

Strengthening families of those who serve: Results of the After Deployment, Adaptive Parenting Tools (ADAPT) study

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- Hundreds of National Guard and Reserve (NG/R) families
- National Guard command and communication staff
- Graduate students, undergrads, and postdocs
- Co-investigators: Drs. Melissa Polusny, Marion Forgatch, Dave DeGarmo,
- Research staff and facilitators



Background & Rationale

- The wars in Iraq and Afghanistan have resulted in the deployment of 3 million service members
 - These included 50% reserve component (National Guard & Reserves (NG/R))
 - In the NG/R about half of all service members are partnered and most of those are parenting
- Increase in attention to families of NG/R service members given data indicating:
 - Higher levels of drug use, PTSD, other combat-related adjustment problems among NG/R compared with Active Duty personnel (Jacobson et al., 2008 –alcohol use; Milliken, Auchterlonie, and Hoge, 2007 - PTSD, depression, interpersonal conflict)
 - Posttraumatic distress predicts parenting challenges following deployment (Gewirtz, Polusny, Erbes, & DeGarmo, 2010)
 - AND – military families are resilient! Studies indicate that military status per se is **not** associated with risks to children's and families health and wellbeing.

Healthy families, healthy service members

- Mission readiness requires an uncluttered mind
 - Concerns about family associated with poorer wellbeing during and after deployment
- Today's 'military brats' will be tomorrow's service members
- Much past research on influence of family members on each other's wellness
 - Parents with psychological challenges have kids with more problems
 - Parents with parenting challenges have children with more problems
- The good news: improving parenting skills leads to improvements in other family domains.....
 - Using evidence-based family programming

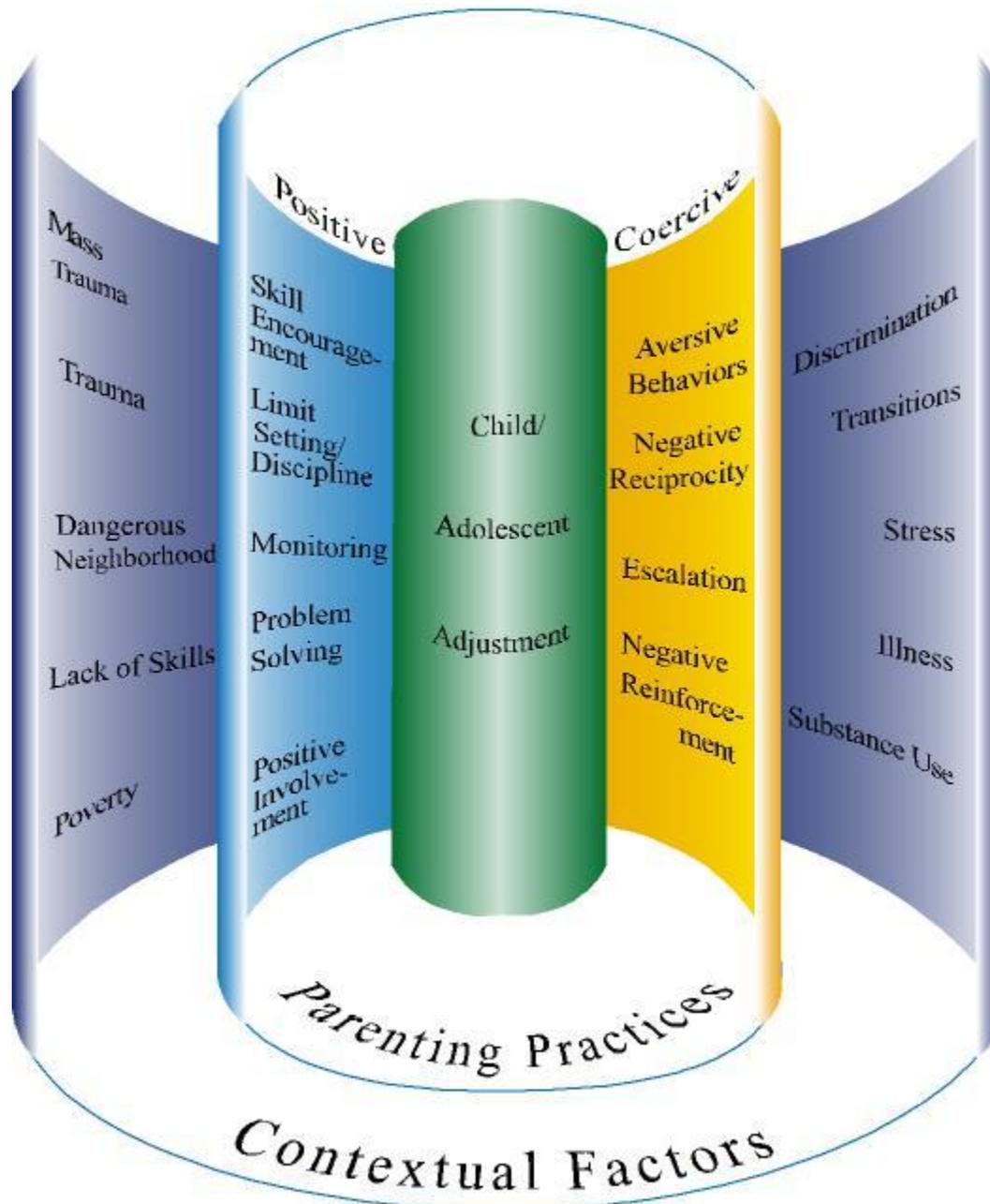
What is 'evidence-based programming'?

- Programs that are
 - Theory-driven
 - Have a strong base of empirical support
 - Have been tested in randomized controlled trials which compare how families who were invited to attend the program fared compared with those who were offered something different
 - Randomized trials are the gold standard in science – e.g. no drugs will come to market without an RCT
 - Yet, many family-based and psychosocial programs are widely used without being rigorously tested
 - » Anybody participate in DARE as a child??
 - To examine whether programs work, we use an 'intent-to-treat' design which compares all those assigned to one group, with all those assigned to the other group, regardless of how many actually participated

A theory- and evidence-based parenting program

- Parent management training-Oregon model
 - Based on the work of Gerald R. Patterson –WW2 veteran awarded a Bronze star for his bravery in Okinawa, psychologist, canoe guide, and poet; and Marion S. Forgatch, who developed the PMTO program on which ADAPT is based
- Tested in multiple randomized trials
 - In Forgatch’s study of a parenting program with single mothers, those who went through the program not only showed better parenting than those who didn’t, but also showed:
 - Less depression and substance use
 - Higher income, education and occupation
 - And kids showed better school performance, fewer arrests, less drug use and depression
 - **And effects lasted over nine years!**

A Social Interactional Learning Model



Forgatch,
Patterson, &
Gewirtz, 2013

Military family programs to strengthen resilience

- A good range of programs
 - Offered widely (more on installations with Active Duty military, less with National Guard and Reserves)
- But no randomized trial outcome data
 - Mostly pre-post

After Deployment Adaptive Parenting Tools



A D A P T

After Deployment: Adaptive Parenting Tools



Latest News



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 >](#)




What is ADAPT?

- The ADAPT study was the first federally funded randomized study of a parenting program for military families with school-aged children, and the first parenting study of National Guard families
- It tested a parenting program (ADAPT) designed specifically for military families via a randomized controlled trial, and at the same time aimed to learn about how families navigate deployment and reintegration
- ADAPT is a 14-week group-based parenting program that is now also available for both Reserve Component and Active Duty families, in online-only, individual tele-health, and workshop versions.

Why did we start ADAPT?

- We wanted to learn about military family resilience
 - How do parents reconnect with children after deployment?
 - How do mothers and fathers parent in the wake of deployment?
 - How can we support families after deployment?
- No research-based parenting programs for deployed families with school-aged children
- Fewer resources for the NGR than active-duty service members

ADAPT's theoretical framework: Parenting practices mediate impact of family stressors on child adjustment

- Deployment is a family stressor
 - Separations from family and children (MacDermid, 2006)
 - Combat related stressors (Cozza et al., 2005)
- Reintegration is a key transition point
 - Transitions offer special prevention opportunities
- Parenting practices mediate the impact of deployment stress on child outcomes (Patterson, 1982)

The study: Effectiveness of a web-enhanced parenting program for military families

- 2010-2016
- 336 NG/R families recruited; each family followed for two years
 - Random assignment to 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 (parents & children) at baseline, 6, 12, and 24 months.
 - Outcomes: parenting practices, couple adjustment, child adjustment (behavior and emotional problems, substance use, peer adjustment), parent emotion regulation, parent emotion socialization

Who are the families in ADAPT?

