Sibling Relationships Over the Course of a Parent’s Deployment

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Since 2001, almost one million children in the U.S. have experienced one or more parental military deployments (Maholmes, 2012)

An emerging body of work documents that, at least in the short term, parental wartime military deployments are associated with elevations in children and youth’s externalizing behaviors (e.g., Card et al., 2011; Chandra et al., 2010; Lester et al., 2010) and internalizing symptoms (Cederbaum et al., 2014; Reed, Bell, & Edwards, 2011) as well as impairments in academic performance and peer related difficulties (Chandra et al., 2010; Lester et al., 2010).
Although the separation from a deployed parent may have direct effects on children’s well-being and adjustment (e.g., Huebner et al., 2007), research has largely considered how deployment is related to children’s adjustment through the non-deployed parent’s mental health and parenting (e.g., Chandra et al., 2010; Flake et al., 2009; Lester et al., 2010).

Specifically, this work suggests that the deployment of a residential parent negatively affects the non-deployed parent’s mental health, such as increasing anxiety, stress, and role overload as well as decreasing parenting efficacy (e.g., less sensitivity, more parent-child conflict), which in turn negatively influences children’s adjustment.

Although this work highlights a critical path through which deployment influences child development, it fails to account for the impact of deployment on other family subsystems.
An important family system that has been generally ignored in the work on military families to date are siblings. In fact, demographic research shows that despite declines in fertility, more than 80% of youth grow up with at least one sibling.

Importantly, research with community samples demonstrates that the quality of children and adolescents sibling relationships are uniquely associated to their individual adjustment above and beyond the effects of parenting and other shared environments.

Yet, as mentioned earlier, research has failed to consider how a parents’ deployment is related to youth’s adjustment
Although research has yet to consider how parental deployment may influence youth’s sibling relationships, theory and research suggest two opposing possibilities.

On the one hand, consistent with family systems theory (e.g., Cox & Paley, 1997), the negative implications of deployment on non-deployed parents’ mental health and parenting may spillover into the sibling relationship, yielding more problematic sibling dynamics (e.g., diminished warmth, increased conflict and rivalry).
On the other hand, consistent with social provision theory (Weiss, 1974), siblings may turn to each other to compensate for aspects of companionship, support, and intimacy that may be missing from the relationship with the deployed (and potentially non-deployed) parent.

In fact, consistent with this notion, support for compensation dynamics largely comes from stressed or at risk families (Gass et al., 2007; Houston et al., 2013; Jenkins, 1992).
The aim of the present study was to examine these divergent possibilities.

Specifically, using longitudinal data from across the deployment cycle, we first examined the developmental course of three sibling relationship qualities across the deployment cycle.

If spillover hypotheses are correct, sibling relationships should become more hostile and less warm over time

If compensation hypotheses are correct, sibling relationships should become more warm and less hostile over time
Second, we connected developmental changes in sibling relationships to changes in youth’s adjustment accounting for changes in parenting.

If spillover hypotheses are correct, then declines in sibling relationship quality relationships would serve as risk factors for youth’s adjustment. If compensation hypotheses are correct, then increases in sibling relationship quality would serve as protective factors for youth’s adjustment.
The data come from an on-going study of National Guard families’ experiences with deployment

- Eligibility criteria:
  - Have at least one member whose unit was anticipating and ultimately experienced deployment ($n = 183$)
  - Have two or more siblings in the household ($n = 91$)

In order to be eligible for this study, participating families had to have at least one member of the family whose unit was anticipating and ultimately experienced deployment ($n = 183$, this includes childless couples)

And had two or more siblings in the household ($n = 91$)
Participants

- The final sample included 91 families
  - Older siblings were 10.42 (SD = 3.76) years old
  - Younger siblings were 7.65 (SD = 3.49) years old
  - Deploying parents were 34.28 (SD = 7.23) years old
  - Non-deploying parents were and 33.57 (SD = 6.58) years old
  - 91% of deployed parents were fathers
  - 92% of families were White
Procedures

- Families were recruited from predeployment briefings from 2010-2014.
- Trained interviewers visited the families and completed in-person interviews for up to six time points:
  - Predeployment (Time 1): Home interviews with service member and significant other occurred one to four months before deployment.
  - Deployment (Times 2 and 3): Home interviews with significant other and youth over age 10 twice during deployment.
  - Reintegration (Times 4-6): Home interviews with entire family approximately beginning shortly after the return of the service member.
- Families received an honorarium at each time for their participation.
Review details of scales – likert scales, scores were averaged across items and higher scores denote greater of each quality
Review details of scales – likert scales, will want to know ranges and potentially alphas
To address our study goals, we tested a series of multi-level models (MLM).

