohen, Mannarino, Deblinger, 2006)

- See http://tfcbt.musc.edu
- Validated for 3-18 year olds
- Essential components:
  - Establishing and maintaining therapeutic relationship with child and parent
  - Psycho-education about childhood trauma and PTSD
  - Emotional regulation skills
  - Individualized stress management skills
Connecting thoughts, feelings, and behaviors related to the trauma
Assisting the child in sharing a verbal, written, or artistic narrative about the trauma(s) and related experiences
Encouraging gradual in vivo exposure to trauma reminders if appropriate
Cognitive and affective processing of the trauma experiences
Education about healthy interpersonal relationships
Parental treatment components including parenting skills
Joint parent-child sessions to practice skills and enhance trauma-related discussions
Personal safety skills training
Coping with future trauma reminders
Implementation of TFCBT across Minnesota

- Training requires 10 days of face-to-face training plus tfcbt web completion
  - Trauma assessment (2 days)
  - Introduction to trauma (1 day)
  - TF-CBT (7 days)
  - Plus, bimonthly consultation calls for 18 months
- Since 2006, 210 therapists trained in TF-CBT across MN
- Over 1000 children screened and treated for trauma-related disorders
- Statewide certification underway (1st in USA)
## Comparison of subsample of children served by Ambit Network vs. NCTSN nationwide data

<table>
<thead>
<tr>
<th></th>
<th>Minnesota (N=836)</th>
<th>Network (N=12,462)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age at Baseline (Tx Entry)</strong></td>
<td>Mean = 12.2; Range = 4-18</td>
<td>Mean=10.47 ; Range=4.3</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>62.2%</td>
<td>52.3%</td>
</tr>
<tr>
<td>African American</td>
<td>21.1%</td>
<td>30.4%</td>
</tr>
<tr>
<td><strong>Ethnicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>8.5%</td>
<td>28.6%</td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>53.1%</td>
<td>52%</td>
</tr>
<tr>
<td>Male</td>
<td>46.9%</td>
<td>47.9%</td>
</tr>
<tr>
<td><strong>Living Situation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent(s)</td>
<td>53.5%</td>
<td>53.5</td>
</tr>
<tr>
<td>Other Relatives</td>
<td>8.1%</td>
<td>12.9</td>
</tr>
<tr>
<td>Foster care</td>
<td>7.3%</td>
<td>8.2</td>
</tr>
<tr>
<td><strong>Insurance Coverage</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any insurance</td>
<td>70%</td>
<td>70.4%</td>
</tr>
<tr>
<td>Public</td>
<td>50.7%</td>
<td>60.8%</td>
</tr>
<tr>
<td>Private</td>
<td>20.3%</td>
<td>11%</td>
</tr>
</tbody>
</table>
Most commonly reported traumas:
MN vs NCTSN children

![Bar chart showing the comparison between NCTSN and MN children for various types of trauma.](image-url)

- Injury*
- Illness*
- DV*
- Emotional abuse*
- Physical assault*
- Physical abuse*
- Sexual assault*
- Sexual abuse*
- Community violence*
- Impaired caregiver*

*p ≤ .000
M = 4.6 Range 1-20
<table>
<thead>
<tr>
<th>Disorder</th>
<th>% of children with a probable or definite diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generalized Anxiety</td>
<td>35.3%</td>
</tr>
<tr>
<td>Depression</td>
<td>45.7%</td>
</tr>
<tr>
<td>ADHD</td>
<td>25.8%</td>
</tr>
<tr>
<td>ODD</td>
<td>24.9%</td>
</tr>
<tr>
<td>Gen. Behavioral Problems</td>
<td>38.8%</td>
</tr>
<tr>
<td>PTSD</td>
<td>52.2%</td>
</tr>
<tr>
<td>Attachment problems</td>
<td>33.4%</td>
</tr>
<tr>
<td>Traumatic grief</td>
<td>25.3%</td>
</tr>
<tr>
<td>Acute stress disorder</td>
<td>14.8%</td>
</tr>
</tbody>
</table>
### Functional Impairments (MN)

<table>
<thead>
<tr>
<th>Problem Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Problems in the Home/Community</strong></td>
<td></td>
</tr>
<tr>
<td>Behavior problems at home/comm.</td>
<td>50.3%</td>
</tr>
<tr>
<td>Attachment problems</td>
<td>49.2%</td>
</tr>
<tr>
<td>Running away from home</td>
<td>5.9%</td>
</tr>
<tr>
<td>Criminal activity</td>
<td>7.6%</td>
</tr>
<tr>
<td><strong>Social and School Functioning</strong></td>
<td></td>
</tr>
<tr>
<td>Academic problems</td>
<td>47.8%</td>
</tr>
<tr>
<td>Behavior problems in school</td>
<td>41.9%</td>
</tr>
<tr>
<td>Problems skipping school</td>
<td>11.4%</td>
</tr>
<tr>
<td><strong>Risk Taking Behaviors</strong></td>
<td></td>
</tr>
<tr>
<td>Self injury</td>
<td>13.8%</td>
</tr>
<tr>
<td>Suicidality</td>
<td>18.1%</td>
</tr>
<tr>
<td>Inappropriate sexual behaviors</td>
<td>15.9%</td>
</tr>
</tbody>
</table>
Multiple Traumas & Problems in Other Domains of Functioning (MN)

- Behavior problems in home/community
- Academic problems
- Behavior problems in school/daycare
- Skipping school/daycare
- Attachment problems

Number of traumas - categories

Percent

0 10 20 30 40 50 60 70 80 90

1 2 3 4+
Clinical Outcomes at End of Tx Follow Up

on the UCLA PTSD-RI (MN)

PTSD RI*

Mean Raw score

0 10 20 30

Baseline Follow Up

*p ≤ .000
Pre and post-treatment changes for MN children on the Child Behavior Checklist

![Graph showing changes in Total, Internalizing, and Externalizing Mean T scores from Baseline to Follow Up.](image)

*p ≤ .005
Thank you!

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