Prevention and intervention research with children and families after disasters

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5th International Workshop on
Psychological Intervention after Disasters
Manila, Philippines, November 2016
Overview

- Resilience and trauma and parenting
- Prevention (promoting resilience)
  - Law of thirds
  - Universal, selected, indicated
- How do we get from research to practice (to policy change) for families affected by disasters and other traumatic events?
  - Efficacy
  - Effectiveness
  - Implementation
- Example: Parent management training: Oregon model
  - Theory-based intervention
  - Progress from efficacy to effectiveness trials
  - Widespread implementation - examples
  - Modifications for culture and context: traumatized parents and families in different cultures
    - Data from PMTO implementation trials
Trauma, Resilience, & Parenting

• Resilience
  – A pattern of positive adaptation against a backdrop of adversity (e.g. Masten, 2001)
  – Capacity to recover functioning following cessation of the traumatic event (Luthar et al., 2000).

• Effective parenting is a key correlate of resilience
Prevention

• Universal/primary
• Selective/secondary
• Indicated/tertiary/early intervention

• Law of thirds

• Testing programs or services
  – Efficacy, effectiveness, implementation
Trauma and parenting contd.

- So, what do we know about trauma, parenting, and children’s adjustment? And, how does developmental stage intersect?
  - Early childhood - attachment
  - Middle childhood – focus on behavior
Two key questions

• (i) how does effective parenting influence children’s recovery from traumatic events?

• (ii) how do parents’ experiences of traumatic events affect their parenting?
Effective parenting protects children from family stressors.

Patterson, Forgatch, & Gewirtz, 2013, Perspectives on Psychological Science
• Parenting Practices Predict Children’s Recovery From a Traumatic Incident
  – Mothers’ observed parenting is associated with steeper reductions in child-reported traumatic stress over a period of four months following a domestic violence incident.

How Does Adult PTSD Affect Parenting?

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

Parenting & Trauma

• 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!
Why Focus on Supporting Parenting Following Trauma?

1. Parents are central to children’s recovery and adjustment

2. Parents are often children’s only available supports

3. Stress disrupts parenting practices

4. Children’s post trauma reactions may include both internalizing and externalizing symptoms

5. Parenting practices are malleable with intervention

6. Improvements in parenting enhance children’s adjustment!
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)
Modifying and testing an empirically supported intervention: Parent Management Training – Oregon Model (PMTO)

• Multiple studies testing the social interaction learning model have demonstrated the utility of PMTO in improving positive parenting and reducing coercion (e.g., Forgatch, Patterson, & Gewirtz, 2013)

• PMTO (follow-up data to 9 years)
  – Reduced coercion, improved positive parenting
  – Improved child adjustment, reducing substance use risk
  – Improved parents’ substance use and mental health, & couple functioning

• Positive parenting mediates the effects of family stress on children’s adjustment
Intervention framework

• Parent management training – Oregon model (PMTO)
• Based on coercion/SIL framework (Patterson, 2005).
• Tailored to prevent and address problems for youth from preschool through adolescence
  • Overt antisocial behavior (noncompliance, aggression, defiance, hyperactivity, fighting)
  • Covert antisocial behavior (lying, stealing, truancy, fire setting)
  • Internalizing problems (depressed mood, peer problems)
  • Substance abuse
  • School failure
Experimental methods

• Multi-method, -informant, -setting data
• Direct observations of social interaction
  – Parent-child interactions
  – Therapist-client interactions
• Microsocial and global coding schemes
  – Observations of therapy sessions yielded data about change process
  • Teach/confront behaviors associated with resistance (e.g. Stoolmiller et al., 1993; Patterson & Chamberlain, 1994)
  • Direct observation of therapy in community agencies to evaluate fidelity (Knutson et al., 2003)
Efficacy trials

- Efficacy trials of PMTO interventions over the past 30 years have shown positive outcomes (see Forgatch, Patterson, & Gewirtz, 2013)
  - Improvements in parenting
  - Reductions in child externalizing
  - Reductions in child depression
  - Reductions in substance use, arrests
  - Improved school performance
  - Improved parental functioning
Cascading effects

Figure 8. Expanding effect sizes. Data are from Beldavs, Forgatch, Patterson, and DeGarmo (2006).
Examining PMTO with populations exposed to traumatic events

- **Stages:**
  - Modifications of the topography of the intervention
  - Feasibility test
  - Effectiveness trial using new delivery methods
  - Implementation trial

- **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
    - Completed a feasibility trial with 10 Somali mothers in public housing
  - Military families with parents deployed to combat
    - Large scale randomized controlled trial underway with 336 families
Trauma-Informed PMTO
(Gewirtz et al., 2008; Gewirtz & Davis, 2014)

Theoretical framework II:

• Social interaction learning: Patterson, Gottman
  o Gottman & Katz – meta emotion philosophy: dismissing, rejecting, or invalidating parenting practices may impede children’s emotion regulation; emotion coaching may enhance it.

