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REVIEW

# A Scoping Review of the Effects of Military Deployment on Reserve Component Children

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## Abstract

**Background** There are more than half a million military Reserve Component (RC) connected children but little research that has examined the effects of parental deployment on this population. Much of what is known comes from active duty families. There is a need to better understand the effects of RC parental deployment on children and families.

**Objective** This scoping review examined the current literature on the impact of parental deployment in RC families.

**Method** We used the PRISMA Extension for Scoping Reviews (PRISMA-ScR) to guide the search, data charting, synthesis, and review. We searched PubMed, PsychInfo, Scopus, and Social Work Abstracts databases for relevant articles published in English on impact of parental deployment on military connected children.

**Results** Seventeen studies met the inclusion criteria out of the total 1393 studies identified in our search. These studies were all conducted in the USA, and years of publication ranged between 2002 and 2017. Findings were classified into four themes, namely, role changes for non-deployed parents, behavior changes in children, child anxiety and fear, and support networks.

**Conclusions** Knowing if deployment impacts RC children and families differently from active duty families will guide development of appropriate policy and programs that better support them during periods of prolonged active duty service and to enhance recruitment and retention. Therefore, further research is needed to identify and develop interventions to address problems highlighted in our themes including, behavioral problems in children, child anxiety and fear, and role changes for the non-deployed parents/children, and support networks.

**Keywords** Military reserve components · Parental deployment · Military connected children · National guard · Army reserve · Families

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## Introduction

The United States has been at war in the Middle East since 2001 supporting Operation Enduring Freedom in Afghanistan (OEF), Operation Freedom's Sentinel in Afghanistan (OFS), Operation Iraqi Freedom in Iraq (OIF), Operation New Dawn in Iraq (OND), and Islamic State-Operation Inherent Resolve (OIR) (Torreon 2015). Roughly half of the United States military capacity are active duty Service Members (SM) with the other half comprised of the Reserve Components (RC). These include the Title 10 Reserve Forces (Army Reserve, Navy Reserve, Air Force Reserve, Marine Corps Reserve, Coast Guard Reserve) and Title 32 National Guard Forces (Air Force National Guard, Army National Guard). The Army National Guard is the largest RC with approximately 350,000 members (Department of Defense [DOD] 2018). National Guard and RC members have deployed in such unprecedented numbers since 2001 that they are now considered to be an operational force rather than a strategic one and more service members have young children than in past conflicts (Institute of Medicine [IOM] 2014; Lowe 2019; Schnaubelt et al. 2017).

Military children face unique challenges as they grow up compared to non-military children; additionally, children often experience deployments differently if their parents are active military (Huebner et al. 2007), or in the RC (Chartrand and Siegel 2007; Pexton et al. 2017). The unique challenges faced by children of active duty service members include frequent moves, changing of schools, living geographically distant from their extended family and absences for training and schools by the uniformed parent (Kelley et al. 2003). Much of the current research that describes the impact of deployment on children is based on data gathered from active duty families. The data are much less robust describing the impact of deployment on RC connected children.

As of the most recently available data from August 2019, there are 805,390 current service members in the National Guard and RC (DMDC 2019) and they have collectively 606,883 dependent children under the age of 21(DOD 2018). Service members in the National Guard and RC are generally older than their active duty counterparts and 30.7% of RC members are married to a civilian and have children (Wilmoth and London 2013). In 2018, 56.4% of Coast Guard Reserve service members had children and this was the RC with the highest percentage of children. As of 2010, National Guard members had 1.56 mean number of deployments and RC members experienced 1.64 mean deployments (IOM 2014). Between 2001 and 2015, 295,000 RC members deployed, and 428,000 National Guard members deployed (Wenger et al. 2018). Of the 606,883 current children of RCR members, the average child is 7 years old during a deployment (DOD 2017). Despite the awareness that there are more than half a million RC children, there is a paucity of research on the effects of deployment on RC children. The little research available has addressed the impact of parental deployment on military children and acknowledges that war trauma extends well beyond the deployed parents to also affect their children (Rossiter et al. 2016).

There is a need to examine the research that has been conducted on RC children to gain insight into the impact of their parents' deployment and to identify gaps in knowledge on the effects of RC parental deployment on children. The deployment cycle was used as the theoretical underpinning for this study. The deployment cycle consists of pre-deployment, deployment, reunion, and post-deployment phases (APA 2007). Each phase of deployment presents unique challenges and stressors in which families must overcome to successfully reach each transition in the deployment cycle (APA 2007;

Esposito-Smythers et al. 2011). If family stressors related to a parent's military deployment become chronic, and families have inadequate support, then children can develop behavioral and emotional problems (Esposito-Smythers et al. 2011).

This study explored the experience of deployment for RC connected youth; we hypothesized that there would be differences in the experience of deployment for children with an active duty parent deployed compared to an RC parent deployment. This knowledge will provide direction for policymakers and guide the development of programs designed to mitigate risks associated with the parent's deployment. The objective of this scoping review was to describe the current state of understanding about the positive and negative effects of parental deployment among RC or National Guard Component children.

## Method

The PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation was used to guide the search, data charting, synthesis, and review (Tricco et al. 2018) (Fig. 1). We searched for relevant articles that focused on Military RC children and youth

