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| 13. SUPPLEMENTARY NOTES | | | | | |
| 14. ABSTRACT By December of 2012 approximately 2.2 million US military personnel will have served one or more times in Iraq or Afghanistan in support of Operations Enduring Freedom, Iraqi Freedom (OEF/OIF), and New Dawn (Institute of Medicine/IOM 2013). Stress associated with family separation, combat, and reintegration is extremely disruptive for parents and children. Returning service members and their families are particularly vulnerable during the reintegration period post-deployment. Risks include increases in stress, anxiety and depression, PTSD, and substance use and abuse. These outcomes lead to disruptions in interactions between parents, children, and spouses, increasing risk for children's emotional, behavior problems, and substance use. The overarching goal of our study is to address existing gaps and identified National Guard Reserve (NGR) needs that will inform the portability and access of NGR families to evidence-based programs by conducting a three-group, two-site randomized trial to test the comparative effectiveness of three ADAPT delivery approaches for 360 reintegrating NGR families randomly assigned to: (i) ADAPT group-based; (ii) ADAPT individualized web-facilitated; or (iii) ADAPT self-directed online. Families will complete pre-intervention baseline (BL) assessment (pre-test) and three post-test assessments at 6, 12- and 24 months. We hypothesize that NGR families in both the ADAPT group-based condition and the ADAPT individualized web-facilitated condition will show greater pre-post improvements in observed parenting, and parent, child, and couple functioning relative to the self-directed online condition and the ADAPT group-based condition will be equally effective as the individualized ADAPT web-facilitated condition. | | | | | |
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1. INTRODUCTION

By December of 2012 approximately 2.2 million US military personnel will have served one or more times in Iraq or Afghanistan in support of Operations Enduring Freedom, Iraqi Freedom (OEF/OIF), and New Dawn (Institute of Medicine/IOM 2013). Stress associated with family separation, combat, and reintegration is extremely disruptive for parents and children. Returning service members and their families are particularly vulnerable during the reintegration period post-deployment. Risks include increases in stress, anxiety and depression, PTSD, and substance use and abuse. These outcomes lead to disruptions in interactions between parents, children, and spouses, increasing risk for children's emotional, behavior problems, and substance use. While the need to support military families has been identified as an important national priority by numerous government-supported task forces, major gaps in effectively serving military families remain. First, most intervention and outreach efforts are guided by models lacking empirical support or programs lacking a strong theoretical background. A large majority of evaluations do not include rigorous methodology, randomization, implementation in real world settings, or long-term follow up. Second, many barriers remain for military families not living near a military-competent treatment center or Veterans Administration Medical Center. After Deployment Adaptive Parenting Tools (ADAPT) is the only evidence-based military parenting program for school aged children with evidence from RCTs. In this comparative effectiveness trial, we proposed to address existing gaps and identified needs to inform the portability and access of military families to evidence-based programs.

Specific Aim 1: Evaluate the usability and acceptability of the individualized web-facilitated (telehealth) ADAPT condition with 5 military families, and an expert stakeholder panel. Compare recruitment, retention, and satisfaction with the web-facilitated condition with existing data on the ADAPT group-based and self-directed conditions.

Specific Aim 2: Conduct a three-group, two-site randomized trial to test the comparative effectiveness of three ADAPT delivery approaches for 360 reintegrating NGR families randomly assigned to: (i) ADAPT group-based; (ii) ADAPT individualized web-facilitated (telehealth); or (iii) ADAPT self-directed online. Families will complete pre-intervention baseline (BL) assessment (pre-test) and three post-test assessments at 6, 12- and 24 months.

Specific Aim 3: Evaluate generalizability of ADAPT effectiveness across three intervention delivery approaches using intent to treat (ITT) analyses. We will specifically test the value-added impact of group-based delivery relative to telehealth and web self-directed approaches. Comparative effectiveness will be tested by specifying a non-equivalence hypothesis for group-based and telehealth relative to self-directed only.

- **Aim 3 Hypothesis 1.** NGR families in both the ADAPT group-based condition and the ADAPT individualized telehealth condition will show greater pre-post improvements in observed parenting, and parent, child, and couple functioning relative to the self-directed online condition.

Aim 3 Hypothesis 2. In testing intent to treat comparative effectiveness, the ADAPT group-based condition will be equally effective as the individualized ADAPT telehealth condition

2. KEY WORDS

Parenting, military, comparative effectiveness, children, randomized trial, prevention

3. ACCOMPLISHMENTS

What were the major goals of the project?

Task 1: Prepare University of Minnesota IRB and DOD regulatory documents for review and approval.

- 1a. Finalize human subjects protocol and consent documents for pilot group (N=5 families), and randomized controlled trial (N=360 families).

Task 2: Recruit for open positions (coordinator in MI and MN) and process paperwork to hire all project staff.

Task 3: Obtain U of MN IRB approval (Y1 Mos. 1-3)

Task 4: Obtain DoD HRPO approval (Y1 Mos. 1-6)

Aim 1: Examine the usability and acceptability of the delivery format for the individualized web-facilitated ADAPT:

Task 5: Systematically modify ADAPT web-facilitated delivery format in consultation with Advisory Group

- 5a. Convene expert panel (Y1 Mos. 4-5)
- 5b. Refine existing ADAPT materials (online/Google Hangout and manual) (Y1 Mos 1-10)
- 5c. Conduct pilot group to test usability (Y1 Mos. 6-9)
- 5d. Analyze pilot group data to inform materials and RCT (Y1 Mos. 9-10)

Task 6: Train facilitator staff in MI and MN to deliver ADAPT group with fidelity (Y1 Mos 7-12)

Aim 2. Conduct a three-group, two-site randomized trial to test the comparative effectiveness of ADAPT delivery approaches.