- 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
- 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)

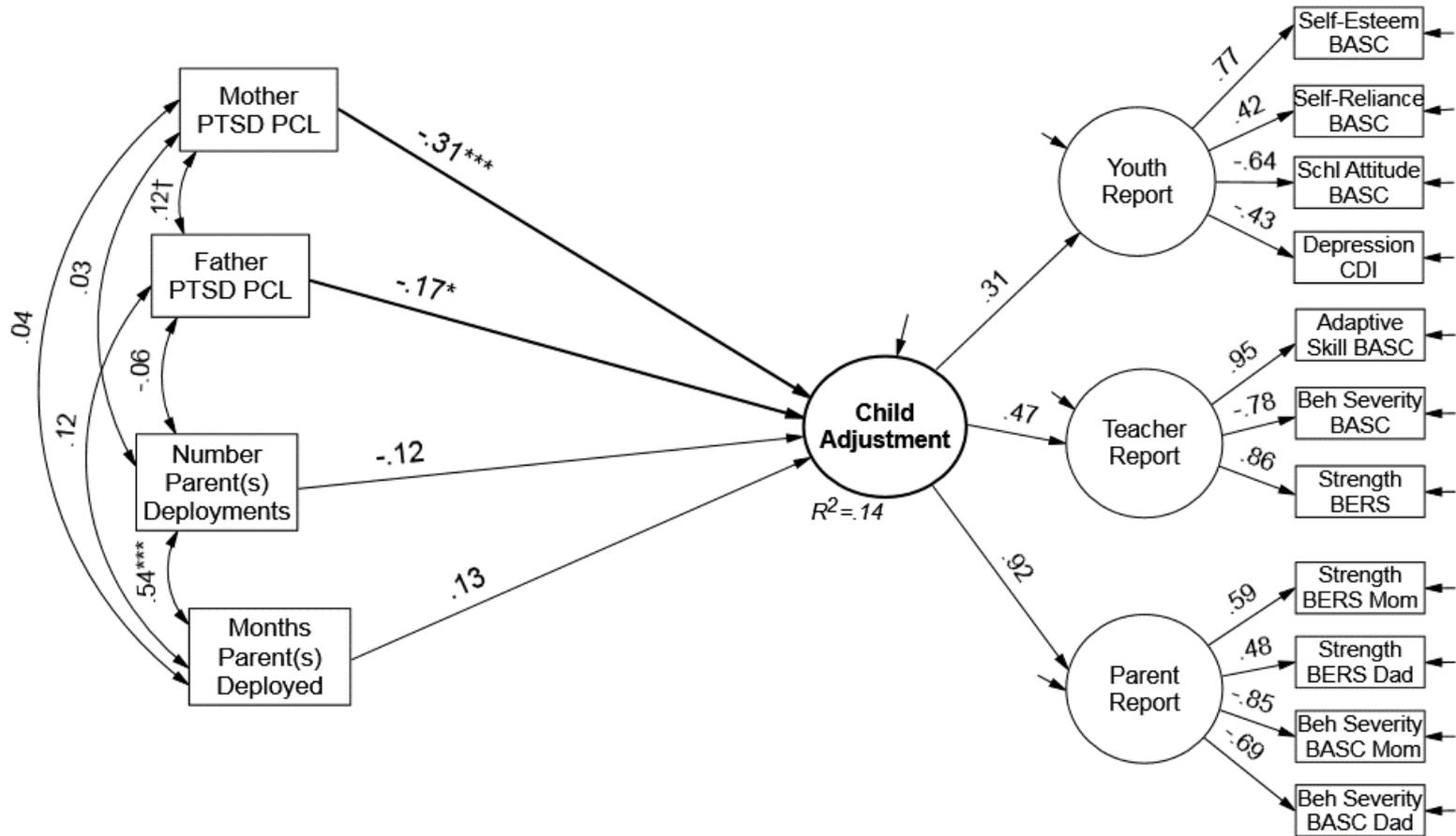
Who are the military and deployed mothers in ADAPT?

- 80 military mothers
 - 52 in dual partner military families
 - 28 just mothers in military
 - 44 Army NG; 11 Air NG; 16 reserves, 9 other
- 57 mothers have deployed to OIF or OEF; 51 were gone 6-24 months; 44 deployed once

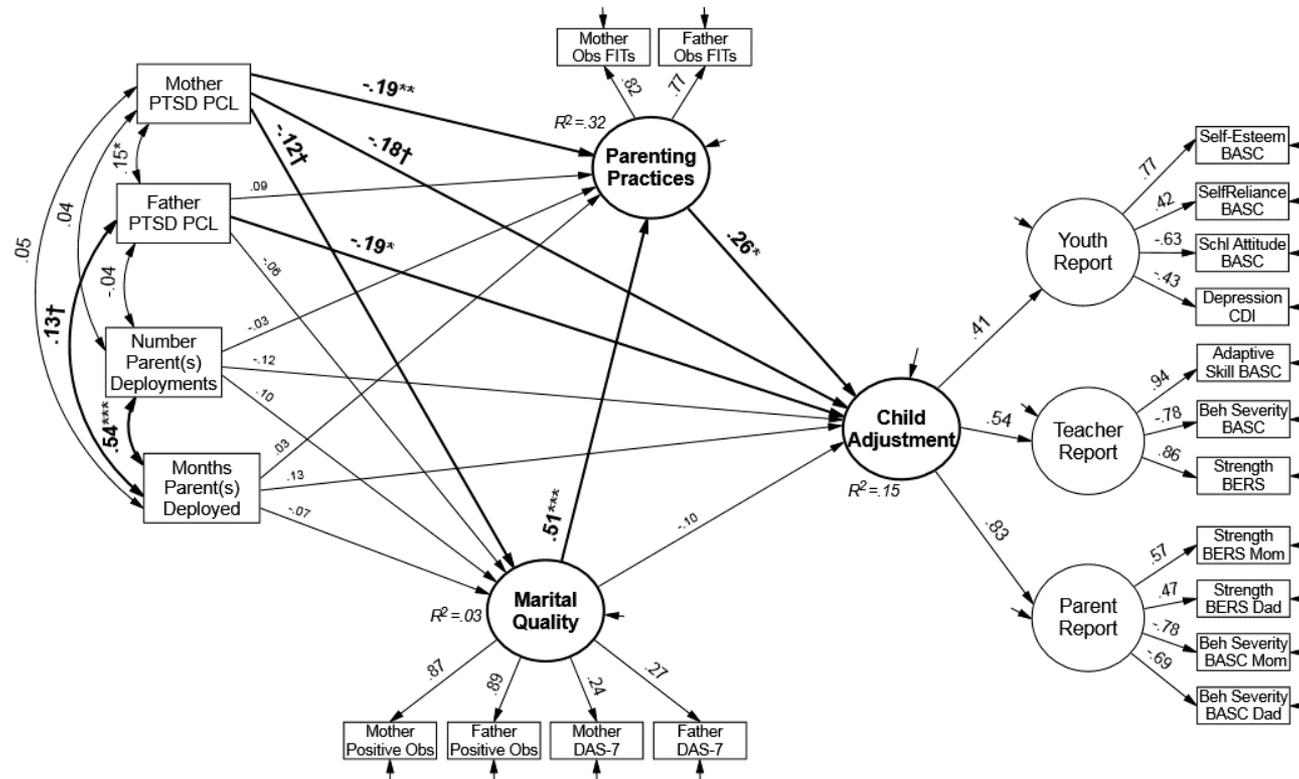
Deployed vs. non-deployed mothers in ADAPT

- We analyzed data from 181 mothers who completed baseline data collection
- 34 deployed, 147 never deployed
- Controlling for marital status, deployed mothers reported significantly higher distress (PTSD and depression symptoms) and difficulties in emotion regulation than never deployed mothers
- Deployed mothers had more adverse past year life events
- But no differences in reports of couple or child adjustment (Gewirtz et al, 2014, Professional Psychology, Research and Practice)

Association of deployment and PTSD with child adjustment at baseline



Military family stress model (Gewirtz, DeGarmo, & Zamir, 2017)