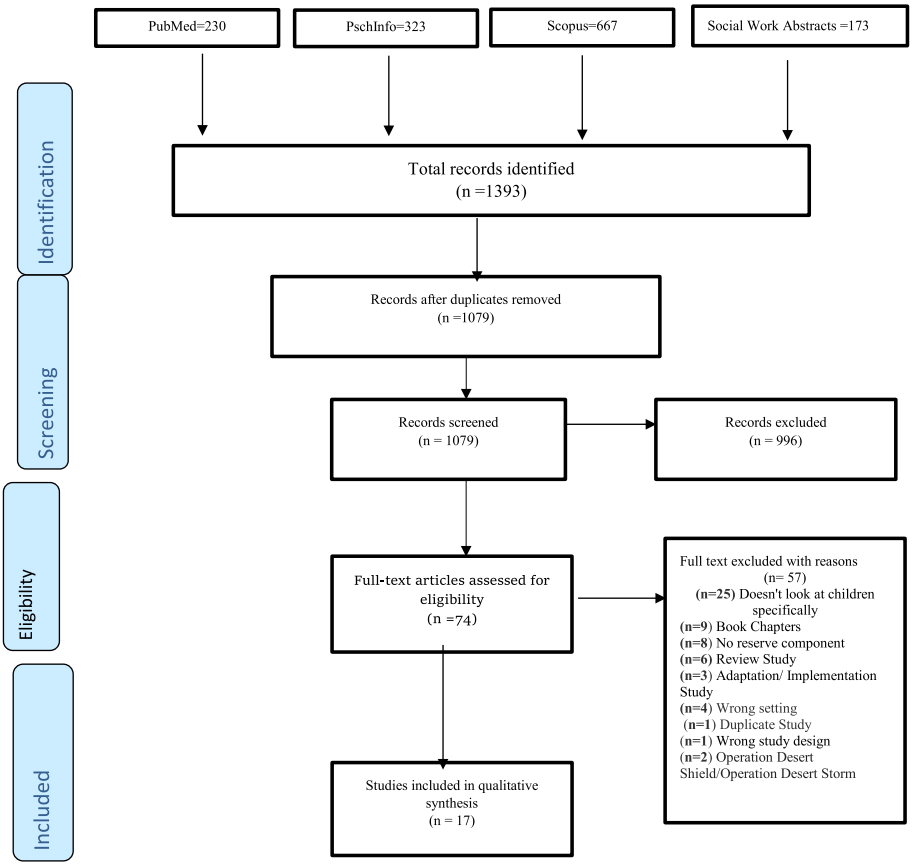


**Fig. 1** PRISMA flow diagram

perspectives on their perceived impact of their parent's deployment. We included peer-reviewed articles and dissertation papers published in English using designated key words and databases.

## Data Source

Assisted by a research librarian, we searched PubMed, PsycInfo, Scopus, and Social Work Abstracts databases for relevant articles published in English on Military RC children and youth on July 8, 2019. We used a combination of search terms to yield studies focused on the target population and the outcomes of interest. An example of our search in the PsycInfo database is as follows: "((("Military Personnel" OR "Military Family" OR military OR Armed Forces OR Air Force OR Army OR Submariner OR Submariners OR Marines OR Navy OR Sailor OR Sailors OR Soldier OR Soldiers OR Coast Guard OR National Guard) AND (Reserve OR Reserves)) AND (Child OR child OR children OR childhood OR preadolescent OR preadolescents OR prepubescent OR Adolescent OR adolescent OR adolescents OR adolescence OR youth OR youths OR teenager OR teenagers OR teenaged OR teen OR teens OR juvenile OR juveniles OR Pediatrics OR pediatric OR pediatrics OR pediatric OR pediatrics OR family OR family OR families) AND English[lang))." We adapted this search string to fit the other databases accordingly.

## Study Selection

After retrieving articles from the above databases, we imported them to Endnote X8 Reference Manager. Titles and abstracts of the retrieved articles were merged into one folder and duplicates were removed. We then moved the studies into Covidence Systematic Review Software for screening (Covidence 2019). Both reviewers started with screening titles and abstracts and when inclusion was unclear, the full text was reviewed. Our search yielded 1393 articles and after removing duplicates, 1079 published articles were available to be screened (see Fig. 1).

## Study Inclusion and Exclusion Criteria

Two reviewers screened the 1079 articles by first removing any that did not meet the inclusion criteria. For studies to meet eligibility criteria they had to be: (1) conducted in the USA or USA territories, (2) include a study sample of Military RC and youth between the ages of 0–18, (3) mean age of a sample of less than or equal to 18, (4) children had to have a parent who was in one of the RC or National Guard and who were deployed at some point in their career. We excluded studies if: (1) the sample was solely composed of active duty affiliated children and youth, (2) a study was a book chapter, review, adaptation, or implementation paper, and (3) a study addressed Operation Desert Shield/Operation Desert Storm as these do not reflect current conflicts/wars which are of interest in this current review paper. For the purposes of this study, 'deployed' meant that the service member had been placed on Federal active duty orders and was performing duty at a location different from their Home of Record (HOR).

Each study was assessed for eligibility using the above criteria by each reviewer. Both reviewers finished the first round reviewing all 1079 titles and abstracts separately. Once this process was complete, the Covidence Software identified studies where reviewers

disagreed (Covidence 2019). The two reviewers met on two separate occasions to resolve conflicts. We then moved to the full text review and again each reviewer assessed all 74 articles that made it to full text stage for final inclusion. We then came together on three different occasions to resolve conflicting votes by reviewing the full texts together. We resolved conflicting votes by assessing each study against all criteria in the order the criteria are presented above. If the first two reviewers could not resolve conflicting votes, we resolved conflict by having a third reviewer break the tie.

### Data Charting

We decided *a priori* that data would be charted from included studies by the two reviewers. We randomly assigned half the studies to each reviewer. We then met, discussed our own extraction, and resolved any conflicts. For each study we extracted the author, country of study, year of publication, study aim, study design, participant characteristics (e.g., age, age range, mean age, gender) sample, sampling method, setting, and impact of deployment on children and youth outcomes. While extracting on the impact of parental deployment, key interest was on whether this was perceived as negative or positive impact.

## Results

Of the 74 studies eligible for full-text review, 17 studies met inclusion criteria and were included in the final analysis (see Fig. 1).

### Study Characteristics

All 17 studies were conducted in the United States with years of publication ranging between the year 2002–2017 (see Table 1). Five studies used mixed methods where they combined qualitative interviews with quantitative surveys (Budash 2010; Chandra et al. 2011; De Felippe 2016; Deveraux 2015; Fletcher 2012). Another eight studies used qualitative methods only, including grounded theory (Agazio et al. 2013), focus group and semi-structured in-depth interviews (Chandra et al. 2010; Edwin 2007; Knobloch et al. 2015), and qualitative descriptive studies (Custer 2015; Nilsson et al. 2015; Ryan-Wenger 2002; Thompson et al. 2017). The other four studies used quantitative survey methods (Eads 2014; Hill and Francis 2014; Gewirtz et al. 2017, 2018).