Task 7: Recruit three cohorts of 80 families per cohort in Minnesota (27 online, 26 group, 27 web-facilitated), totaling 240 families, and 40 families per cohort in Michigan (14 online, 13 group, 13 web-facilitated) totaling 120 families, for a total of 360 families (120 per cohort). (Y1 Mos. 11-12; Y2 Mos. 13-24; Y3 Mos. 25-26)

- 7a. Obtain informed consent and complete baseline and subsequent assessments of adult adjustment, observational measures of parenting, measures of child, and couple adjustment. (Y1 Mos 11 – Y5 Mo 50)
- 7b. Randomly assign families to online ADAPT, web-facilitated ADAPT or group ADAPT; families invited to program (Cohort 1: Y1 Mos. 11-13; Cohort 2: Y2 Mos. 18-20; Cohort 3: Y2 Mos. 24 - Y3. Mo. 26)
- 7c. Assess parent satisfaction ratings via questionnaires at end of each session (Y1 Mo. 12 – Y3 Mo. 30)

Aim 3. Test the generalizability of ADAPT effectiveness across three delivery approaches using intent to treat (ITT) analyses

Task 8. Clean and analyze outcome data to examine differential effectiveness (Y2 Mo 24 – Yr 5 Mo 60)

What was accomplished under these goals?

Aim 1: Usability and acceptability of telehealth format.

To modify the curriculum from in person group-based ADAPT to individual family web-based ADAPT, we used a multi stage process to ensure that both the content and style of delivery remained consistent. Initially we did a thorough review of the manual. We developed a list of skills and exercises from the ADAPT curriculum that were necessary to remain unchanged as well as a list of elements of group delivery that we determined would not work in an individual web-based program. We then developed and tested multiple activities that we believed would offer the same effect as those in the group curriculum but would be effective over a web platform and with fewer participants. For example, rather than having parents pair off and practice using touch, eye contact, and proximity to role play giving good directions, we tested using a stuffed animal to model a child, describing our actions, or having a parent pretend to be a child and acting out our actions over the screen in an exaggerated way. We initially tested these multiple methods on volunteer parents who were not eligible for ADAPT and requested that they provide feedback on which approach was most effective for their learning. Based on this feedback, the existing manual, and articles about best practice for web delivery of programming, we revised our existing manual to reflect these new teaching tools. We then recruited a military family with children in the appropriate age range and delivered the modified curriculum to this family. Throughout the 14 weeks of delivery we requested feedback from this family and continued to modify the method of delivery based on their feedback. The result was a curriculum that provides the same information, worksheets, and skills to families, but does this using procedures that were acceptable to web based participants.

We then recruited facilitators experienced in delivering ADAPT in a group format who agreed to do telehealth delivery. These facilitators attended three days of additional training to review and practice the new version of the curriculum as well as to provide feedback on the curriculum delivery. Following this training, final modifications were made to the curriculum. As we began working with families, we initially encountered problems in delivery that we had not anticipated. These centered on problems with WIFI or computer access and challenges in helping parents to stay focused on the session while they had the distractions of being at home. We added a brief check in prior to session one to ask parents about technology access and understanding. In some cases, we provided a troubleshooting session to parents to help them understand how to do the video chat and in a few cases even provided cameras or microphones to parents who did not have them. In addition, we developed a list of expectations for parents that we reviewed at the start of the sessions which included items such as parents always being on camera with the TV or other devices turned off. Once we had established these procedures, parents expressed to us that they really liked being able to do sessions via telehealth because it made it more compatible with their busy schedules and allowed them to feel that the skills were more personalized due to their ability to connect with the facilitator.

Aim 1: Train facilitators.

We were able to train 39 facilitators in ADAPT and provided a total of 27 days of facilitation training (each facilitator received 8-11 days of training). These facilitators came with a range of military and mental health experience and included (among others): military liaisons; psychologists, social workers; graduate students in a mental health field; counselors; teachers;

active duty veterans; active duty military spouses; psychological health coordinators for the National Guard; and members of the Minnesota Guard. The one thing all our trainees had in common was a passion for working with military families and some experience working in a teaching, support, or mental health setting. For those trained facilitators who ran groups, we provided biweekly coaching on ADAPT for the duration of the groups. The experience running groups with military families will allow these providers to have a better understanding of the challenges faced by military families. We struggled to retain facilitators during this project for two primary reasons. First, our groups only required a few hours a week for these facilitators. That meant that the majority of our facilitators had other full time jobs and so had to schedule their work on ADAPT around their primary employment. Second, because this was a research project, facilitators were often trained long before we were able to recruit enough participants in their area for them to facilitate a group. In that time between training and facilitating people's situations often changed and as a result they were unable to facilitate groups.

Aim 2: Conduct a three-group, two-site randomized trial.

The Minnesota site benefited greatly from having staff members with experience executing randomized control trials. Because Minnesota personnel had familiarity with recruiting and retaining research participants as well as collecting reliable data, they were able to produce results at a faster pace than their Michigan counterparts. While a great deal of time was spent training Michigan staff, including one-on-one weekly meetings with the project's recruitment, assessment, and intervention leads, the gap between the two sites persisted over time.

While the Site Coordinator in Michigan did not require the same depth of knowledge as Minnesota staff (because all training in data collection and program implementation was conducted by Minnesota personnel), the position did require knowledge in multiple areas of the study. As the Site Coordinator did not have direct experience in recruitment, assessment, or intervention, gaining proficiency in each proved difficult. Because the Coordinator served as the direct supervisor of the assessment staff in Michigan, the lack of expertise was reflected in the operating procedures of those collecting data at that site.

Another barrier in Michigan was the geographical dispersion of participants. With the inclusion criteria requiring families to be located within one hour of Grand Rapids, Kalamazoo, Battle Creek, or (later) Selfridge Air National Guard Base, assessment staff often had to travel long distances to reach participants. Because of the extensive travel time required with most visits, the Michigan site had less availability and, therefore, fewer appointment options for busy families.

Recommendations for future work:

- Regardless of educational background or other relevant characteristics (in this case, being a former service member), a Site Coordinator must all also have direct experience in conducting research and be well-versed in the importance of collecting data that are both reliable and valid.
- Experienced staffers should play a larger role in hiring assessment technicians as well as ensuring remote staff's adherence to protocols in both participant communication and data collection. This, however, would require additional resources (i.e. staff at the experienced site). While Minnesota personnel guided these areas as much as possible, it was not feasible to divert additional time from work in Minnesota as over 70% of the sample was made up of Minnesota families.

- Work should either be adapted for remote data collection or focus on smaller geographical areas. This would allow busy and overcommitted families more options to participate and would be more cost effective.

Aim 2: Retention.

Of the 244 families who completed a baseline assessment, only 22 were lost to attrition (less than 10%). As with our prior study, a much larger number of families showed initial interest (N=361) than followed through with a baseline assessment.