Baseline findings

- Military family stress model (Gewirtz et al., 2017, Family Process)
 - PTSD, rather than deployments, affects parenting and child adjustment; pathways differ for mothers vs. fathers
- Emotion regulation, mindfulness and couples (Zamir & Gewirtz, 2017a; 2017b; Zhang et al., resubmitted)
 - In a subsample of 228 couples in 2-parent families with father deployed and mother civilian, we examined whether observed couple communication mediates associations between experiential avoidance and marital quality
 - Experiential avoidance/EA was associated with marital quality for both mothers and fathers
 - Higher EA in men was associated with more negative couple communication and lower marital quality in female partners but not vice-versa
 - Among the same subsample, we examined parents' reported non-reactivity (on the Five Facet mindfulness questionnaire) and its association with observed anger in couple interactions.
 - Each parent's non reactivity was negatively associated with his/her observed anger
 - In addition, higher mother non reactivity was associated with less father observed anger, but not vice versa

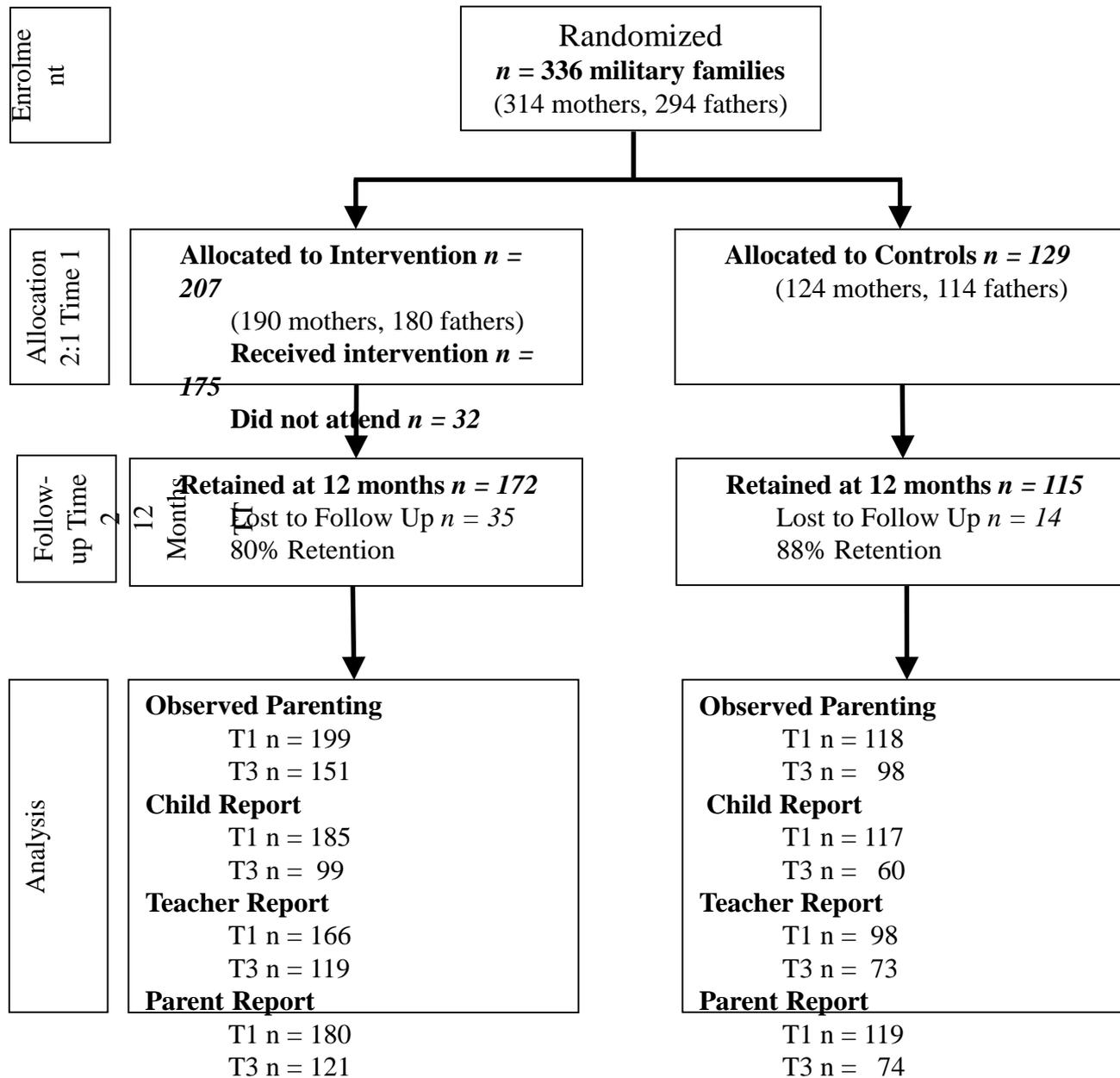
Modifications to parent training model for military families: ADAPT

- ADAPT is a 14-week long, web-enhanced, group-based program for troops returning from deployment who have at least one child aged 5-12yrs
 - Weekly, provided in the community, 2hrs long, groups began Sept 2011
 - Online ADAPT is available to participants for 12 months
- Modifications include: attention to emotion regulation in family communication (emotion socialization)
 - Mindfulness training (to address experiential avoidance associated with combat stress symptoms)
 - Emotion coaching (esp. responding to children's anxiety)
- Attention to military culture and values (in group process, in tailored video material, role plays, etc)
- 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 (Marquez, Gewirtz, & DeGarmo, 2013-2015)

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**
 - **Yoga practices available on a private You Tube channel**
 - Home practice and information handouts
 - Short quizzes/ knowledge checks
- Taught via:
 - Role play
 - Discussion
 - Practice