• Mindfulness
  o Emotionally uncontrolled and coercive interactions may be overlearned and automatic (i.e., mindless; Langer & Imber, 1979)
  o Mindfulness & acceptance interventions have been used with success in a variety of contexts (e.g. Kabat-Zinn, 1992; Linehan, 1993; Hayes et al., 2000).
Modifying PMTO for military families: After Deployment Adaptive Parenting Tools
Because military families... 
deserve our best efforts. U researchers are assessing new resources for families with a parent returning from a military deployment.
Read more>
Background and rationale

- National Guard and Reserves (NG/R) are USA’s ‘civilian soldiers’
- Increase in attention to families of NG/R service members given data indicating:
  - Strong associations between health of service member and worries about family/family functioning (RINGS; Polusny et al., 2009)
  - Posttraumatic distress predicts parenting challenges following deployment (Gewirtz, Polusny, Erbes, & DeGarmo, 2010)
  - Parenting is challenged during stressful periods (e.g., Forgatch, Conger, Elder)
  - Children’s adjustment is strongly influenced by parenting practices (Patterson, 2005; Gewirtz, DeGarmo, & Medhanie, 2010)
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
- 336 NG/R families recruited and followed over a 2 year period
  - Random assignment to be offered a parenting program (ADAPT- 60%) or parenting services-as-usual (web and print resources – 40%)
  - Parents and teachers complete online questionnaires, and observational, self-report, and physiological data are gathered from families at baseline, 6, 12, and 24 months. Genetic data gathered at 24 months
  - Outcomes: child substance use risk, behavior & emotional problems, parent adjustment (mental health, substance use), parenting, parent emotion regulation, parent emotion socialization
$\text{cmin} = 403.039, \ df = 164, p = .000, \ \text{cmin}^{2} = 2.458, \ CFI = .869, \ RMSEA = .066$
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
Follow-up data

• 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)
  – Child behavior problems and adaptive skills (parent report)
Findings from ADAPT’s first randomized trial

• Results indicate that, at posttest, the ADAPT intervention significantly improved parents’
  – Parenting self-efficacy (mothers and fathers)
  – Reports of ineffective discipline (mothers and fathers)
  – Observed parenting in mothers and in higher-risk fathers
  – PTSD symptoms in mothers and in higher-risk fathers

• At one year post baseline, improvements in parenting efficacy as a result of the program led to:
  – Reductions in mothers’ and fathers’ PTSD and depression symptoms, and reductions in suicidal ideation (Gewirtz, DeGarmo, & Zamir, in press)
  – Improvements in children’s peer adjustment (Piehler, Ausherman, Gliske, & Gewirtz, under review)

• Preliminary child behavior data indicate behavior improvements in children in the ADAPT condition at one year post-baseline
ITT Effect on Pre-Post Change in Mothers’ Parenting

$\text{d} = .41$
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.
Program effects on mom PTSD symptoms at 12 mo

ADAPT Effect Size: Change in $R^2 = .02$; Cohen’s $d = .28$
No Direct Effect of ITT on Fathers’ PTSD, however, Indirect Effect through ITT Change in Mothers’ PTSD.
Conclusions

• 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
  – 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 for mothers and fathers with lower baseline parenting
  – Mothers’ PTSD symptoms (which are associated with dad PTSD symptoms)

• Preliminary child behavior data indicate improvements children’s adjustment, especially among those highest risk at start

• Caveats: these are preliminary data
Course Menu

ADAPT 4U - Online

Content

1. START WITH YOUR PARENTING VALUES
   - Start with your Parenting Values

2. GIVE EFFECTIVE DIRECTIONS
3. TEACH POSITIVE BEHAVIOR
4. RECOGNIZE EMOTIONS
5. RESPOND TO DIFFICULT EMOTIONS
6. SETTING LIMITS
7. COMMUNICATE WITH CHILDREN
8. SOLVE FAMILY PROBLEMS
9. MANAGE FAMILY CONFLICT
10. MONITOR AND SUPERVISE CHILDREN
ADAPT online study - sample