- Retention strategies focused on understanding families' needs and adapting our practices to accommodate them. For example, when participants joined the study, they were asked how and when they preferred to be contacted. By using their preferences, we were able to schedule with many families fairly quickly. For those we were unsuccessful in reaching in this way, we focused on regular but varied contact. In other words, we strived to contact families needing to be scheduled on a nearly weekly basis, but varied our methodology (e.g., phone calls, emails, texts, and letters) as well as the time of day and days of week we contacted them.

Staff were most successful in scheduling participants when they personalized their communications. Even if families received regular contact, that contact was largely ineffective if generic templates or voice messages were sent.

Another effective strategy was bringing a childcare provider to appointments or giving parents a stipend in order to hire their own provider. Without this offering, participation in a three-hour assessment would have been very difficult, if not impossible, for many families with small children at home.

- Of the families who discontinued their involvement in the study, most cited their busy schedules as the reason they no longer wished to continue. Very few of them participated in the parenting program, reflecting the difficulty of retaining research participants if they are unable or unwilling to take part in the intervention.

- For future work, staff should talk with all participants after they consent, especially those who were not recruited directly by study personnel, to make sure they understand what the study entails, including the time commitment associated with both data collection and intervention. Many of our participants did not seem to read the consent form thoroughly and were surprised by the length of our 14-week intervention.

While this may mean fewer families would complete a baseline assessment, you may see higher rates of participation in both intervention and subsequent data collection.

Aim 3: Generalizability of effectiveness across delivery approaches.

Hypothesis 1. NGR families in both the ADAPT group-based condition and the ADAPT individualized web-facilitated condition will show greater pre-post improvements in observed parenting, and parent, child, and couple functioning relative to the self-directed online condition.

Hypothesis 2. In testing intent to treat comparative effectiveness, the ADAPT group-based condition will be equally effective as the individualized ADAPT web-facilitated condition

ADAPT4U Attendance

A total of 244 families consented to participate in the study and completed a baseline assessment. Of those families, 78 families were randomized to online, 71 to telehealth, and 95 to group condition. Proportions of families who attended at least one session were 74.6% (n=53) for telehealth, 70.5% (n=55) for online and 53.7% (n=51) for group condition [χ^2 (2, N=244) =9.31, p = .010]. Significant chi-square result indicated that telehealth and online had higher proportion of participants who attended one or more sessions compared to group. Mean attendance rates were: online 83.3% (SD=28.0), telehealth 88.8% (SD=25.3), and group 65.6% (SD=29.5) [F(2, 156)=10.01, p<.001]. Post-hoc Bonferroni tests showed that online (p=.004) and telehealth (p<.001) had significantly higher mean attendance rates compared to the group condition. Proportions of families who attended 50% or more sessions among those who attended at least one session were 88.7% (n=47) for telehealth, 85.5% (n=47) online, and 70.6% (n=36) group. Chi-square test showed that telehealth and online had significantly higher rates of 50%+ attendance compared to the group condition [χ^2 (2, N=159) =6.47, p = .039].

Immediate posttest (T2; 6 months post baseline) Outcome Analyses (Note that primary outcome analyses are conducted at T3/12 months. Those analyses are listed below).

Intervention effects on outcomes assessed at post-intervention (T2) were analyzed using ANCOVAs with intervention condition (online, telehealth, group) as an independent variable, and site (MN and MI) and baseline scores (T1) as covariates. Outcomes (all parent reported, as these were the only data gathered at 6 months) included parent variables (APQ, PLOC, CESD, PCL) and child externalizing and internalizing problems (BASC2). The sample included 244 families who consented and were enrolled in the study. Of those families, 78 were randomized to online, 71 to telehealth, and 95 to group condition. Intervention effects were tested on the observed effective parenting outcome measured at 12 months post baseline (i.e., 6 months post end of intervention). Results showed that there were no significant differences among the three conditions at T2. Next, telehealth and group conditions were combined and compared to the online condition. Post-intervention outcomes were analyzed using ANCOVAs with site and baseline outcome variable as covariates. At T2, the combined conditions showed significantly higher father-reported parenting efficacy (PLOC) compared to the online condition (p=.040). Analyses of relationship satisfaction (DAS) at T2 revealed that mothers assigned to the online condition reported higher satisfaction compared to the telehealth and group combined (p =.029). Analyses of child externalizing and internalizing problems showed that fathers assigned to telehealth and group (combined) reported significantly lower child externalizing and internalizing problems at T2 compared to fathers in the online condition (p=.023 and p=.042, respectively).

One-year (T3; 12 months post-baseline) outcome analyses

We tested whether ADAPT in-person group-based and web facilitated telehealth had greater impact on change in observed effective parenting compared to the self-directed online condition. We specified a comparative effectiveness intent to treat analysis.

Null: β_1 (Telehealth \rightarrow D Parenting) = β_2 (Group \rightarrow D Parenting) = β_3 (Online only \rightarrow D Parenting)

Hypothesis: β_1 (Telehealth \rightarrow D Parenting), β_2 (Group \rightarrow D Parenting) > β_3 (Online only \rightarrow D Parenting)