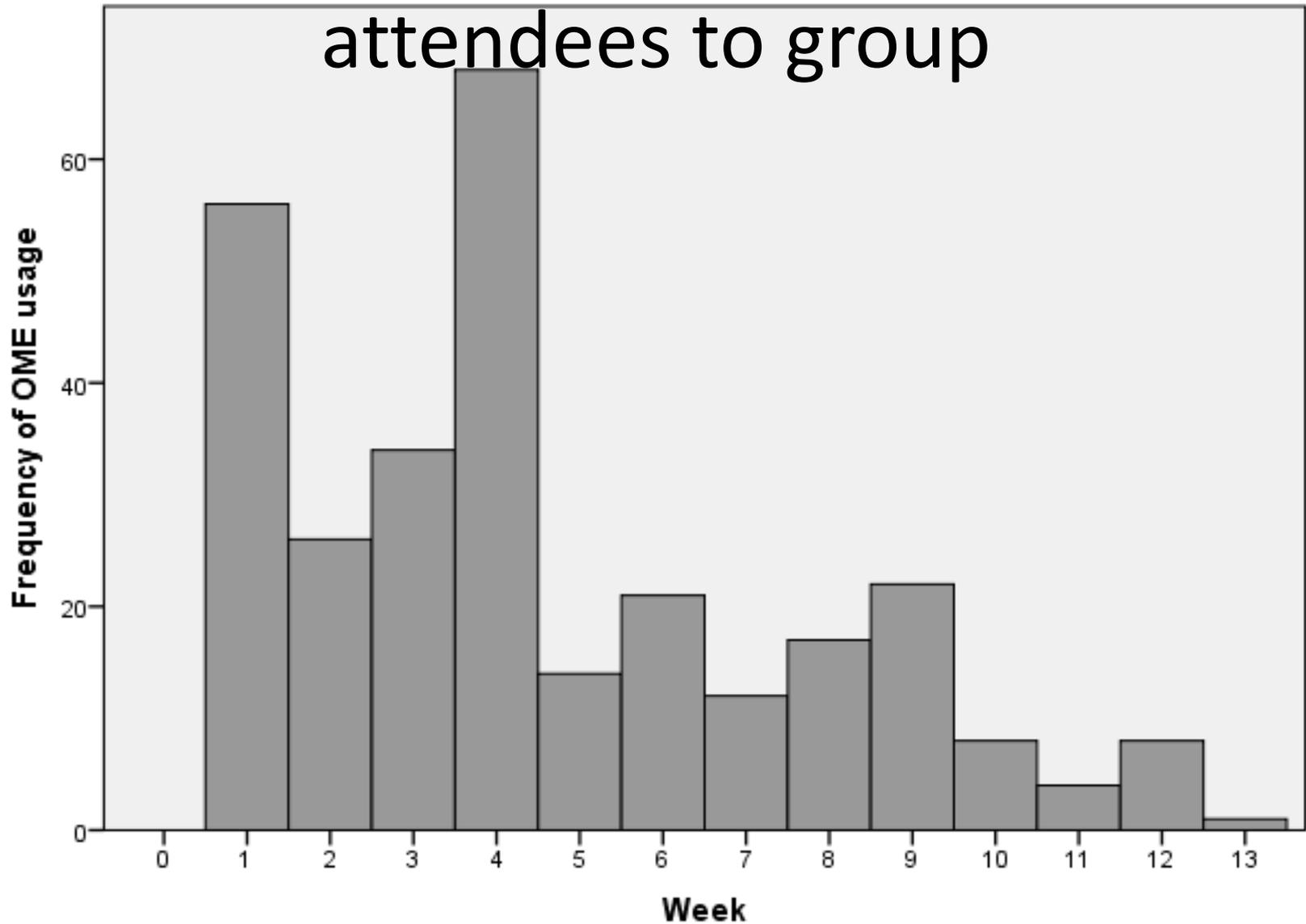
Consort chart



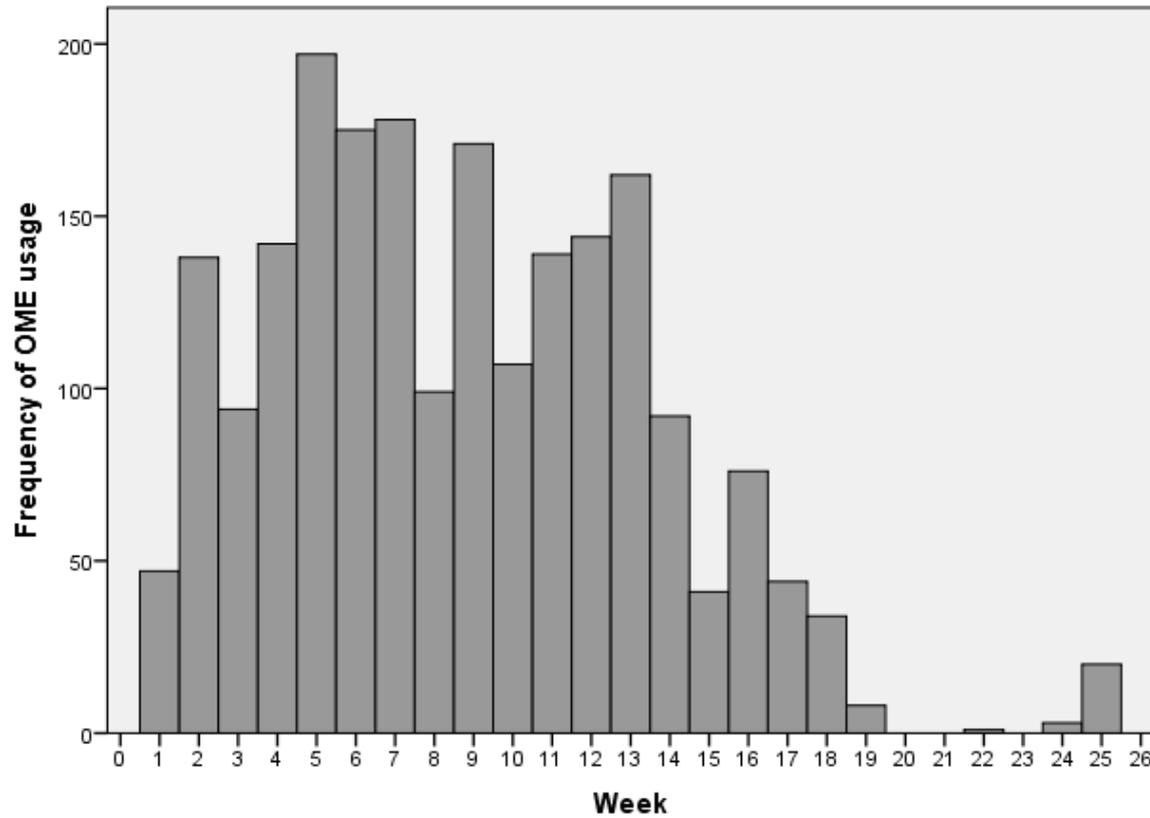
Results: Participation (Gewirtz et al., 2014; Doty et al., 2016; Pinna et al., 2016)

- Of the families randomly assigned to the ADAPT program, 75% came to at least one group session, and an additional 10% only used the online supplements.
 - No differences in attendance between fathers and mothers
 - Majority of families attended 7 sessions or more
 - About half of the participants used the online components
 - Almost half used the online mindfulness components
 - Those attending groups used mindfulness exercises throughout the 14 weeks; those who did not attend, used them only for an average of four weeks.
 - Mothers engaged more than fathers
- Participant satisfaction was high (3.44 on 4 point scale)
- Limitations: very crude examination of online participation and no evaluation of yoga use

Online mindfulness usage among non-attendees to group



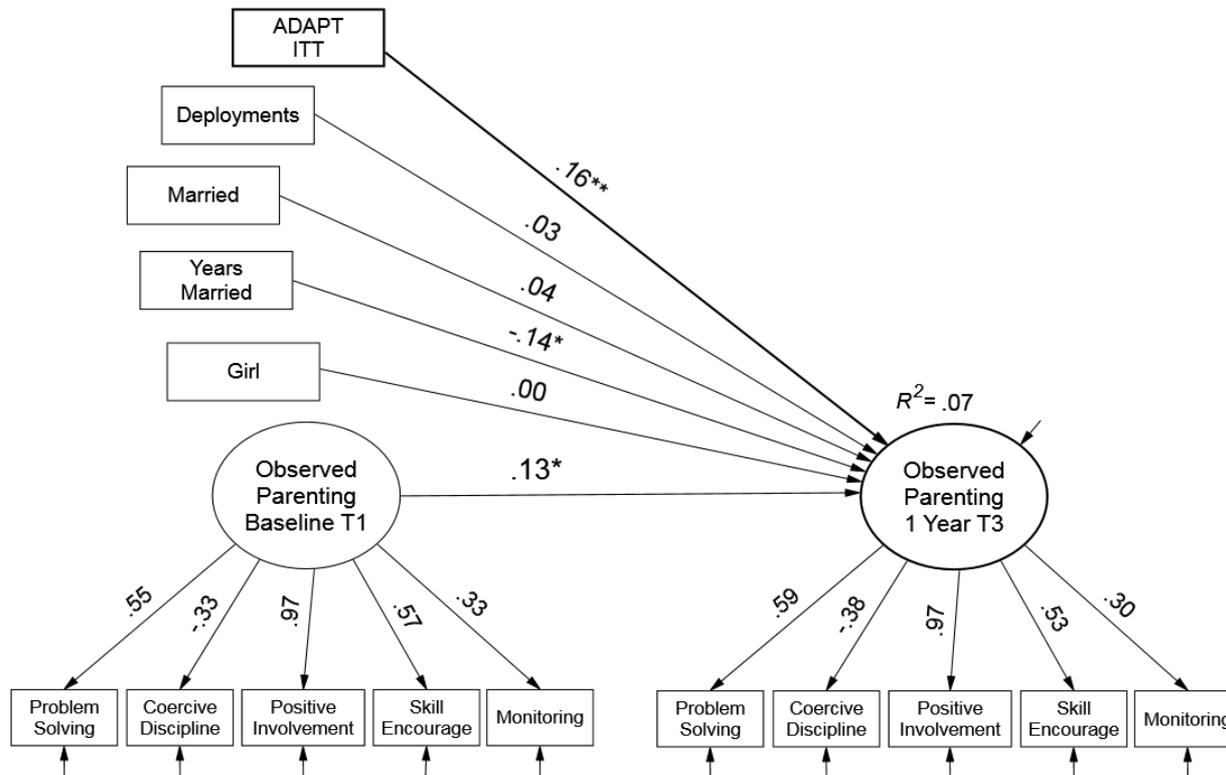
Online mindfulness use among group attendees (n=271)