In this study, longitudinal assessments were clustered within individuals (Level 1) and individuals were clustered within families (Level 2).

Because MLM does not require equal spacing between observations, we used time since predeployment (measured in weeks) as our measure of time. This measure of time accounts for differences in participants’ deployment durations and differences in assessment dates.
To examine our first goal, to examine the developmental course of youth’s sibling relationships across the deployment cycle, we estimated a series of growth curves. We specifically examined each relationship quality separately and tested for linear and quadratic patterns of change.
To address our second study goal, connecting changes in sibling relationship qualities found in goal 1 to changes in youth’s adjustment, we ran a second series of models.

In these models, we structured our analyses to separate within- and between-individual effects. Specifically, we included two predictors of each relationship quality.

At Level 1, sibling warmth and agonism were indicated by a time-varying variable that was centered at each individual’s cross-time average.

At Level 2, sibling warmth and agonism were indicated by the individual’s (time-invariant) cross-time average, centered at the sample mean. This Level 2 variable captures all between-person variation.

Thus, the Level 1 version isolated within-person variation and tested whether changes in sibling relationship qualities predicted changes in internalizing and externalizing behaviors, net of stable individual differences in these variables and other measured and unmeasured variables.

Finally, to discover whether these links were unique, above and beyond the effects
of parenting, time-varying parental acceptance (centered at its mean) was included at Level 1.
Results from the growth curve of sibling warmth revealed significant linear and quadratic effects over time.

First a significant negative linear effect for time suggests that there was decline in sibling relationship quality from predeployment through reintegration.

A significant positive quadratic effect, however, indicated that this decline was attenuated – and as can be seen in this Figure, the decline seemed stop in reintegration and eventually begin to recover towards initial levels.
For sibling agonism, a significant quadratic pattern was also observed. A non-significant linear term indicated that the initial and end levels of agonism were roughly the same. However, a significant quadratic effect for time revealed that sibling agonism rose early in the deployment cycle and then recovered during reintegration.
Importantly, changes in these sibling relationship qualities were associated with changes in youth’s adjustment, above and beyond the effects of parenting.

First, for youth’s externalizing behaviors, increases in sibling agonism or conflict were associated with increases in youth’s externalizing behaviors, accounting for the significant between-person differences as well as time-varying effects for parenting.
For youth’s internalizing symptoms, there were only trend level effects for sibling relationship qualities. Similarly to conflict, increases in conflict tended to be associated with increases in internalizing behaviors over time.

Note that the time-varying effect for parental acceptance was significant in this model (and was not for externalizing), indicating that parent-offspring acceptance may be a stronger predictor of youth’s internalizing symptoms, whereas sibling relationship qualities may be more strongly linked to externalizing behaviors.
Overall, our results revealed that sibling relationships changed across the deployment cycle.

Consistent with family systems and specifically spillover hypotheses, sibling relationships became less harmonious early in deployment, but eventually showed signs of recovery during reintegration.

Importantly, changes in sibling relationship qualities were linked to changes in youth’s adjustment, above and beyond the effects of parenting.

These findings indicate that future work and intervention efforts target the entire family system and include units for sibling relationships specifically.
Despite the many strengths of this study, including a prospective, longitudinal design, our study was limited by several factors.

First, the sample was limited in size and was composed of only national guard families, which may limit the generalizability of the results.

Second, our measures relied upon parent reports of youth’s relationships and adjustment. Appropriately aged youth (adolescents) may be more optimal reporters of their sibling relationship qualities and associations between constructs may have been inflated because of mono-reporter biases.

Finally, we did not explore how the trajectories of sibling warmth and agonism may have differed as a function of key demographic variables such as siblings’ ages or gender composition. Future work should explore these possibilities.
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