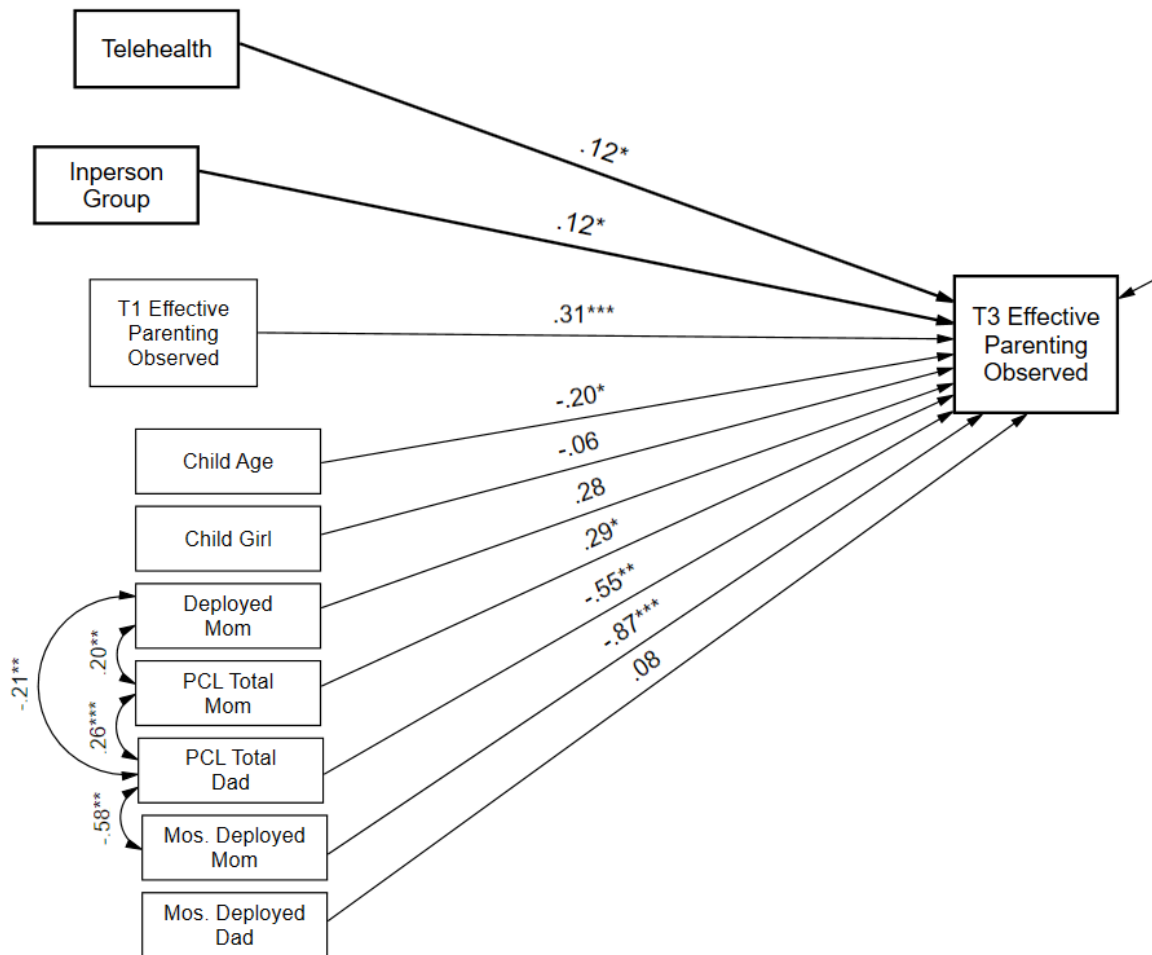
Results: The sample included 244 families who consented and were enrolled in the study. Of those families, 78 were randomized to online, 71 to telehealth, and 95 to group condition. Intervention effects were tested on the observed effective parenting outcome measured at 12 months post baseline (i.e., 6 months post end of intervention). To test the comparative effectiveness of the three interventions, two dummy-coded variables representing main effects of interventions were included in the analysis. The model also included covariates of baseline observed effective parenting, child age, child gender, mother's deployment status, parent's posttraumatic stress symptom scores, and parent's number of months deployed. Full information maximum likelihood estimation was used to handle missing data. The model had excellent fit [χ^2 (16)=13.78, $p = .62$, CFI=1.00, RMSEA =0.00]. Analysis showed that the in-person group condition had significantly greater positive effect on observed effective parenting, compared to the online condition [$\beta = .14$, $p = .038$]. The telehealth condition had no superior effect on effective parenting compared to the online condition [$\beta = .09$, $p = .253$].

To test whether ADAPT In Person Group-based and Web Facilitated Telehealth have similar or inferior effects, we specified equality constraints to test relative magnitude of β_1 (Telehealth \rightarrow D Parenting) and β_2 (Group \rightarrow D Parenting) using a one-sided noninferiority test (i.e., a test of equivalence).

Null: β_1 (Telehealth \rightarrow D Parenting) < β_2 (Group \rightarrow D Parenting)

Hypothesis: β_1 (Telehealth \rightarrow D Parenting) = β_2 (Group \rightarrow D Parenting)

The test of inferiority was done by comparing the unconstrained model with a constrained model where the regression weights for telehealth effect and in-person group effect were constrained to be equal. Akaike information criterion (AIC), Bayesian information criterion (BIC) and chi-square difference test were used to compare the two models. Summary statistics are presented in Table 1. Results showed that the model with equality constraints was the best fitting model indicating that the two interventions had similar effects on the parenting outcome. As specified in the proposal, we conducted a one-sided non-inferiority test (i.e., test of equivalence) to test the hypothesis that in-person group-based and web facilitated telehealth have similar effects. Model fit indices and regression weights from the one-sided non-inferiority test are presented in Figure 1. The model had excellent fit and the intervention effects were significant (one-tailed), indicating that telehealth had similar significant effects on effective parenting outcome as the in-person group condition had.

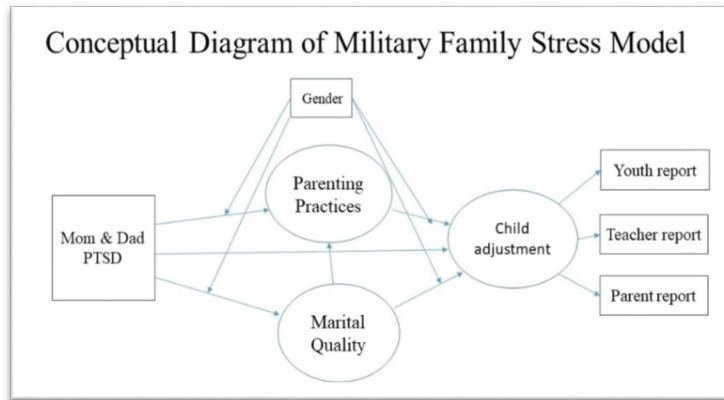


Other analyses:

Military Family Stress Model Analysis

Examination and validation of a military family stress model (Gewirtz et al., 2018) is underway using the current study sample. Multi-method (self-report, observational), multi-informant (parent, teacher, child) data collected at baseline were used in the analyses. Hypothesized relationships between parents' posttraumatic stress, marital quality, parenting practices, and child adjustment are depicted in the figure. Each path is well supported by developmental and family process research.