### Sample Characteristics

Across studies, sample sizes ranged from 15 to 1507 participants. The target population age was 0–18. However, when small children were involved, caregivers or school staff were the respondents (see Table 1). In five studies, respondents were caregivers or school staff speaking on behalf of children (Agazio et al. 2013; Budash 2010; Chandra et al. 2010; Deveraux 2015; Fletcher 2012). In five studies, respondents were children and youth (Eads 2014; Hill and Francis 2014; Knobloch et al. 2015; Ryan-Wenger 2002; Thompson et al. 2017). In the remaining eight studies, respondents were of multiple sources including youth, parents, and other caregivers or staff. Fifteen of the articles focused solely on RC connected children. Four articles included children's perspectives

**Table 1** Characteristics of the 17 Included Studies

| Citation | Study aim | Study design | Study sample characteristics | Setting | Sample size (n) | Viewpoints |
|---|---|---|---|---|---|---|
| Agazio (2013) | To determine how military mothers experience deployments during wartime and how their children experienced the deployment | Grounded theory methods—single interviews | Active duty and reserve component Mothers of 3 months–12 years children-who deployed for at least 4 months to Iraq or Afghanistan and had at least one child under 12 during the separation | Communities | 37 mothers | Mothers perspective on behalf of children |
| Budash (2010) | To determine the challenges that families face during deployments of a National Guard/Reserve parent, specifically stress levels of parents and parent-child interactions | Mixed methods—interviews & assessment tool | National Guard and Reserve families who have experienced at least one deployment 20 parent-child dyads from NG and 11 parent-child dyads from reserve children–ages 3–15 | Rural MidAtlantic region-family readiness programs/family assistance programs | 31parent-child dyads | Parents answered on behalf of children |
| Chandra (2011) | To examine the behavioral and emotional well-being of a select sample of military families (Youth applying to the Operation Purple summer camp program) as they cope with the stress of war and deployment. | Qualitative and Quantitative Phone surveys | Youth ages 11–17 youth attending operation purple camp<br>Interviews with caregivers | Operation Purple, a summer camp program | 1507 | Both youth and care givers' perspectives |

**Table 1** (continued)

| Citation | Study aim | Study design | Study sample characteristics | Setting | Sample size (n) | Viewpoints |
|---|---|---|---|---|---|---|
| Chandra et al. (2010) | To examine the effect of parental deployment on the social and/or emotional functioning of children and youth in the school setting, highlighting how these challenges vary by service component (Active Army vs. Army Reserve or National Guard) | Qualitative-Focus Groups and semi-structured interviews | Focus groups with teachers, counselors and administrative staff (e.g., principals and vice principals) at 12 schools who serve military affiliated children | Different regions across the country in collaboration with liaison officers | 148 | School staff perspectives |
| Custer (2015) | To gain better insight into the perceptions of mothers/soldiers, caregivers, and school-age children regarding educational experiences during maternal Army Reserve component deployments. | Qualitative multiple case study | Children ages ranged between 10 and 17<br>4-cases-child and other caregivers were interviewed<br>NG caregivers and service members who had recently returned from deployment | Home unit in the community—with Members of the NG who had at that time recently returned | 4-cases | Multiple perspectives-Interviewed soldiers, designated caregiver during mother absence |

**Table 1** (continued)

| Citation | Study aim | Study design | Study sample characteristics | Setting | Sample size (n) | Viewpoints |
|---|---|---|---|---|---|---|
| De Felippe (2016) | To investigate how do certain contextual risk factors (i.e., maternal deployment, lack of social support, maternal depression, and couple adjustment) relate to child functioning? | Cross-sectional Study of baseline data (ADAPT) program | Ages 6–11 55.7% girls and 44.3% boys—NGR who had experienced the deployment of a parent to the wars in Iraq and/or Afghanistan who had children ages 4–12 in their households. | NGR families who were part of the After Deployment Adaptive Parenting Tools (ADAPT) program | 237 mother-child dyads and 181 teachers | Multiple Perspectives—Responses are from parents, teachers, and children |
| Deveraux (2015) | 1. What are the most challenging aspects of combat deployments for National Guard and Reserve families? 2. What resources and supports might prove most assuasive to families of National Guard and Reservists during times of combat deployment? | Mixed methods-Quantitative and qualitative phone interviews | 27–54 female stakeholders—adult family members of NG members or Reservists, all of whom had experienced the combat deployment of their service member | Stakeholders in communities—snowball sampling | 15 | Parent perspectives |

**Table 1** (continued)

| Citation | Study aim | Study design | Study sample characteristics | Setting | Sample size (n) | Viewpoints |
|---|---|---|---|---|---|---|
| Eads (2014) | To examine potential correlations between the anxiety felt by military children and the level of threat associated with the location the parent is deployed | Quantitative | 7–14 children who lived with a primary parent who had been deployed at least once −73 active duty and 4 reserve parents | Psychdata, an online program | 77 | Children's perspectives only |
| Edwin (2007) | Evaluation of Operation: Military Kids program that focused on National Guard and Reserve children and their coping and adjustment skills while their parent was deployed | Mixed methods focus groups and interviews | 8–18<br>Those in families of deployed National Guard and Reserves for whom the OMK program was planned and being implemented | OMK program | N = 422 | Multiple perspectives—Children & Perspectives of educators/group leaders/volunteers |
| Fletcher (2012) | To examine the needs among children of deployed National Guard service members. | Mixed methods | Female and Male-K-12 children-Social workers serving schools in which these children studied criterion-based sample of school social workers working in communities that will be impacted during upcoming deployment | Minnesota School Social Work Association (MSSWA) email list serve—communities affected by deployment | N = 105 survey responders and 16 key informants | Social worker perspectives-based on their thoughts surrounding needs of NG families |

**Table 1** (continued)

| Citation | Study aim | Study design | Study sample characteristics | Setting | Sample size (n) | Viewpoints |
|---|---|---|---|---|---|---|
| Gewirtz (2017) | To examine a military family stress model, evaluating associations between deployment-related stressors (i.e., deployment length/number, posttraumatic stress disorder [PTSD] symptoms) and parent, child, parenting, and dyadic adjustment among families in which a parent had previously deployed to Iraq or Afghanistan in the recent conflicts | Cross-sectional-confirmatory—theory testing | N = 293 coupled families<br>NG/R families with children ages 4–12 | Midwestern state, ADAPT intervention program | 293 coupled families | Multiple perspectives—Parents, teachers, and children |
| Gewirtz (2018) | To examine the program's effect on observed parenting, and children's adjustment at 12-months post baseline | RCT-Families were randomized to a group-based | NG/R families with children ages 4–12 living within the household | Midwestern state, ADAPT intervention program | 336 families | Two perspectives—Parent & teachers' perspectives |