• 112 active-duty, Reserve Component, and veteran families
  – including 87 individual military parents and 25 military couples for a total of 137 individuals
• 84% enlisted, 16% officers.
• 63% active duty Army personnel, 18% Army National Guard, 7% Navy, 8% Air Force, and 4% Marines.
• 34% percent of the parents were male (66% female),
• 55% military personnel (45% civilian)
• 55% of the focal children were boys (45% girls)
• Children’s ages were 5-12
ADAPT online randomized controlled trial

- At baseline, assessments were completed online by families (1 or 2 parents per family), after they completed consent forms.
  - Measures included: Strengths and difficulties questionnaire (child adjustment)
  - Parental locus of control/PLOC (parenting sense of control, efficacy, responsibility, etc)
  - Dyadic adjustment scale (short form)
- Following assessment, families were randomly assigned to ADAPT online (50%) or a no-treatment control (50%)
- Those assigned to the ADAPT online program were granted access to the online program and given 10 weeks to complete it.
- Posttest occurred at 6 months following baseline
Program participation and retention

• Retention at 6 months was 73% (100 of 137 individuals)

• Self-directed intervention compliance was low in the ADAPT Online condition.
  – On average, among the 69 individuals, 28% of the 35 required components were completed and 21% of all possible interactive components were completed.
  – However, 47% of the ITT condition completed at least 5 or more components.
Posttest analyses

- Six-month pre-post Analysis of Covariance (ANCOVA) models were conducted testing the ADAPT intent to treat (ITT) impact on post-intervention outcomes controlling for the pre-intervention score.
- Covariates included in the ANCOVAs were parent gender, military versus civilian status, age and gender of child, number of deployments, education, and annual income.
- Two primary models were specified. First, ADAPT online main effects were tested. Second, three potential two-way interactions were tested; ADAPT × parent gender, ADAPT × child gender, and ADAPT × military status.
ADAPT online study findings

- All analyses are intent-to-treat
- Effects on mothers’ parental locus of control ($\eta^2 = .073$, $d = .561$) and mindfulness ($\eta^2 = .094$, $d = .640$), measured by the Mindful Attention Awareness Scale.
- A marginal effect was obtained for ADAPT mother emotion regulation problems ($p < .10$, $\eta^2 = .024$, $d = .345$).
- Parenting behaviors exhibited a medium effect benefitting military personnel ADAPT ~ Military ($\eta^2 = .087$, $d = .617$), and mothers, ADAPT ~ mother ($\eta^2 = .037$, $d = .392$) measured with the Alabama Parenting Questionnaire.
- Finally, measured by the Strengths and Difficulties Questionnaire, there were similar results showing a differential benefit of ADAPT for girls in reducing problem behaviors for military families relative to boys, ADAPT ~ Girl ($\eta^2 = .054$, $d = .478$).
Questions for small group discussion

• What are the assets for, and barriers to running a randomized controlled trial in your community?
• How do you develop research infrastructure where little exists?
• What research can be useful to inform practice in your community?
• How can you refrain from ‘reinventing the wheel’ in interventions for child and family trauma?
Thank you

- Abi Gewirtz: agewirtz@umn.edu

- ADAPT’s website: http://www.cehd.umn.edu/fsos/ADAPT
Large-scale implementation and dissemination of evidence-based practices
Oregon Parent Management Training

• Examining implementation of an EBP in community settings
• Appropriate for study because
  ◦ Large body of empirical support both for theoretical model and effectiveness
  ◦ Well-documented, comprehensive and standardized implementation infrastructure
  ◦ Large-scale implementations successfully completed in Norway, the Netherlands, Iceland, Michigan (including Detroit), & Kansas
  ◦ In mental health, child welfare, and juvenile justice systems
Prevention science

• Science of psychosocial prevention
  ◦ Efficacy, effectiveness research
  ◦ Has resulted in a good body of evidence-based practices (EBPs)/empirically-supported treatments (ESTs)
    • Databases such as National Registry of Evidence-based programs and practices (NREPP); Cochrane reports
  ◦ BUT – little penetration into ‘real life’ community settings (1%)
Prevention science contd.

- Type II translational research is research aimed at “enhancing the adoption, implementation and sustainability of evidence-based or scientifically-validated interventions by service systems (e.g., health care settings, community-based organizations, schools)”. (Society for Prevention Research, 2008)
Research to practice

- Oft-cited 18 year gap from research to practice
- Intervention research can bridge the gap
- Start with a theory-based intervention
- Conduct efficacy trials
- Effectiveness trials
- Implementation trials
- 20 years later...!
  - Researchers have advocated going directly to effectiveness research
  - Importance of ‘real life’ intervention research
  - And of examining the implementation of empirically supported treatments in routine practice
Implementation research questions

- Government/community level:
  - How do large system-level factors, such as state-level policies, influence EBP uptake?
  - Sustainability – how are sustainable infrastructures for prevention built and maintained? (e.g. what’s the role of the state, private sector, nonprofits, etc?)