Moderating effects of parent gender on the processes/pathways were also examined. Preliminary results showed that (1) mothers' and fathers' PTSD symptoms were negatively associated with marital quality; (2) marital quality was positively associated with parenting practices, which were in turn positively related to child adjustment; (3) there was a significant indirect effect of marital quality on child adjustment through parenting practices; (4) there was a marginally significant indirect association between PTSD symptoms and parenting practices through marital quality; and (5) no significant gender differences were found in the processes described in the military family stress model.



What opportunities for training and professional development has the project provided?

Data Management:

Four cohorts of two students (N=8) were trained to conduct data cleaning and assist with data management work for this project. All of them had bachelor's degrees with 75% of them (n=6) attending graduate programs at the University of Minnesota. Two students were volunteers and were applying for graduate schools. One of them was successfully admitted to a graduate program in computer science after volunteering in our data lab for two years. Most of them were female and all of them had some experience in research as an undergraduate student, research assistant, or graduate student prior to joining the data management team. The first step of data training entailed each student receiving a two- to four-hour instructional training on data file structure, data collection systems, data verifying procedures, and record keeping of completed tasks. During this time, students learned how to do data cleaning for wave 1 (baseline), wave 2, wave 3, and/or wave 4 data collected from parents, children, and/or teachers who consented to participate in the study. After the initial training, students completed supervised data management work ranging from 20 hours to 250+ hours. They learned how to use complex commands in SPSS (e.g., merging multiple files) and also learned how to retrieve data from the Qualtrics survey system. Students cross checked data (e.g., online survey data) with other sources (e.g. paper forms from in-person interview) and validated them. Students were also trained in organizing data files and recording completed tasks in spreadsheets. The data cleaning process allowed them to learn critical skills of managing large data sets collected over multiple time points from multiple informants (i.e., parents and their spouses, children, teachers). The data management skills students learned will transfer to their work in social science research, data science, or computer science fields. Our students are hard-working, intelligent, and detailed-oriented individuals. A minor barrier is that graduate students are extremely busy and get pulled into many different projects. Despite this, all of the data team members delivered quality work.

Observational Coding:

Over the course of the ADAPT4U Coding Project, we trained 45 observational coders. Coder training involved 20 hours of training with the Coding Manager, with approximately

another 20-30 hours of practice coding with feedback. Training material includes education on the ADAPT4U study, parenting skill domains from the ADAPT intervention, Family Interaction Tasks assessment structure, and the Coder Impressions manual. Ongoing training involves regular meetings with the coding team and the Coding Manager for reliability checks and retraining. These ongoing reliability and retraining meetings are generally twice per month.

Coders are mostly undergraduate students in the social sciences from local universities. Coders are high performing students, with the vast majority of coders carrying a greater than 3.0 GPA when they join the coding team. They often have previous research experience in other labs prior to joining the coding lab, and they are often leaders and volunteers in their extra-curricular activities. Many coders go on to either graduate school or professional jobs after graduation. Not all applicants for this internship are accepted, so the coders who join the team meet high standards for academic performance, professionalism, and responsibility.

Several of the skills from participating in the coding lab are highly transferrable. On the content level, coders learn about evidence-based practices for healthy interactions with children to foster positive child development, and healthy family interactions including couple communication. Many coders join the coding lab because of their interest in family relationships. Coders often go on to research-focused graduate programs, clinical graduate programs, or professional jobs. Whether coders are going into research or direct services, knowledge of evidence-based practices is a valuable professional development skill. Coders also report gaining benefit in their personal lives and relationships as they apply what they learn to their interactions with important others. In addition to content, coders also learn skills for observing interactions and identifying emotions and behaviors in others. Being a careful and accurate observer of human interactions is a useful skill, and for most people, a skill that must be developed. Coders learn how to recognize their own reactions to what they are observing, and to take care not to skew their assessment of what they observe because of their own emotions. This is an advanced emotional intelligence skill that is transferable to many life domains, but is a particular advantage for those going on to become mental health clinicians.

Coders, on average, are on the coding team for two “terms” (fall, spring, summer). Some have done an intensive summer with the equivalent work of two terms, and others have stayed on the team beyond the two terms. There are some advantages to a rotating team with a longitudinal study. One of the advantages is that a family is not coded by the same coder at different time points in the study, which could bias the coding because the coder could have preconceived notions of how well the family should do based on their previous experience coding the family. Another advantage is that the periodic intensive training process for new coders serves as a recalibration for the Coding Manager and the existing coders to prevent drift. However, there are also challenges associated with a rotating team. The primary challenge is the resources that are required to train a coder. As is seen in point 2, there are many hours involved in training new coders that must be completed before they can start producing research valid data for the study. Because the Family Interaction Tasks protocol generates such a rich data set of multiple behavior domains, it takes quite an investment to prepare coders. Undergraduates recognize the value of this training and internship, and we have not had difficulty recruiting coders to join as educational interns (unpaid, often obtaining course credit). However, retaining educational interns as unpaid after two terms is difficult. There is a trade-off with time and money maintaining a moderately large coding lab such as this one to produce the rich, multi-dimensional observational data that this lab produces. Offering the most successful coders a paid position at the end of their educational internships has been a way that we have retained the

highest quality coders. In these cases we often are able to keep these coders on for an additional 6-12 months. This has worked well as a compromise so that there are enough rotating coders to prevent families from being coded by the same coder at more than one time point, but also maximize the efficiency of coders who are already trained.

Facilitators:

We were able to train 39 facilitators in ADAPT and provided 27 days of facilitation training. These facilitators come with a range of military and mental health experience and includes (but is not limited to): military liasons; psychologists, social workers; graduate students in a mental health field; counselors; teachers; active duty veterans; active duty military spouses; psychological health coordinators for the National Guard; and members of the Minnesota Guard. The one thing all our trainees had in common was a passion for working with military families and some experience working in a teaching, support, or mental health setting. There is no ongoing training but for those trained facilitators who ran groups, we provided biweekly coaching on ADAPT for the duration of the groups. The experience running groups with military families will allow these providers to have a better understanding of the challenges faced by military families. We struggled to retain facilitators during this project for two primary reasons. First, our groups only required a few hours a week for these facilitators. That meant that the majority of our facilitators had other full time jobs and so had to schedule their work on ADAPT around their primary employment. Second, because this was a research project, facilitators were often trained long before we were able to recruit enough participants in their area for them to facilitate a group. In that time between training and facilitating people's situations often changed and as a result they were unable to facilitate groups.