**Table 1** (continued)

| Citation | Study aim | Study design | Study sample characteristics | Setting | Sample size (n) | Viewpoints |
|---|---|---|---|---|---|---|
| Hill and Francis (2014) | 4-H summer camps designed to nurture resilience in military youth experiencing the reunion and reintegration of a deployed parent. | Cross-sectional surveys | 6–10 years and 11–18 years<br>Those attending Operation: Military Kids (OMK) summer camp | Those attending Operation: Military Kids (OMK) in Utah | 70 | Children's perspectives |
| Knobloch (2015) | Research Question 1: What changes to family life, if any, do youth report experiencing when a family member is deployed? Research Question 2: What challenges, if any, do youth report experiencing when a family member is deployed? Research Question 3: What positive outcomes, if any, do youth report | In-depth interviews | 33 children who had experienced a family member's deployment.<br>Mean age 11.3<br>U.S. Army (n = 14), the Army National Guard (n = 15), the Navy (n = 2), the Air Force (n = 1), and the Air National Guard (n = 1). | Those attending a 5-day residential camp offered to military youth | 33<br>21 boys 12 girls U.S. | Youth perspectives |
| Nilsson (2015) | To determine the reintegration experiences of women in the National Guard with their children | Qualitative | female National Guard members who had been deployed and had children | Iowa, Kansas, Missouri, Nebraska, and North Dakota | 30 | Multiple- mothers' and older children perspectives |

**Table 1** (continued)

| Citation | Study aim | Study design | Study sample characteristics | Setting | Sample size (n) | Viewpoints |
|---|---|---|---|---|---|---|
| Ryan-Wenger (2002) | To describe military and civilian children's perceptions of war and to examine variables that may reflect the impact of those perception | Descriptive, comparative study | Ages 8–11 M F | Schools, military installations, and reserve units across the United States | 91 | Children's perspectives |
| Thompson (2017) | To explore how youths' behaviors during deployment were influenced by their perceptions of their non-deployed parents. | Qualitative | 13–17 boys and girls—those attending summer camp | Operation Military Kids' free Summer Camp program in a Midwest state | 24<br>11 boys 13 girls | Youth perspectives |

Note: *NG* National Guard, *M* Male, *F* Female, *R* Reserve, *OMK* Operation: Military Kids Program

and/or other caregiver perspectives from both the RC and active duty (Agazio et al. 2013; Chandra et al. 2010; Eads 2014; Knobloch et al. 2015).

## Synthesis of Results

In synthesizing findings, four themes were identified that emerged from the 17 studies included in this review (see Table 2).

**Theme 1: Role Changes for Non-Deployed Parents/Children** The first theme centered on challenges faced by the non-deployed parent. Two articles addressed the difficulty of parenting and maintaining the household during the deployment (Agazio et al. 2013; Chandra et al. 2011). Older children often had to step up and assist in the care of younger siblings (Chandra et al. 2011), and children sensed emotional and other stress reactions in the non-deployed parent (Chandra et al. 2010). One article suggested that there was role confusion such that boys' development and socialization was put on hold when the deployed parent was their father (Deveraux 2015). Parents who had to fill the role of the deployed parent reported being met with resistance from their children because it was seen as a betrayal of the deployed parent (Deveraux 2015).

School staff reported that children are akin to little barometers that are able to sense emotional and mental health issues in the non-deployed parent (Chandra et al. 2010). Among RC children, 63% of RC component children reported that they believed the non-deployed parent was experiencing depression symptoms, which often led to the parent not engaging in school activities or keeping children out of school for personal comfort (Chandra et al. 2010). When the mother was deployed, the non-deployed parent and mother working together as a team was imperative for the child's educational success (Custer 2015). The mother's characteristics and symptoms during the deployment could also predict the level of child functioning, through the measurement of internalizing and externalizing symptoms, in their children regardless of which parent had deployed (De Felippe 2016).

**Theme 2: Behavior Changes in Children** The second theme identified centered on child behavior changes reported both in qualitative (i.e., face-to-face interviews with teachers and staff from schools serving military installations) (Chandra et al. 2010; Thompson et al. 2017) and mixed methods approaches (Deveraux 2015; Fletcher 2012). Caregivers and other school staff reported that children acted out in new ways after the disciplinarian parent was deployed (Deveraux 2015). Young children often acted out through behaviors such as crying instead of verbalizing their feelings (Fletcher 2012) while some middle and high school youth engaged in risk taking behaviors (Chandra et al. 2010). Thompson and colleagues summarized this point well by finding that children based their behaviors on their perception of the non-deployed parent's ability to manage changes due to the deployment (Thompson et al. 2017). Chandra et al. (2010) found that school staff reported that students' peer relationships were often disrupted due feelings of sadness and anger but behavior changes differed based on the child's gender. Boys were more likely to experience aggression and anger while internalizing behaviors and somatic complaints were most common among girls (Chandra et al. 2010).

**Table 2** Findings on impact of parental deployment

| Citation | Impact on children | Summary | Primary theme |
|---|---|---|---|
| Agazio (2013) | • Mothers reported that when they were activated as reservists their children, although eligible for Tricare, they were randomly unenrolled which affected their school immunizations because the deployed mother had to scan in the filled documents<br>• Children regressed such that some became clingy and wanted to sleep in their mother's bed<br>• Mother's reported that children were not adjusting well after their return where in one case, one boy was having horrific tantrums even while in daycare and was subsequently diagnosed with ADHD and oppositional Defiant Disorder and Bipolar (ODD)<br>• Mothers of young children expressed concerns that children would forget them while they were away<br>• Mother's missed their children's key milestones, but there were no reported changes in children<br>• "*When I went to Iraq, I missed her first day of kindergarten, losing her first teeth.*" | • Mother's reported that upon their return, some of the young children became clingy, wanted to sleep in their beds, other small children struggled to adjust to a point of having tantrums that revealed presence of ADHD and ODD. | • Role changes for the non-deployed parents/ children |

**Table 2** (continued)

| Citation | Impact on children | Summary | Primary theme |
|---|---|---|---|
| Budash (2010) | • A significant positive correlation between child stress and reported externalizing problems but not with internalizing behaviors<br>• Overall range of Externalizing Problems as reported by parents on BASC-2 PRS was 37–79, with a mean of 54.16<br>• Overall range of Internalizing Problems as reported by parents on the BASC-2 PRS was 40–83, with a mean of 57.23<br>• Externalizing and internalizing behaviors reported by parents was within the normal range<br>• Approximately 23% of parents reported at-risk levels of externalizing problem- 3% was clinically significant (adolescents1 female, 2 males),<br>• 13% of parents reported at-risk levels of internalizing problems, but 23% had a clinically significant levels of internalizing behaviors in their children—preschool children<br>• The mean range of social supports identified by adult participants on the Social Support Questionnaire was 0.33–7.33, with a total mean score of 3.16. The highest number possible was 9.<br>• In the regression analysis, parental stress did not predict parent-child interaction quality | • Children stress levels and externalizing problems were seen to have a significant and positive relationship during parent deployment among preschoolers<br>• Internalizing behaviors was more seen in adolescent girls and boys<br>• Overall—Children had more internalizing problems during the deployment than externalizing problems | • Child anxiety and fear |