Program results: Impact

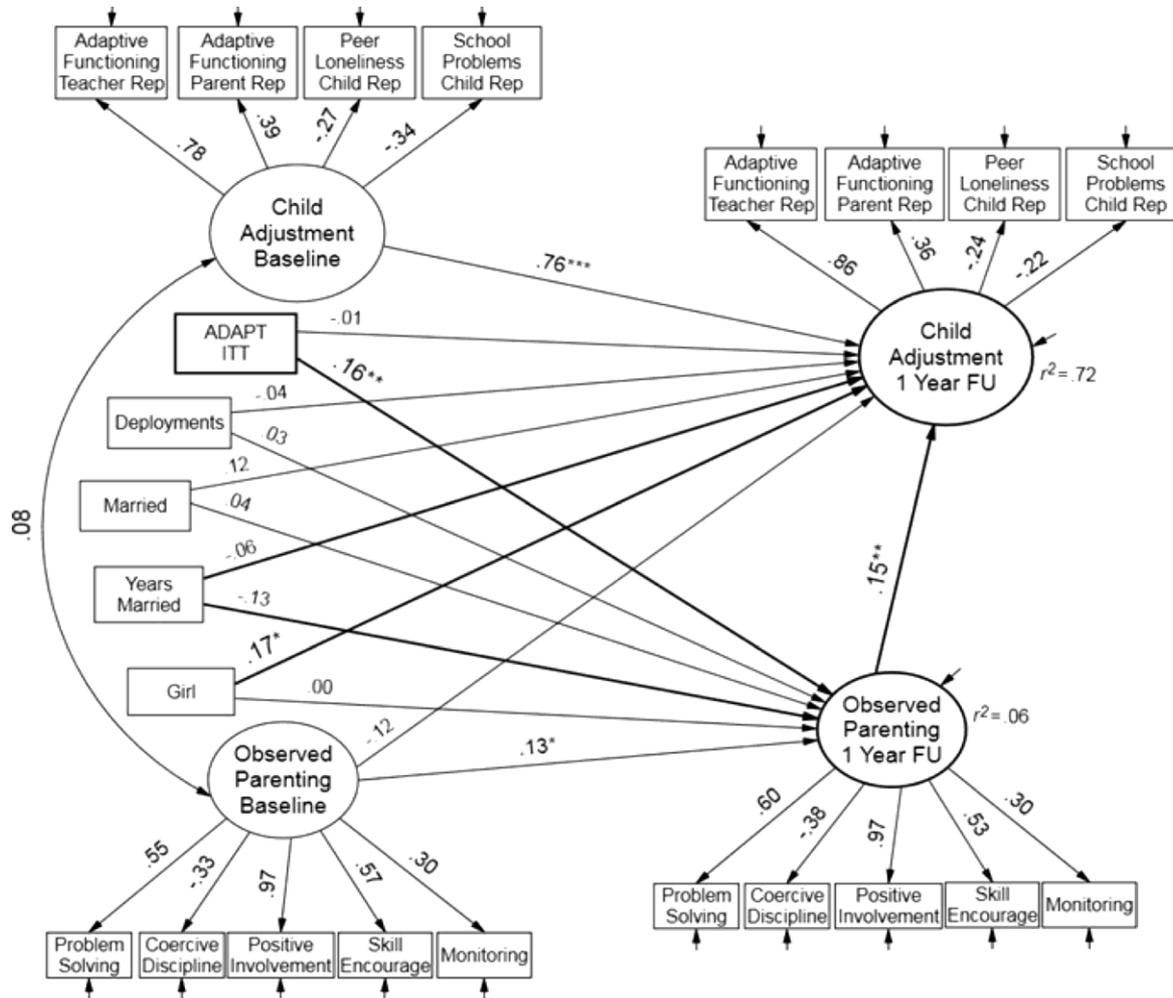
- We evaluated the effectiveness of the ADAPT program at 6, 12, and 24 months after initial interview
 - 24 month data being analyzed now
- Examined ADAPT's impact using 'intent to treat' analysis on:
 - Parenting self-efficacy
 - Parent reports of ineffective discipline
 - Observed parenting
 - Mindfulness
 - Parents' psychopathology (PTSD, depression, suicidality)
- Examined moderator effects (i.e. were there subgroups who benefited more or less from the program?)
 - PTSD
 - Genetic moderation
 - Physiological indicators
- Child outcomes
 - Behavior problems and adaptive skills (parent, teacher, and child report)

Intent to treat analyses: effects of ADAPT on observed couple parenting



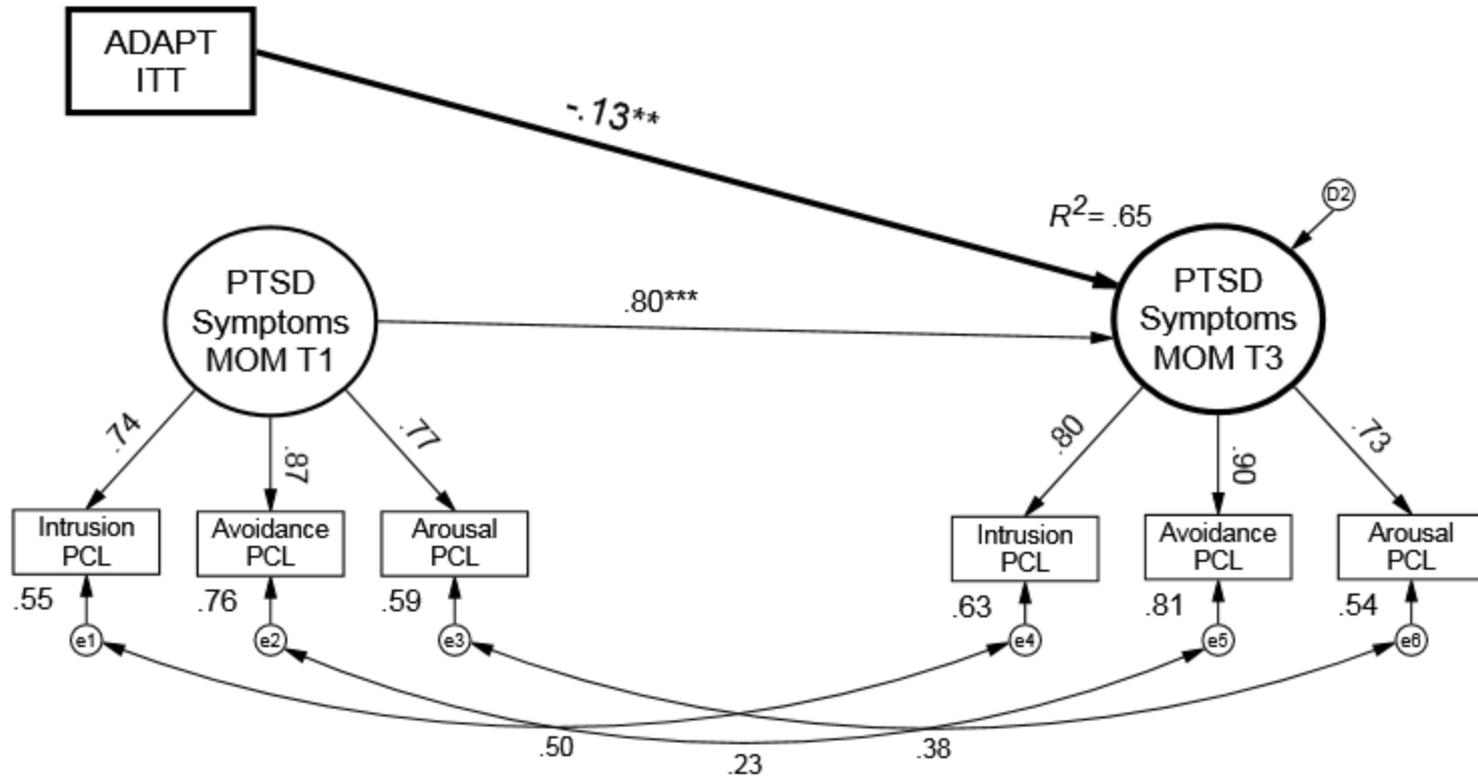
Structural equation path model for test of intent to treat (ITT) effect of ADAPT parent training intervention on pre-post observed effective parenting practices. Paths are standardized estimates. Model Fit [$\chi^2(83) = 118.64, p = .01, CFI = .94, RMSEA = .03; \chi^2/df = 1.42$. *** $p < .001$; ** $p < .01$; * $p < .05$]. ADAPT effect size $d = .35, r^2 = .07$.