Assessment Technicians:

Thirty-eight assessment technicians were trained throughout the study.

Staff received a 14-hour (in-person) training in administering standardized measures to both parents and children, facilitating discussions for observational coding, and following state and University procedures in reporting incidents of self-harm and/or child abuse and neglect. Before being cleared to work independently, new technicians were required to shadow an assessment, complete a mock interview, and conduct an assessment under observation by the Assistant Project Manager. Of the thirty-eight technicians who were trained, approximately 75% of them also received an additional seven hours of in-person training in the administration and scoring of the WASI-II intelligence test. Most individuals required an additional fifteen to twenty hours of practice and coaching before achieving proficiency. Once it was obtained, the IQ tests were spot-checked to prevent drift, and further coaching was provided as needed. Most technicians were college or University students, ranging from those pursuing a bachelor's degree to those enrolled in a doctorate program. While few had experience collecting data, preferred candidates were familiar with research basics, such as reliability and validity. The most successful were detail-oriented, flexible, and able to easily build rapport with families.

The position provided technicians with many useful skills for their future education or employment. For those going into research, they experienced the challenges associated with collecting first-hand data, which made them better equipped to understand and problem-solve

difficulties in their own research, such as an insufficient sample size or a high level of attrition. Many staff intended to work in a helping profession after completing their education (e.g. social work, marriage and family therapy, etc.). This position gave them the opportunity to practice building rapport, work with families as a unit, and think flexibly.

Difficulties with staff retention:

- Assessment staff were mostly part-time employees who worked on an as-needed basis. Because of the variable nature of assessments (e.g. difficulties scheduling with families during some periods, last-minute cancellations, etc.), we were unable to guarantee a certain number of hours for any employee, which was a financial hardship for some.
- Because many of the most qualified candidates were students, they would depart the position upon graduation once they were able to secure full-time employment.
- For those who were not students, we oftentimes had difficulty scheduling them because they either a) ended their shift at their full-time job too late in the day to meet with a family or b) held other positions with variable schedules, making it impossible for us to schedule them more than a week in advance.
- Some staff also had difficulty adapting to the sporadic nature of the work. Because assessments were scheduled around the availability of families, they could be scheduled with only 72 hours' notice or canceled at the last-minute.
- Because the sample size was much smaller than anticipated in Michigan, we had a much harder time retaining staff at that location. Fewer families meant fewer opportunities for work, so technicians could go weeks without being scheduled. This also made it difficult for them to maintain proficiency at the position, which was frustrating for some as it resulted in the need for additional coaching or retraining.

How were the results disseminated to communities of interest?

We have provided ongoing newsletters for the life of the grant to our participants via email, as well as through social media (e.g., ADAPT Facebook pages) and our website. We have also briefed the Minnesota and Michigan National Guards, as well as members of the National Guard Bureau. Results have also occasionally been disseminated via print and broadcast media, usually via family interviews about ADAPT.

Results of both this study and our prior study (not included below) have been disseminated via peer reviewed articles, book chapters, and presentations, listed below.

What do you plan to do during the next reporting period to accomplish the goals?

Nothing to Report

4. IMPACT

What was the impact on the development of the principal discipline(s) of the project?

We are gratified that 'big' DOD has shown interest in ADAPT beyond the research studies. With increasing awareness of the need for widespread use of evidence-based practices across the military, we have seen increasing interest in deploying the multiple formats of ADAPT in routine practice both for NG/R and Active Duty populations. For example, we recently received funding

from the Bristol-Myers Squibb Foundation for a large-scale implementation of ADAPT on FT Bragg. We have trained members of the MI National Guard in ADAPT for widespread use, and are in contract negotiations to train leaders in the AZ National Guard. We also will be briefing ADAPT implementation to leaders in DOD's Military Community & Family Policy Office in December 2020.

We have been fortunate to receive recognition for our ADAPT articles on four occasions, three times as finalists for the Excellence in Research on Military and Veteran Families Award Finalist, from the Military Family Research Institute at Purdue University (2015; 2019; 2020) and one time (2020) as awardees for the Best Research Article on Men in Families, from the National Council on Family Relations (NCFR). Study results were also disseminated to the National Academy of Sciences, Engineering and Medicine's Committee on the Wellbeing of Military Families (of which Dr. Gewirtz was a member) and are discussed in the report, cited above.

What was the impact on other disciplines?

Our work is interdisciplinary and as such, we have been invited to brief on ADAPT with both healthcare providers (e.g. primary care, pediatrics) and with Army Community Services providers (e.g. MFLCs, FAP providers) as well as Chaplains in both the NG/R and Active Duty installations.

What was the impact on technology transfer?

ADAPT online is available as a standalone self-directed parenting program.

What was the impact on society beyond science and technology?

Publicity and powerful testimonials about the ADAPT program has, we hope, begun to lead to an understanding at both individual family, practice, and policy/leadership levels of the importance of effective parenting to strengthen military family readiness and resilience.

5. CHANGES/PROBLEMS

Changes in approach and reasons for change

Nothing to report.

Actual or anticipated problems or delays and actions or plans to resolve them

Nothing to report

Changes that had a specific impact on expenditures

Nothing to report

Significant changes in use or care of human subjects

Nothing to report

6. PRODUCTS

Publications, conference papers, and presentations

Journal publications

Results of both this study and our prior study (not included below) are being disseminated via peer reviewed articles, book chapters, and presentations, listed below.

The following papers report findings from the current study (ADAPT4U) and are in preparation for submission over the next 3-6 months:

- Rahl-Brigman, H*., Lucke, C*., Cheng, C. H*., & Gewirtz, A. H. (in preparation). Stressors and Mental Health in Deployed Mothers. *Journal of Traumatic Stress*.
- Gewirtz, A.H., DeGarmo, D.S., Lee, S. (in preparation) Comparative effects of three different intervention modalities of the ADAPT program: 1-year outcomes. To be submitted to *Prevention Science*.
- Piehlner, T., Rahl-Brigman, H., Cai, Q., & Gewirtz, A.H. (in preparation). Moderators of ADAPT intervention effects on 1-year outcomes
- Ali-Saleh Drawsheh, N., Cheng, B., Lee, S., DeGarmo, D.S., & Gewirtz, A.H. (in preparation). A replication and extension of the Military Family Stress Model (to be submitted to *Family Process*).
- Ali-Saleh Drawsheh, N., Cheng, B., Lee, S., DeGarmo, D.S., & Gewirtz, A.H. (in preparation). Combat exposure and parenting efficacy in deployed mothers and deployed fathers.
- Cai, Q., Lee, S., & Gewirtz, A.H. (in preparation) What predicts participation in different intervention modalities of the ADAPT program?
- Rahl-Brigman, H., Cheng, B., Lucke, C., & Gewirtz, A.H. (in preparation) Sexual harassment and mental health among mothers deployed to war.