**Table 2** (continued)

| Citation | Impact on children | Summary | Primary theme |
|---|---|---|---|
| Chandra (2011) | • 30% of caregivers reported youths in the study experienced relatively high emotional and behavioral difficulties<br>• This decreased at the 6- and 12-month period<br>• Elevated anxiety levels were reported among youths<br>• Caregivers and children had difficulty maintaining the household and children often had to take care of younger siblings<br>• Caregivers from Reserve component were more likely to report that their children had deployment and reintegration challenges<br>• Girls in the study reported reintegration problems more than male youth<br>• Youth reported that "dealing with life without the deployed parent (68%) and helping the caregiver deal with life without deployed parent (68%) were the most difficult.<br>• Another concern was "not having people in the community understand what deployment is like" (45%).<br>• Academic issues were comparable to the general U.S population<br>• Youth reported problem behaviors that were comparable to the US general population | • Longitudinal analysis of the data showed that older teens experienced more educational difficulties<br>• Younger teens on the other hand had more anxiety problems, especially girls<br>• Reserve component caregivers in the study reported poorer emotional well-being and higher numbers of household challenges<br>• Poor emotional wellbeing was further linked to poor communication leading to problems related to adjusting to deployment among the youth | • Child anxiety and fear |

**Table 2** (continued)

| Citation | Impact on children | Summary | Primary theme |
|---|---|---|---|
| Chandra et al. (2010) | • Children often did not have a support network at their school that understood military life<br>• Although there were usually only one or two students at a school that were part of the Reserve Component, half of these children did not know of other Reserve Component families<br>• 31% teachers reported that children were not given complete information about the deployment such as unforeseen extensions and when the parent will return home<br>• 63% of Reserve/National Guard child teacher's felt that the non-deployed parent was experiencing depressive symptoms and these parents were not bringing the child to school activities and did not make sure they completed their homework<br>• Children did not do school work because of household chores*: I had a little girl a couple of years ago that had to get her siblings up in the morning, give them breakfast, dress her brothers and the sisters, get their backpacks on, and get them ready for school before she could get ready to go to school.*<br>• *"I have a student who cuts herself when her dad gets ready to leave, because she thinks it will keep him here. She had it in her mind that cutting was a mental illness and when kids are really sick, the parents don't have to go out [deploy]"*<br>-School staff | • School staff reported that the Reserve and NG students had schooling problems which were attributed to (1) uncertainty surrounding the deployment length (25%), (2) increased stressed at home (50%) and (3) perceived mental health of the non-deployed parent (63%)<br>• Children did not do schoolwork because of household chores<br>• Staff reported that children exhibited resiliency in handling deployment, but their resiliency decreased with subsequent deployment or prolonged deployment<br>• Lack of social support<br>• School staff felt that schools are becoming the stable place or sanctuary for students<br>• Students spent more time at school with peers and teachers as they could lean on them emotionally | • Support Networks |

**Table 2** (continued)

| Citation | Impact on children | Summary | Primary theme |
|---|---|---|---|
| Custer (2015) | • Children experienced ambiguous loss<br>• In families that had open boundary ambiguity, the parents and children adjusted poorly to the deployment and some children felt "lost"<br>• Readjustment was easiest when mother's maintained a role in the child's education when they were deployed<br>• Families perceived the child's school as a resource<br>• Communication between deployed mother, caregiver, and child was important in establishing roles<br>• Children perceived that they could support their deployed mother by maintaining or improving in school<br>• Children perceived that improving or maintaining their grades and/or behaviors would help support their deployed mother<br>• Academics during deployment: *"He did very well grade wise" Caregiver* | • Having clearly defined roles in the child's educational experience was important during deployment for role definition.<br>• If the deployed mothers remained involved in the education experiences of their children, then it helped ease the readjustment process<br>• Communication during deployment was imperative to deployment success from family and children | • Role changes for non-deployed parents/children |

**Table 2** (continued)

| Citation | Impact on children | Summary | Primary theme |
|---|---|---|---|
| De Felippe (2016) | • After the deployment, mother's that had low social support (β = −0.138, p = 0.023) had children with higher externalizing symptoms<br>• After a deployment, mother's that had depressive symptoms (β = 92, p = 0.000) had children with higher internalizing symptoms<br>• After a deployment, mother's that had more depressive symptoms had lower parental locus of control (β = 49, p = 0.044, 95%CI: 0.009, 0.0)and the children tended to have more externalizing symptoms<br>• Lower parenting sense of control of child's behavior), which in turn was associated with higher levels of child externalizing behavior symptoms<br>• After a deployment, boys had more externalizing symptoms and girls had more internalizing symptoms<br>• After a deployment, older children had more internalizing symptoms | • Depressive symptoms in post deployed mothers was a key predictor of internalizing symptoms in children<br>• Depressive symptoms also led to externalizing behaviors, but through low parental locus of control<br>• Social support to post deployed mothers was associated with lower levels of externalizing and internalizing behaviors | • Behavior changes in children |

**Table 2** (continued)

| Citation | Impact on children | Summary | Primary theme |
|---|---|---|---|
| Deveraux (2015) | • Deployment led to role confusion and filling of new responsibilities.<br>• *"We all really missed the influence of [service member]. The balance of mom and dad wasn't there anymore, and the kids clearly suffered, especially my boys. It seemed like developmentally my sons were put on hold while their dad was away. Of course, I tried, and extended family members tried to fill the hole that was created but, I saw my kids losing ground*."<br>• Lack of support for children: *"It seemed like there might be resources for adults but kids are out of luck. The schools don't have staff familiar with the military or deployments so there weren't any support groups to help the kids. Our pediatrician wasn't covered by the military insurance, so we had to change*.<br>• During deployment, some children felt different from their friends and did not feel like they belonged in the military or civilian community<br>• Children lost the connection they had with the deployed parent and were distant<br>• *"The kids really struggled. They stopped asking about him. They stopped wanting to talk to him on the phone. You could just see them drifting away. I even heard one of my youngest children tell a neighborhood friend that she didn't have a daddy anymore…"* | • Barriers to communication, access to resources, role confusion, and a disrupted sense of connectedness were the four largest obstacles for family members. | • Role changes for non-deployed parents/children |