- Organizational variables:
  - What level of organizational infrastructure and readiness is required in order to implement evidence-based programming?

- Provider variables:
  - How can data be made relevant to clinicians?
  - What level of training and ongoing consultation is required in order to implement prevention programs with fidelity (e.g. ‘minimal’ level of competence)

- Client variables
  - Adaptive prevention interventions
    - Tailoring interventions to client need and preference
PMTO Intervention Model

- Parenting Practices
- Process Skills
- Support
- Coaching
Broad implementation of PMTO

- Required developing infrastructure for
  - Training, certification, coaching
    - 9 workshop days over 12-14 months
    - 5 therapy families or 4 parent groups
    - Local coaches mentored by purveyors
  - Standardized evaluation methods for assessing treatment process and outcomes in routine clinical practice
    - fidelity
  - Sustainable research-practice networks
    - Technology is ‘given away’ to the community. First generation is trained by the purveyors; subsequent generations are trained by first generation and beyond
    - Data management system (HIPAA compliant; includes uploaded video material)
Fidelity of implementation (FIMP)

- PMTO experts rate competent adherence in 5 categories
- FIMP assessed based on capacity to apply core principles of model (i.e. not just content)
- PMTO therapy candidates are trained and coached according to FIMP domains
- Certification requires achieving level of proficiency in each domain in four therapy sessions (2 encouragement, 2 discipline)
- For G2 and G3 candidates, 1 out of 4 certification tapes coded by purveyor; reliability checks conducted over several years
FIMP Content

Principal Component Analysis: Alpha = .947; 1 component extracted; 82.85% of variance explained

9-Point Likert Scale:
Good work = 7-9; Acceptable = 4-6; Needs Work = 1-3

5 categories:
**Knowledge:** Proficiency in understanding and application of core principles

**Structure:** Session management, pacing, leads without dominating

**Teaching:** Interactive approach to promote parents’ mastery and independent use of PMTO skills & tools

**Process:** Proficiency in use of clinical and strategic skills, provides safe context in which to learn

**Overall (Integration):** Growth during session, family satisfaction, likelihood to continue & use, sensitive to context
Expected G4 Specialists
N=73
Norway’s Randomized Controlled Trial  
Ogden & Hagen 2008; JCCP

\[ \chi^2 = 19.25, \ p = .57, \ df = 21, \ CFI = 1.00, \ RMSEA = 0.00 \ (RMSEA \ C.I. = 0.00 - .073) \]

• *significant at the .05 level
• Controlled for age and Gender

NOTE: BL scores for all child outcomes covaried, but excluded here for readability.
Measures Fidelity to Implementation: FIMP
Observational Code

Fidelity → Change Parenting → Change Child Behavior
Fidelity Drift Across Generations

G1 Fidelity

Training

G2 Fidelity

Training

G3 Fidelity
PMTO Across 3 Generations

Norway

G1  G2  G3
N= 29  54  68

[Box plot diagram showing distributions for G1, G2, and G3 across the variable PMTO in Norway]
FIMP Scores at Certification
Norway & Michigan

Norway G1 FIMP

Michigan FIMP
Host Community
- Identify Needs
- Engage Leadership
- Establish Program Goals
- Recruit Effective Program
- Administer Training
- Evaluate Program Efficacy

Program Provider
- Articulate Intervention
- Engage Leadership
- Develop Training Program
- Train Professionals
- Evaluate Fidelity
- Certify Competency

Collaboration
- Logistics
- Mentorship
- Adapt for Context
- Adapt for Culture
- Provide Support
- Troubleshoot
- Evaluate Implementation
- Make Sustainable
Implementation Challenges

• Community-level challenges
  – Fidelity vs. adaptation
    • Norway – punishment is immoral
    • MI – timeout seen as weak and ineffective
    • Both – resistance to videotaping and role play
    • Changing the topography of the intervention

• Policy challenges
  – Funding, reimbursement, training costs

• Practice challenges
  – Agency leadership; who to train (supervisors vs. line staff); organizational culture

• Family level challenges
  – Typical barriers to treatment including resistance
    • Norway – 80% families said they would recommend PMTO vs. 40% comparison families in community standard of care (Ogden & Hagen, 2008)
Implementing other empirically-supported practices

• Example: trauma-focused cognitive behavioral therapy
  • Learning collaborative model

• What are the core requirements for implementation?
  – Infrastructure
  – Collaboration
  – Resources for sustainability
Supporting implementation nationally

- The National Child Traumatic Stress Network
  - Congressional mandate 2001
  - 70 currently funded sites across the USA
The National Child Traumatic Stress Network (NCTSN)

Established by the U.S. Congress in 2000 through the Donald J. Cohen National Child Traumatic Stress Initiative, the SAMHSA-funded NCTSN is, in 2011, a collaborative Network of over 130 university, hospital, and diverse community-based organizations, located in 40 states and the District of Columbia, with thousands of national and local partners.