Books or other non-periodical, one-time publications

Published:

- Gewirtz, A. H., & Rahl-Brigman, H. A*. (2020). Systemic Prevention and Intervention Approaches for Working with Military Families. *The Handbook of Systemic Family Therapy*, 2, 595-619.
- National Academies of Sciences, Engineering, and Medicine. (2019). *Strengthening the Military Family Readiness System*. National Academies Press (committee member/co-author).
- DeGarmo, D.S., & Gewirtz, A. H. (2019). Fixed allocation and dynamic adaptive intervention designs for family psychology. In B. H Fiese (Ed.), *APA Handbook of Contemporary Family Psychology*.

Other publications, conference papers, and presentations

Presentations:

- Gewirtz, A. H., Jankowiak, M., Rodriguez, M. D. (2019, Sept.). Leveraging Technology to Expand Reach and Tailor Programs for Diverse and Dispersed Populations. Storyboard

- presentation at the Annual Global Implementation Conference. Glasgow, Scotland.
- Gewirtz, A. H. (2019, July). Identifying the Needs of Military Children and Families: Importance of Parenting and Interventions (ADAPT). MCEC National Training Seminar partnered with the National Child Traumatic Stress Network, Washington, D.C.
- Gewirtz, A. H. (2018, Nov.). After Deployment, Adaptive Parenting Tools: A program for promoting resilience in military families. Ogden Bruton Lectureship at the AAP Section on Uniformed Services, American Academy of Pediatrics 2018 National Conference & Exhibition, Orlando, FL.
- Gewirtz, A. H. (2018, Aug.). Child resilience among highly stressed families: Family-based prevention. In J. Romano and M. Israelashvili's symposium, "Advancing International Prevention Science—Promoting Empowerment and Global Partnerships." Annual meeting of the American Psychological Association, San Francisco, CA.

Presentations under review for the Society for Prevention Research (June 2021, Washington, DC):

- Cai, Q., & Gewirtz, A.H. (Symposium submission under review) Parents' Engagement in a Parenting Intervention Program: Who Will Come?
- Piehler, T., & Gewirtz, A.H. (Symposium submission under review) Moderators of intervention effects in multiple formats of a military parenting program: Who benefits from what program modality?
- Ali-Saleh Drawsheh, N., Cheng, B., Lee, S., DeGarmo, D.S., & Gewirtz, A.H. Extending a Military Family Stress Model: Gender differences and implications for prevention (Paper submission under review).

Website(s) or other Internet site(s)

- Our study website which was used for recruiting and will be used to disseminate study results is ADAPT.umn.edu
- Online ADAPT curriculum can be accessed at <https://adapt4u.talentlms.com> with an assigned username and password.

Technologies or techniques

Nothing to report

Inventions, patent applications, and/or licenses

Nothing to report

Other products

ADAPT telehealth and group-based manuals, available from the PI on request.

7. PARTICIPANTS & OTHER COLLABORATING ORGANIZATIONS

While several additional individuals have contributed time and effort to the various goals and objectives reported during this period, none of them has individually contributed more than 160 hours (one person-month). *As reported in the annual report dated 6/30/2020.*

What individuals have worked on the project?

Name: Gewirtz, Abigail

Role: PI

Person months: 2.0 months

Contribution: Overall study oversight and strategic decision making; ensure study outcomes are achieved

Funding support: This award

Name: Majerle, Amy

Role: Project Manager

Person months: 5.0 months

Contribution: Overall management of study tasks and personnel; track study milestones; design study data collection tools

Funding support: This award

Name: Tiede, Shauna

Role: Assistant Project Manager

Person months: 5.0 months

Contribution: Overall management of in-home assessments of participants; create study manuals; train study technicians

Funding support: This award

Name: Kadie Ausherbauer

Role: Coding Manager

Person months: 3.0 months

Contribution: Manage team performing coding of assessments, manage coded data

Funding support: This award

Name: Susanne Lee

Role: Data Manager

Person months: 5.0 months

Contribution: Management and analysis of study data

Funding support: This award

Name: Rachel Weiss

Role: Community Program Assistant

Person months: 5.5 months

Contribution: Teacher data collection, pre- and post-in-home assessment tasks

Has there been a change in the active other support of the PD/PI(s) or senior/key personnel since the last reporting period? As reported in the annual report dated 6/30/2020.

GEWIRTZ, Abigail

Current Support

Title: Comparing Web, Group, and Telehealth Formats of a Military Parenting Program (PI)
[this award]

ID#: W81XWH-14-1-0143 *Period:* 6/1/2014 – 5/31/2019

Effort: 15% *Funding:* \$555,334 for Year 5

Supporting agency & contact: Department of Defense
Michelle Lane, michelle.d.lane9.civ@mail.mil

Goals/Specific Aims: The goal of this project is to compare the effectiveness of three different delivery formats (online, group, and telehealth) of the After Deployment Adaptive Parenting Tools (ADAPT) preventive intervention, an empirically supported parenting program for military families.

Title: SMART Optimization of a Parenting Program for Active Duty Families (PI)

ID#: W81XWH-16-1-0407 *Period:* 9/30/2016 – 9/29/2020

Effort: 23% *Funding:* \$900,840 for Year 3

Supporting agency & contact: Department of Defense
Michelle Lane, michelle.d.lane9.civ@mail.mil

Goals/Specific Aims: The objective of this study is to yield the optimal dosage, components, and sequence of a parenting program for active duty military families (ADAPT) in diverse operational tempo contexts (i.e. regular Army families and Special Operations families).

Change: This is a new active grant.