**Table 2** (continued)

| Citation | Impact on children | Summary | Primary theme |
|---|---|---|---|
| Eads (2014) | • Children whose parent was in the Reserves had significantly higher anxiety scores during deployment compared to children whose parent was Active Duty (*F (1, 73) = 4.16, p = 0.045, partial η 2 = 0.05*) | • Children from military reserve families had higher anxiety compared to children of active duty families but the deployed parent's level of threat related to their deployment location | • Child anxiety and fear |
| Edwin (2007) | • Children wondered if they would see their deployed parent again or worried about their safety<br>– *"I was angry at everybody. I'm like a big daddy's girl, so I was sad he was going away. And I was scared something bad might happen to him."*<br>• Some children said that they overcame fear through religion (ex. Putting their faith in God's hands)<br>• Some children used school services for coping but others avoided anyone who wanted to discuss their parent's deployment<br>– *"My teacher lives in my neighborhood and he knows my Dad is in Afghanistan. I think he cares about me and ask me to talk to him in school, if I have any problem."*<br>• Role changes<br>– *"I was 16 when Mom left and we don't have a Dad at home. Grandma came to stay with us for some time, but all the time I had to take care of my younger brother. Do everything that Mom did, but I like it because it made me grow fast and kind of bonded us together more. She is still over there."* | • Support systems acted as strong mediators between child coping, deployment stressors, and child psychosocial adjustment<br>• Common ways children coped were by using books, listening to music, and going to the mall | • Support networks |

**Table 2** (continued)

| Citation | Impact on children | Summary | Primary theme |
|---|---|---|---|
| Fletcher (2012) | • Young children often communicated through behaviors (ex. Crying) instead of verbally while older children shared less<br>• Resources will not be given by school social workers unless they know that the child has a parent in the National Guard (difficult to identify students)<br>– "*Children from National Guard families may feel less supported and their schools may be less aware of how to respond because deployments for these families are not something that happen as routinely or are as expected as is the case for active duty families…"*<br>• Children expressed frustration from extended/uncertain deployment length<br>– *"I had two or three kids come in on a regular basis. They were angry, they were just frustrated, they were waiting for their mom or dad to come home, and their parents didn't know what to tell them, when they were going to … so those kids get a forum to say, "yeah, my dad's coming home but I don't know when."*<br>• A school social worker reported that many of her students have PTSD from their parent leaving<br>• Elementary school aged children need help expressing themselves and extra support and structure | • Identification is crucial to providing resources to children<br>• Children found social support through friends and family, other military children, faith-based communities and through military organizations<br>• New technologies (Skype, Facebook, and video game technology) allow children to connect with their deployed parent, their peers, and other military children | • Support networks |

**Table 2** (continued)

| Citation | Impact on children | Summary | Primary theme |
|---|---|---|---|
| Gewirtz (2017) | • PTSD symptoms of mothers and fathers were negatively associated with child adjustment<br>• Child adjustment scores were not associated with the number and length of their parent's deployment<br>• The more effective the observed parenting practices there were, led to increased levels of child adjustment among a military population that was previously deployed | • PTSD symptoms of both parents were associated with child adjustment (as reported by child, parent, and teacher) and were a bigger family stressor than the number or length of deployments<br>• Parenting practices were associated with child adjustment | • Child anxiety and fear |
| Gewirtz (2018) | • Parents that showed improvements in parenting were associated with improvements in child adjustment as reported by teachers, parents, and children<br>• The ADAPT ITT training program predicted changes in parenting practices ($\beta = 0.16$, $p < 0.01$) | • A behavioral parent training program found that improved observed parenting practices was associated with child adjustment improvements. | • Child anxiety and fear |
| Hill and Francis (2014) | • Among campers aged 11–18 that filled out an evaluation at the end of camp, 80% reported that they had social support<br>• Campers' mean scores for teamwork, responsibility, independence, and competence were higher than national averages<br>– Competence (50th–60th percentile)<br>– Independence (60th–70th percentile)<br>– Responsibility (60th–70th percentile)<br>– teamwork (60th–70th percentile)<br>• 100% of campers aged 6–10 and 94% of youth ages 11–18 wanted to return to camp the following year if they could | • RC children had higher mean scores for teamwork, responsibility, independence, and competence that the national average scores | • Support networks |

**Table 2** (continued)

| Citation | Impact on children | Summary | Primary theme |
|---|---|---|---|
| Knobloch (2015) | • Disruptions to daily routines were common, especially around transportation<br>• Children had emotional difficulties and anger, sadness, and stress were common<br>• Children reported that they missed family traditions and viewed there family as incomplete during the deployment<br>• Children took on additional responsibilities and there were many changes to family life<br>– "*Me and my brother, we had to do more work around the house and help my mom mom.[…] We would just help mom clean and all that*"<br>• 39% of family experienced increased family cohesion<br>– *"[My mom] knows that we're going through hard times and she always like comforts us and says that we are all okay and stuff like that*" | • Children and the non-deployed parent had more responsibilities during the deployment | • Role changes for non-deployed parents/children |

**Table 2** (continued)

| Citation | Impact on children | Summary | Primary theme |
|---|---|---|---|
| Nilsson (2015) | • Most mother's that had deployed believed that the deployment had been tough on their children<br>• Most children stayed with their father or partner but some had to live with relatives or friends and they had strong and surprising reactions to the reintegration process.<br>– Some did not want to move back in with their mother and others had trouble with adjusting back to the mother's rules and expectations.<br>• Communication mode and frequency varied and some children did not want to open up with their deployed mother while other deployed mothers had trouble bonding with their child<br>• Children sometimes did not know how to talk to their mother after she returned and some expressed that they just wanted their mom back<br>• Children often responded to the reintegration process with frustration, anger, and withdrawal<br>• Most mothers and their children's lives stabilized over time and mothers were able to see positive benefits from the deployment such as deeper bonds with their fathers and children becoming for independent and mature (but some children had negative lasting effects from deployment). | • The biggest concerns of mother's who deployed was concern for the child's well-being, a sense of lost, and challenges with reintegration<br>• Some children formed close attachments with other family members such as their grandparents or father. Some mothers had trouble getting as close to their children as they had once been but others were more attached. | • Support networks |

**Table 2** (continued)

| Citation | Impact on children | Summary | Primary theme |
|---|---|---|---|
| Ryan-Wenger (2002) | • Emotional indicators on Human Figure Drawings found that more reserve children drew "arms shorter than waistline" which indicated timidity in these children<br>• Civilian and reserve children were more likely to say that if the US got into a war, "It's not right" compared to active duty. They also thought that their parent would go to war and die if there was another war.<br>• Children from Reserve families were not significantly different from active-duty or civilian families with regards to anxiety, emotional problems, coping strategies<br>• Reserve children were more likely to "do something about it" as a coping strategy compared to active duty or civilian kids<br>• Reserve and civilian children were more likely to "try and relax" as a coping strategy than active duty children | • "Military family syndrome" for both RC and active duty children did not occur and children were able adapt and cope with the threat of war | • Child anxiety and fear |