ADAPT improves parenting, which is associated with improved child adjustment



Structural equation path model for test of intent-to-treat (ITT) effect of ADAPT parenting practices on multi-agent child adjustment construct. Paths are standardized estimates. Model fit [$\chi^2(206) = 290.54$, $\chi^2/df = 1.41$, CFI = .92, RMSEA = .03]. *** $p < .001$; ** $p < .01$; * $p < .05$. Indirect effect of change in parenting = .024, $p < .09$, 95% CI [.01, .06]

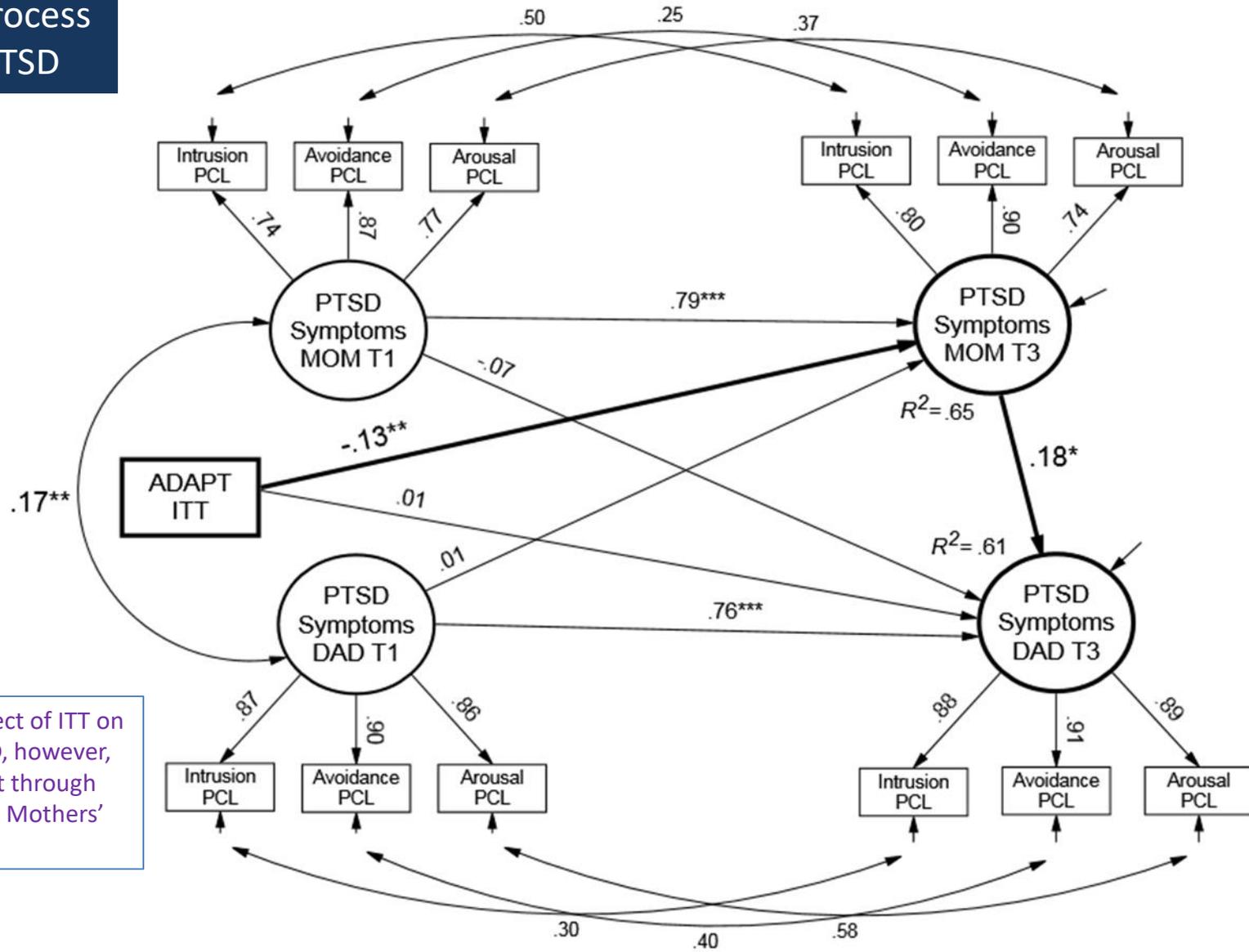
Program effects on mom PTSD symptoms at 12 mo



Chi-sq = 12.919, df = 10, p = .228, CFI = .997, RMSEA = .030, Chi-sq/df = 1.292

ADAPT Effect Size: Change in $R^2 = .02$; Cohen's $d = .28$

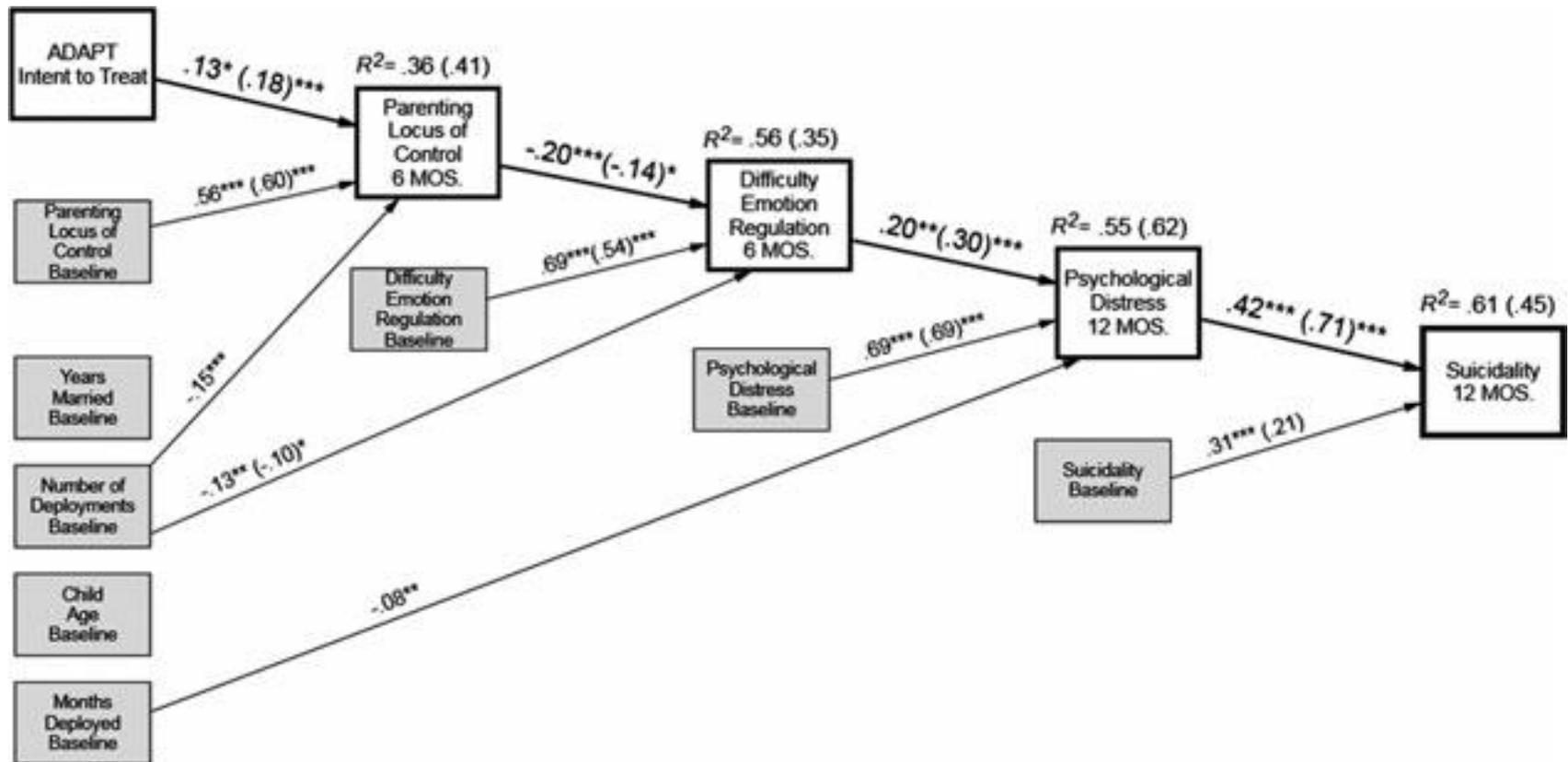
Family Process Couple PTSD



No Direct Effect of ITT on Fathers' PTSD, however, Indirect Effect through ITT Change in Mothers' PTSD.