The mission of the National Child Traumatic Stress Network (NCTSN) is to raise the standard of care and improve access to services for traumatized children, their families and communities throughout the United States.
About the National Child Traumatic Stress Network (NCTSN)

- The NCTSN facilitates rapid dissemination of science to service, and incorporates through collaboration the views of families, consumers, community and national partners, and the varied workforce in all child-serving systems.

- The work of the NCTSN supports all child-serving systems in their efforts to address child trauma issues as they affect their work in schools, child welfare, foster care, juvenile justice, residential care, refugee services, military families, disaster response, and more. It also offers services for all age groups, all trauma types, and all professional disciplines which provide services and care to children.
About the National Child Traumatic Stress Network (NCTSN)

- The NCTSN has placed a high priority on data collection to determine the effectiveness of the program and its impact on treatment outcomes of the children. The NCCTS Core Data Set has information on over 14,000 children, and analysis is underway to discover new findings about child trauma.

- This data show the severity of the trauma exposure, the diversity of the children and experiences within the Network, and the effectiveness of evidence-based treatments that are developed and disseminated through NCTSN training.

- Of the children for whom outcome data is available, a majority have achieved clinically significant improvements at the end of treatment.
Ambit Network - University of Minnesota

A SAMHSA-NCTSN Community Treatment and Services Center

- A Community-University collaboration of multiple agencies and systems serving Minnesota’s children (SAMHSA funded 2005-present)
- Our focus: increasing access to quality care for children affected by trauma throughout Minnesota and the Upper Midwest
- Accomplishments: moving research into practice through
  - Rigorous statewide training of mental health providers to deliver evidence-based children’s mental health trauma treatment
    - Over 120 providers trained to deliver trauma-focused cognitive behavioral therapy in 25 agencies across the state
    - These providers have touched the lives of thousands of children in MN and beyond
    - Data from children served indicate clinically significant improvements in functioning and reductions in symptoms from baseline to post-treatment
Ambit Network Accomplishments

- Training and supporting human service personnel to deliver trauma-informed parent training programs for families
  - Refugee families
  - Parents exposed to domestic violence and homelessness, in shelters and supportive housing
  - Military families with parents deployed to Iraq and Afghanistan

Training human service and criminal justice professionals across the state to recognize and respond to children exposed to traumatic stress
  - Minneapolis & Stillwater public school districts
  - Shelter and supportive housing staff
  - Minneapolis police department
  - Child welfare and child protection professionals

- Direct services to support those working with children after disasters
  - E.g., Support to Waite House community center following the I-35W bridge collapse

- Publications for providers working with traumatized children in collaboration with NCTSN (e.g., Psychological First Aid for Homeless Families)

- Statewide conference on childhood traumatic stress (May 19th, 2011)


Thank you

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• ADAPT’s website: http://www.cehd.umn.edu/fsos/ADAPT
Questions for small group discussion
Implementation

• How do you select an intervention to implement? (What are the considerations?)
• What are the prerequisites for initiating an implementation project or study and what is needed to sustain an empirically-supported intervention for trauma?
  – Infrastructure?
  – Resources – human? Financial?
• Who are your key collaborators?
  – University?
  – Community? Key leaders in policy and practice?
  – Strategy to engage them?
Welcome to ADAPT4U

- Are you a military service member, spouse, or partner of a service member?
- Do you have children between the ages of 5 -12?
- Have you or your partner been deployed overseas since 2001?
- Interested in being involved in cutting edge research that will help inform parenting services provided to military families?
- Have a desire to contribute to the military community and its families?

ADAPT4U is a project being conducted at the University of Minnesota with the support of the Minnesota and Michigan National Guard and Reserves and funded by the Department of Defense. With ADAPT4U we strive to learn about family resilience and develop tools to support parenting and resilience among military families coping with the stress of deployment and reintegration.

Our project hopes to learn about how to best support military families with a focus on parenting skills, couple relationships, problem-solving, and effective communication. We also aim to give back to the military community by