**Table 2** (continued)

| Citation | Impact on children | Summary | Primary theme |
|---|---|---|---|
| Thompson (2017) | • Some children withdrew from family members and this was done to protect the non-deployed parent, prevent confrontations with the non-deployed parent or family members, or lack of support from the non-deployed parent or family members<br>• Children responded to the non-deployed parent by maintaining engagement or withdrawing<br>– Those that maintained engagement stepped up (assumed more responsibilities due to the child perceiving the need) or carried on (minimal changes)<br>• Children who assumed a new role during deployment never returned to their old role after deployment—they either continued the old role of assumed a new one | • The non-deployed parent's interactions with the child influenced the child's behaviors during the deployment<br>• Children based their behaviors on their perception of the non-deployed parent's ability to manage changes due to the deployment | • Support networks |

Note: *ADHD* Attention Deficit Hyper Disorder, *ODD* Oppositional Defiant Disorder, *RC* Reserve Children, *BASC-2 PRS* Behavior Assessment System for Children-Second Edition Parent Rating Scales

Several different measures were found to predict child behavior problems. When the mother was deployed, children perceived that maintaining their grades and behavior would support their mother during her deployment (Custer 2015).

**Theme 3: Child Anxiety and Fear** RC children who had a deployed parent had higher levels of anxiety compared to active duty children who had a parent deployed (Eads 2014). Several articles described characteristics that did not increase a child's anxiety surrounding the deployment such as the level of threat of the parent's deployed location (Eads 2014). For example, the child's adjustment score was not correlated with the length of the parent's deployment nor the number of deployments (Gewirtz et al. 2017). Fear was a common emotion for RC children to experience and in one study, older children expressed that they overcame this fear through religion (Edwin 2007).

Children sometimes demonstrated behavior problems after their parent was first deployed (Deveraux 2015). In one article, children reported feeling ambivalence or apprehension about their parent's deployment and wondered if they would ever see their deployed parent again (Edwin 2007). However, in this same study, researchers noted that children reacted differently depending on the age of the child, family circumstances, and the number of previous deployments (Edwin 2007). Children from the RC were more likely than active duty children to use relaxation and "do something about it" (p. 240) as coping strategies compared to active duty children (Ryan-Wenger 2002). Some children also reported that they could sense emotional and mental health issues in the non-deployed parent (Chandra et al. 2011).

**Theme 4: Support Networks** Children sought out support in many ways and from a variety of sources (Chandra et al. 2010; Edwin 2007; Fletcher 2012; Hill and Francis 2014; Thompson et al. 2017). Children often did not have a support network at school that understood military life and nearly half of RC children did not know of another RC child or family (Chandra et al. 2010). Children longed for support during their parent's deployment but were reluctant to seek social support from outside of their immediate family but some children received support from their friends (Edwin 2007). Other RC children received social support from other military children, faith-based communities, and other military organizations (Fletcher 2012).

RC children were more likely to have increased externalizing symptoms if the mother had low levels of social support (De Felippe 2016). Support networks also acted as a strong mediator between the child's psychosocial adjustment, child coping, and deployment stressors (Edwin 2007). However, a lack of a support system was associated with increased external and internal psychosocial adjustment in the child (Edwin 2007).

## Discussion

The focus of this research was to better understand the impact of parental deployment on children and youth who had a parent in one of the RC or National Guard and who had deployed at least once on Federal active duty orders. This scoping review identified 17 articles related to RC children and youth. Findings were classified into four themes, namely, role changes for non-deployed parents, behavior changes in children, child anxiety and fear,

and support networks. It is clear from the extensive number of studies eliminated at the full-text review stage of this study that there were far fewer studies that focused solely on the impact of deployment on RC children and their families and that this population remains understudied after 18 years of prolonged war. The reasons for this are varied, with some being systemic within DoD and others localized to the specific RC. These include complexity in locating RC children due to geographic dispersion of RC service members across the country with home of residence not linked to the location of their RC unit (CNGR 2008) eligibility for access to federal services occurring on an intermittent basis dependent upon type of Title 10 orders; inability of external scholars to access of the many DoD databases coupled with a lack of federal funding to support external research on impacts of deployment on RC families; lack of clear and defined policies and personnel within RC/National Guard commands to facilitate the navigation of externally-funded researchers through these bureaucracies to obtain Human Research Protection Program (HRPP) approvals and entre to the population being studied, and the episodic nature of engaging the RC's within the operational force making the impacts on the families less urgent in the eyes of senior military leaders (Cozza et al. 2018; Kizer and Le Menestrel 2019).

### Role Changes for Non-deployed Parent

The parent left on the Homefront continues their own role performance plus steps into as much of the deployed parent's role as they are able. This is in addition to their own set of worries over the safety of the deployed parent. Assuming the responsibility for home and car repairs and maintenance were reported by 64% of those in the 2017 RC Spouse Survey (RCSS) as well as being an additional expense (OPA 2017). This regular recurring survey of RC Spouses is conducted by the Office of People Analytics (OPA), DoD with the last three surveys occurring in 2012, 2014, and 2017, respectively. The need for and the inability to obtain childcare adds to the Homefront spouse's stress and can impact their ability to cope with additional role responsibilities. The 2017 RCSS reported that 39% of RC spouses reported new or increased need for childcare due to deployment (OPA 2017). This is often a new expense that needs to be factored into the budget. This reported need increased from 31% in 2012 to 36% in 2014. The ability of RC members to access child care on active duty installations is based on a limited availability using a tiered access system (Childcare 2020). However, since most RC families are not located near active duty posts, they are subject to wait lists in their local communities and do not uniformly receive preference for having a military spouse deployed. Other challenges experienced by RC families may be a change in family income when the service member goes on active duty orders. In some cases, the service member may experience an increase in their income, but for others, there may be a reduction in income if their civilian income is greater than or less than their military income. These fluctuations in income as well as movement in and out of civilian and military health systems, put stress on the family's ability to pay the mortgage and other household related bills (CNGR 2008). A drastic drop in income may lead the family to apply for federal assistance through SNAP, although there are limited data about use of SNAP benefits by military families (Clark 2015).

Assuming full responsibility for child care and household duties along with assuming additional roles within the family can magnify household hassles, parenting stress (Esposito-Smythers et al. 2011), and place stress on the relationship, which has been reported in other studies as being greater in National Guard and RC spouses (Castaneda et al. 2008;

Lara-Cinisomo et al. 2012). While many active-duty spouses report many of the same hassles, especially during the initial wartime deployment, National Guard and RC spouses report higher levels of distress and challenges often because RC deployments come unexpectedly with flimsy timelines (Chandra et al. 2011).