Chi-sq = 48.366, df = 52, p = .618, CFI = 1.000, RMSEA = .000, Chi-sq/df = .930

Indirect effects of the ADAPT intervention on parents' emotion regulation and distress (Gewirtz et al., 2016)



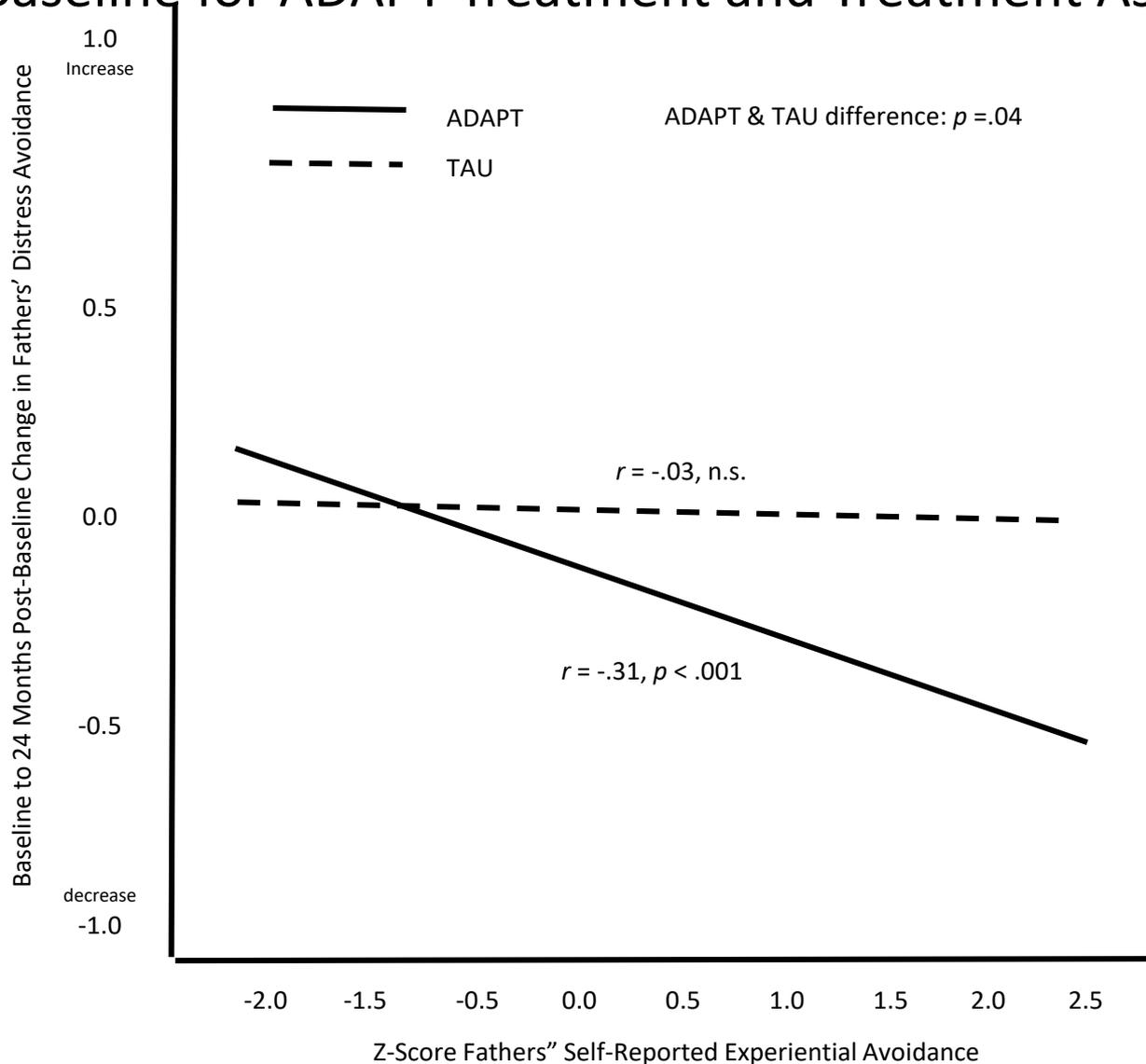
Findings: mindfulness, experiential avoidance and emotion regulation

- ITT improvements in mother mindfulness assessed with the Five Factor Mindfulness Questionnaire only at T2 (posttest; 6 mo post baseline)
- Within the intervention group, participants who used online mindfulness exercises showed significantly higher trait mindfulness at 6-month follow-up compared to baseline (Zhang et al., in press, Mindfulness)
- No ITT improvements in dad mindfulness but...

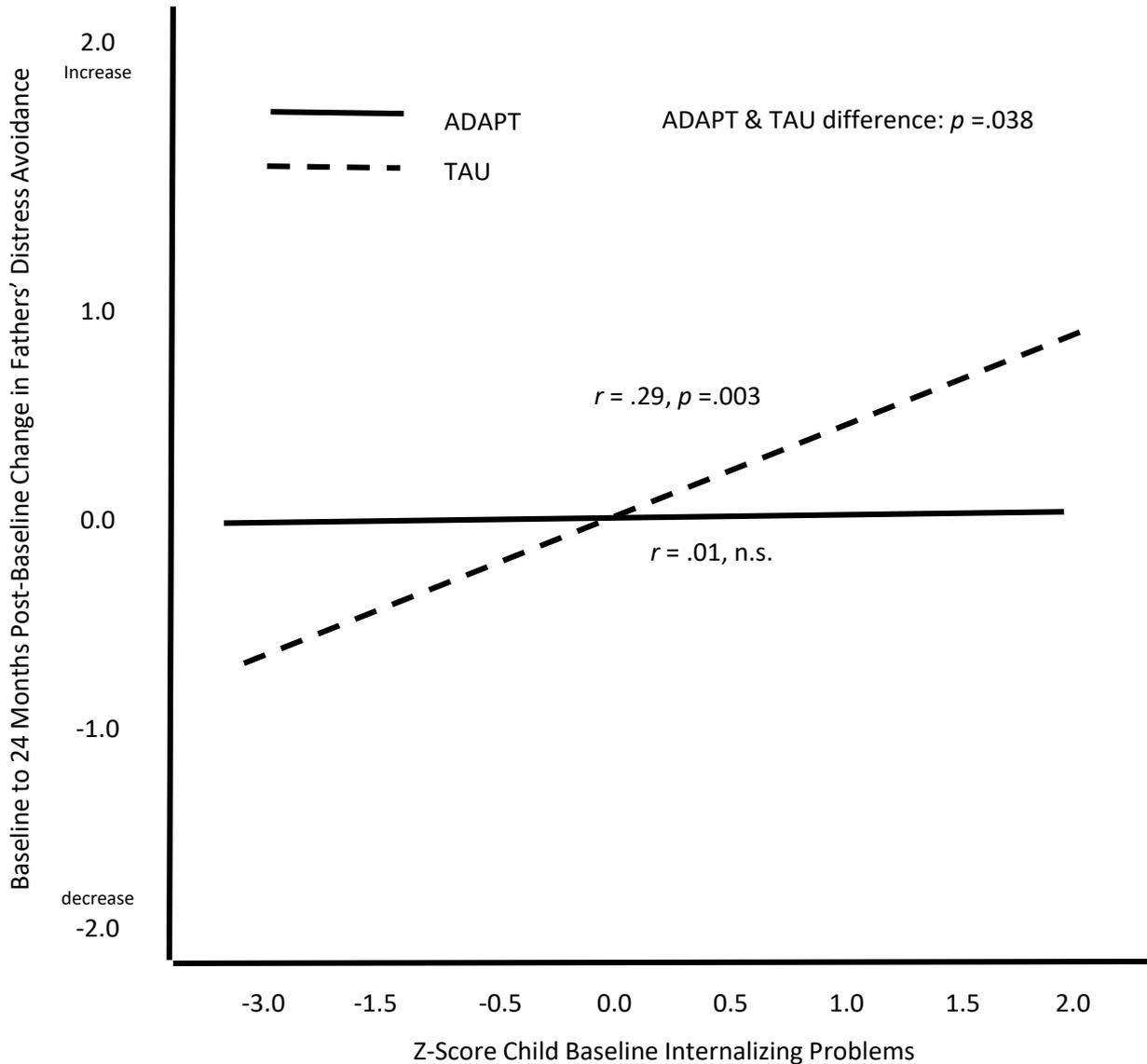
Father outcomes (Snyder and colleagues)