Title: The Center for Resilient Families (PI)

ID#: U79 SM080009-01 *Period:* 9/30/2016 – 9/29/2021

Effort: 20% *Funding:* \$599,997 for Year 3

Supporting agency & contact: DHHS SAMHSA
Maryann Robinson, maryann.robinson@samhsa.hhs.gov

Goals/Specific Aims: The Center for Resilient Families aims to raise awareness of and increase access to family interventions to promote resilience in traumatized children. The Center will reduce disparities in service access, use, and training by targeting trauma-informed family interventions to isolated families in transition: those with a parent deployed to war, Native American families on reservations, immigrant and refugee families, families involved in the juvenile justice and child welfare systems, and families in which a parent has been killed.

Change: This is a new active grant.

Title: Implementation of ADAPT across the FT Bragg, NC, military health system (PI)

ID#: *Period:* 5/1/2019 – 1/31/2023

Effort: 10% *Funding:* \$1,148,684

Supporting agency & contact: Bristol-Myers Squibb Foundation
Katherine Masuch, Katherine.Masuch@bms.com

Goals/Specific Aims: The goal of this project is to improve military family adjustment via the large-scale implementation of the ADAPT program within the medical system of care at Womack Army Medical Center on FT Bragg, NC.

Recently Completed Support

Title: Midwest Continuum of Care for Child Trauma (PI)

ID#: U79 SM056177 *Period:* 12/30/2005 – 9/29/2016

Effort: 50% *Funding:* \$399,997/year

Supporting agency & contact: DHHS SAMHSA
Cicely Burrows-McElwain, Program Official
cicely.burrows-mcelwain@samhsa.hss.gov

Goals/Specific Aims: The goals of this project are to 1) improve access to trauma-informed practices and treatment for traumatized children and families; 2) implement and sustain evidence-based trauma treatment models in the Upper Midwest; and 3) build and maintain consensus for child trauma.

Title: Evaluation of a TF-CBT Learning Collaborative (PI)

ID#: 56797 *Period:* 2/7/2013 – 12/31/2016

Effort: 1% *Funding:* \$42,213/year

Supporting agency & contact: Minnesota Department of Human Services
Patricia Nygaard, pat.nygaard@state.mn.edu

Goals/Specific Aims: The purpose of this contract was to provide evaluation of training and consultation efforts to expand within the mental health provider community the clinical capacity to provide Trauma-Focused Cognitive Behavioral Therapy.

Title: Evaluation of the Sesame Street for Military Families: Transitions Program (PI)

ID#: NA *Period:* 1/22/2016 – 12/31/2016

Effort: 5% *Funding:* \$170,000

Supporting agency & contact: Sesame Workshop
David Cohen, david.cohen@sesame.org

Goals/Specific Aims: The goal of this project is to assess parental and child response to the Sesame Workshop's Military Families: Transitions program.

What other organizations were involved as partners?

Organization name: University of Michigan

Location of organization: Ann Arbor, MI

Partner's contribution: Collaboration

Organization name: University of Oregon

Location of organization: Eugene, OR

Partner's contribution: Collaboration

Organization name: Implementation Sciences International, Inc.

Location of organization: Eugene, OR

Partner's contribution: Collaboration

Organization name: Marquez Production
Location of organization: Eugene, OR
Partner's contribution: Collaboration

SPECIAL REPORTING REQUIREMENTS

Collaborative awards: Not applicable

Quad Chart: See attached

8. APPENDICES

Comparing Web, Group, and Tele-health Formats of a Military Parenting Program

Log Number: NH13001 - EDMS 5832

W81XWH-14-1-0143



PI: Dr. Abigail Gewirtz

Org: University of Minnesota

Award Amount: \$3,051,363

Study/Product Aim(s)

Specific Aim 1: Conduct a three-group, two-site randomized trial to test the comparative effectiveness of ADAPT delivery approaches.

Specific Aim 2: Test the generalizability of ADAPT effectiveness across three delivery approaches using intent to treat (ITT) analyses.

Approach

The study will randomly allocate 360 NGR families to one of three conditions: (i) group-based web-enhanced ADAPT; (ii) individualized web-facilitated ADAPT; or (iii) self-directed web ADAPT. Families, with a child aged 5-12, will be enrolled if one parent has deployed to OEF or OIF. Families will complete a pre-intervention baseline (BL) assessment. Families will complete post-intervention follow-up assessments at 6, 12, and 24 months.

We will test the value-added impact of group-based delivery relative to facilitated and self-directed web approaches. Comparative effectiveness will be tested by specifying a non-equivalence hypothesis from group based and individualized facilitated relative to self-directed web only.



ADAPT 4 U

Preliminary results suggest that ADAPT is feasible, acceptable, and associated with improvements in parenting, couple adjustment, and emotional awareness. Thus, we have experience engaging both military parents.

Timeline and Cost

| Activities | CY | 14-15 | 15-16 | 16-17 | 17-18 | 18-19 |
|--|----|-----------|-----------|-----------|-----------|-----------|
| Prepare IRB/DOD regulatory documents Recruit and staff open positions Modify ADAPT delivery format | | | | | | |
| Recruit and randomize participants | | | | | | |
| Complete baseline and subsequent participant assessments | | | | | | |
| Conduct outcome data cleaning and analysis | | | | | | |
| Examine differential effectiveness | | | | | | |
| Estimated Budget (\$K) | | \$255,831 | \$536,315 | \$749,455 | \$821,636 | \$688,125 |

Goals/Milestones

CY14 Goal –Project Preparation

- Obtained IRB/DOD approval
- Hire project staff- Staffed Key study personnel
- Modified ADAPT curriculum and delivery format
- Test ADAPT curriculum for usability- Piloted ADAPT curriculum for usability

CY15 Goal – Recruit and Randomize Participants

- Participants recruitment commenced June 18, 2015
- Commenced baseline assessment on enrolled families

CY16 Goal –Conduct Randomized Control Trial

- Deliver ADAPT group with fidelity

CY 17 Goal – Conduct Randomized Control Trial and conduct participant assessments

- Deliver ADAPT group with fidelity
- Assess adult adjustment, observational parenting, child and couple measures

CY 18 Goal - Data Cleaning and Analysis

- Create data management structure to organize, clean and analyze data

CY19 Goal – Examine differential effectiveness

- Begin outcome data cleaning and analysis

Updated: 30 November 2020