### Behavioral Changes in Children

Synthesis of four studies indicated that RC children exhibit behavioral changes in the classroom or at home. This is similar to reports of behavioral changes in children of active duty personnel (Meadows et al. 2016) and corroborates the findings from the 2017 RCSS (OPA 2017). The 2017 survey reported an increase of 49% of RC children exhibiting problem behaviors at home since the 2014 survey and an increase in problem behaviors by 30% of children who had had a parent deployed in the 24 months prior to this survey, up from 25% in 2014. Significantly increased problem behaviors at school were reported by 38% of children of the National Guard. Older children also report stress from having to support the parent on the Homefront and may have to assume additional responsibilities in caring for their siblings and assume increased responsibility for household tasks (Chandra et al. 2011).

### Child Anxiety and Fear

The 2017 RC Spouse Survey reported a 63% increase in levels of fear and anxiety and 44% increase in other emotions among children from previous surveys, which corroborates the findings of the studies examined in this scoping review. The level of fear and anxiety reported by RC children is unchanged from the previous two surveys. Out of the six childhood anxiety disorders, RC children are most likely to experience Separation Anxiety Disorder or Generalized Anxiety Disorders solely based on the context of a parental deployment. Child psychological anxiety and fear are exhibited by a range of behaviors and based on their developmental stage. For example, older children with anxiety often experience irritability and sleep disturbances and younger children may simply have bad dreams. Elevated anxiety is more reported among younger female RC teens (Chandra et al. 2011). About 1 in 3 adolescents between the ages of 13–18 years old will develop an anxiety disorder according to the National Institutes of Health and the rates continue to increase (Kessler et al. 2005). When the typical adolescent experience is combined with that of a RC child's experience with parental deployment, anxiety and fear are often interpreted as normal responses to a parental deployment.

RC children may experience amplified levels of anxiety and fear for multiple reasons. They may experience fewer parental deployments over their lifetime compared to AD children where deployment is a common and expected practice. RC children's expressions of anxiety and fear may result from the multistage approach to deployment and pre-deployment activities being cumulative in nature: they learn their parent will be deployed, hear conversations and see actions associated with deployment, and parents may be absent for shorter training intervals in preparation for a forthcoming longer deployment. RC children may also experience geographical isolation as they often live further geographic distances away from RC command posts or military installations (CNGR 2008) and lack a peer group experiencing the same emotions. RC children, like children in general, are constantly connected to various forms of social media and news in real time which may increase their anxiety.

## Support Networks

Rehearsal for assuming additional role responsibilities begins during the pre-deployment period when the SM is away for training for extended periods of time. It is also during this pre-deployment period that the unit's Family Readiness Group (FRG) becomes more active, identifies leaders, and plans newsletters, creates telephone trees, and other activities. FRGs are governed by and DoD Directive 5124.02 and DoD Instruction 1342.22 with each military service then publishing their own specific guidance on FRG functioning (DOD 2008, 2012). While all units are required to have some sort of FRG, the degree of regular engagements with family members varies based with the quality of FRG leadership and family involvement.

The geographic distances of many RC families from the RC unit hinders their involvement in FRG and unit activities, thus depriving them of social support from others experiencing many of the same hassles and fears (CNGR 2008). For example, during the time of MCW's brigade command, many unit members reported that they lived at too great a distance for the family to participate in FRG activities since they only had one automobile and could not afford to bring their family to the unit for FRG activities. During the deployment of one author's son with an Army Reserve unit, families were scattered over a 4-state region, thus making face-to-face meetings during the period of the deployment impossible. While electronic and social media communication methods can serve as a minor "substitute" for face-to-face interaction RC families, the 2017 RCSS found that 57% found that unit-provided support video teleconferencing as 'not at all helpful' (OPA 2017). RC families clearly have challenges not faced by active duty families in terms of obtaining military-centric social support during the time of deployments.

A recent examination of the military family readiness system found a complex, siloed system with many policies that are also fragmented (Kizer and Le Menestrel 2019). The committee reported a lack of a comprehensive, coordinated framework with many programs that lack a solid base of evidence for their effectiveness. This committee recommended use of a learning system framework that is data-driven and adaptive to family and community diversity. No specific recommendations to modify, strengthen or restructure were made that reflected the unique cyclical nature of RC and National Guard operational tempo by this National Academy of Medicine Consensus Report (Kizer and Le Menestrel 2019).

Another report from a symposium designed to create a future-looking plan for supporting military families included an examination of family support through the lens of the National Guard but did not include the perspective of the rest of the RC (Wickham and Mayhugh 2018). The National Guard is the Army's leading agency for executing family assistance through Total Army Families beginning in 2014. In addition to recommending maintenance and expansion of community-based programs, the need for continued funding to support these programs was noted (Wickham and Mayhugh 2018). While not included in this report, ensuring a "joint" multi-service approach to providing family support across the United States would provide needed support and services in a geographic-centric rather than service-centric approach and reach more of those in need of assistance.

### Limitations

A scoping review is not meant to be exhaustive, given that its purpose is to scan and put into perspective the lay of the land in a certain area of research including research gaps. Scoping reviews do not often include risk for bias or quality appraisal of the included studies, which often results in varying study designs and methodologies of the included studies compared to that of a systematic review. In addition, as indicated on our PRISMA flow diagram, we did not include book chapters or grey literature although these sources constitute important source of research information. This scoping review was limited to studies of the RC from the United States and did not consider studies from other countries, such as NATO partners. This review was also limited to English language publications published in peer-reviewed, professional publications and did not include government-funded research that had not been subject to peer review, e.g., RAND studies.

## Conclusion

This scoping review identified four significant gaps in understanding the impact of deployment on children whose parents are in one of the RC versus those with parents on active duty. These gaps highlight a paucity of research on a force that comprises nearly 50% of the Armed Forces. Increased funding is essential so that further study can occur to better understand children's behaviors before deployment, during deployment, and at the time of reunification. Therefore, further research is needed to identify and develop interventions to address problems highlighted in our themes including, behavioral problems in children, child anxiety and fear, and role changes for the non-deployed parents/children, and support networks. It is also essential to use mixed methods approaches to understand the implications of having an operational RC force on the families in order to inform policy and programming which will, in turn, better support them during periods of prolonged active duty service and to enhance recruitment and retention.

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**Availability of Data and Material** Data used to extract 17 articles are available electronically in an Excel spreadsheet upon request.

**Code Availability** PRISMA Guidelines were used, Covidence was used to systematically review the literature and to extract data from the 17 identified studies, and Endnote was used to catalog references.

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