- Snyder developed a coding scheme to examine how PTSD might manifest in parent-child and co-parent interaction
 - Positive engagement, withdrawal avoidance, reactivity coercion, **distress avoidance**
- At baseline, service members' experiential avoidance was significantly associated with less observed positive engagement, and more observed withdrawal and distress avoidance, after controlling for partner and child negative affect and behavior during family interaction tasks (Brockman et al., 2016).
 - Experiential avoidance also moderated (lessened) associations between PTSD symptoms and observed behavior
- In outcome analyses from baseline to 24 months, father/service member experiential avoidance, and child internalizing symptoms were moderators of intervention effects on observed distress avoidance and effective parenting (Snyder, Gewirtz et al., in preparation).
 - Men higher in baseline EA showed significant reductions in distress avoidance (and parenting improvements) as a result of the ADAPT intervention
- The ADAPT intervention appears to have its most beneficial effects on fathers' parenting by reducing these distress avoidant responses for fathers who are experientially avoidant in managing their own distress and whose children display frequent negative emotions as reflected by internalizing symptoms

The Relation of Fathers' Experiential Avoidance to Change in Fathers' Distress Avoidance from Baseline to 24 Months Post Baseline for ADAPT Treatment and Treatment As Usual Groups

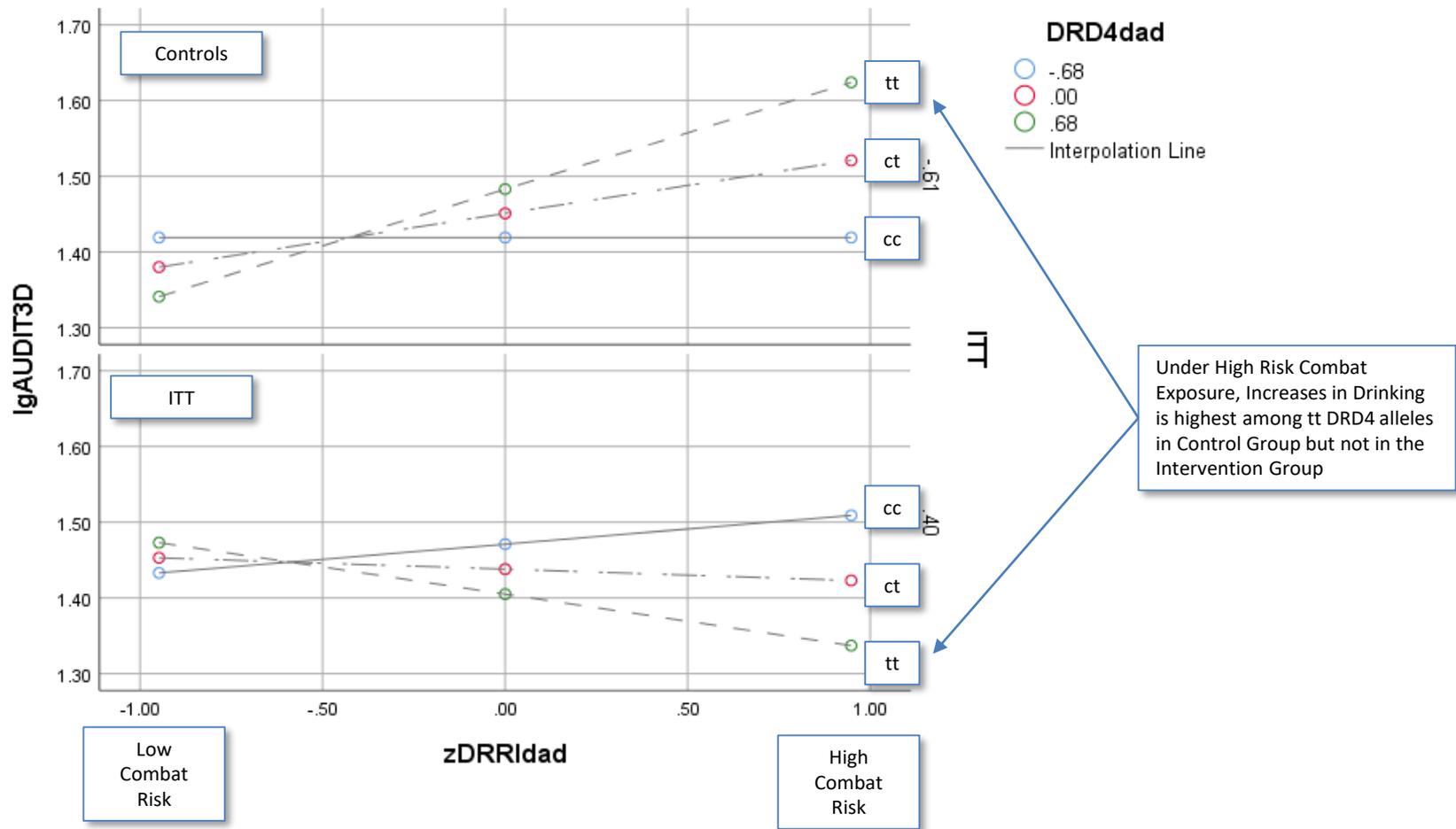


The Relation of Children's Internalizing Problems to Change in Fathers' Distress Avoidance from Baseline to 24 Months Post-Baseline for ADAPT Treatment and Treatment As Usual Groups



Newest findings: physiological and genetic moderators of program effects for fathers

- We were interested in finding out whether fathers with certain genetic and physiological characteristics/profiles would benefit more or less from the program
- Better vagal flexibility (assessed by heart rate variability/vagal suppression) – an indication of emotion regulation - predicted fathers' greater changes in observed parenting 1 year post baseline.
- The DRD4 (dopamine receptor D4 subtype) gene has been implicated in problem drinking. We examined whether the ADAPT program would buffer those with the 'TT' risk alleles (which are evident in slightly less than 1/3 of the sample) – i.e. those more likely to be problem drinkers under stressful circumstances – combat exposure. At 1 yr post-baseline, genetically higher risk dads with high combat exposure in the intervention group showed less problem drinking than their control counterparts.



Findings summary: Program Impact

- At posttest, the ADAPT program significantly improved parents'
 - Parenting self-efficacy (mothers and fathers)
 - Reports of ineffective discipline (mothers and fathers)
- At 12 months, ADAPT improved couple parenting, which led to improvements in child behavior and emotional problems (child, teacher, and parent report; (Gewirtz, DeGarmo, & Zamir, resubmitted, Prevention Science; Piehler, Ausherbauer, Gewirtz, & Gliske, 2016; J. Early Adol.)
- ADAPT's improvements in parenting efficacy led to reductions in fathers' and mothers' depression, PTSD and suicidality (Gewirtz, DeGarmo, & Zamir, 2016; Suicide & Life Threatening Behaviors)
- In fathers high in experiential avoidance and children higher in internalizing problems, ADAPT reduced dad observed distress avoidance leading to improved overall father's parenting
- The program particularly benefited dads with a higher genetic risk for drinking; dads with better vagal suppression also benefited more.

What's next?

- Examine 24 month outcomes
 - Growth models
- Dosage models
 - Using person-time analyses
 - E.g. parental locus of control ITT effects across all four waves
- Understanding what happens to couples, as well as parenting and children's adjustment
- Examining different pathways for mothers vs. fathers
 - Why are there different effects for mothers vs. fathers?

Current studies

- ADAPT4U: comparative effectiveness study of different formats of the ADAPT program; 360 families in MN and MI NG/R: www.adapt4u.umn.edu
 - Online only
 - Group-based
 - Tele health
 - Added a smartphone app to deliver mindfulness exercises and gather ecological momentary assessment data on mindfulness
- ADAPT SMART (sequential multiple assignment randomized trial) – aimed at understanding what dose and format, in what sequence, works best for whom; 630 active duty Army and Special Operations families in three installations
 - Stage 1: 2-day workshop vs. ADAPT online
 - Stage 2: three 2-hr group sessions vs. 3 90 min individual in-home sessions
- Stress wearable project – in collaboration with MD2K (a center for excellence of NIH's Big Data to Knowledge (BD2K) initiative) we plan to test the use of wristwatches to monitor and provide feedback to parents about their stress levels in order to help them use effective emotion regulation strategies to help improve parenting, particularly in the wake of family conflicts
 - “the family is a crucible for strong emotions” Snyder

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Thank you

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