A Comparative Case Study of Risk, Resiliency, and Coping Among Injured National Guard

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ABSTRACT An injury during deployment disrupts family and life functioning. The purpose of the present study was to provide an in-depth examination of three injured National Guard soldiers showing how differential experiences of navigating multiple systems to obtain treatment for injury resulted in different adjustment trajectories for these soldiers and their families. A comparative case study examined three families where a soldier's injury was a central theme of family adjustment. Qualitative data were drawn from interviews conducted conjointly with both the soldier and spouse to provide an in-depth perspective of adjustment, meaning, and resource utilization patterns. In addition, survey data were collected at three time points in the deployment cycle (predeployment, 90 days post, and 1 year). These data were integrated into the case analysis, including mental health, marital relationship, treatment history, and characteristics of resilience. Study findings suggest that a delay in diagnosis, wait time for treatment, and the lack of comprehensive formal and financial support for a soldier following nonhostile injury lead to a pileup of stressors that are detrimental to the soldier's physical and mental health, financial stability, and family well-being. Further study is needed to understand how these system level issues impede resilience among National Guard families.

INTRODUCTION

The purpose of the present study was to provide an in-depth examination of three physically injured National Guard (NG) soldiers, and to describe how the navigation of injury treatment contributes to soldier and family adaptation following a deployment to Afghanistan. Data were drawn from interviews conducted conjointly with both service members and their spouses. Survey data collected before deployment and at two additional times within the first year of reintegration illustrate different adjustment trajectories.

A self-reported injury by the service member predicts higher levels of post-traumatic stress, depressive symptoms, and parenting stress 45 to 90 days postdeployment.[1] Among the combat injured, family disruption following injury was related to high child distress but the severity of the injury on its own was not.[2] For the family, what happens during the reintegration phase of deployment can determine whether stress reactions are mitigated or exacerbated.[3] Additional stressors,[2,4] the availability of formal and informal supports, and meaning making are important factors in the reintegration process.[4]

Injuries incurred during deployment—combat or noncombat related—can add additional stress to the already complicated process of reintegration. Combat-related injuries may result in amputation, burns, severe soft tissue and orthopedic injury, and traumatic brain injury,[5] whereas noncombat-related injuries tend to be fractures, inflammation/pain, and dislocation caused by sports/physical training, fall/jumps, and motor vehicle-related incidents.[6] There is a growing body of evidence that suggest an injury increases the risk that the service member will also develop post-traumatic stress disorder (PTSD).[5,7–9] Most of this research has focused on combat-related injuries while far less is known about the adjustment trajectory of service members returning with nonhostile injuries.

Given the fluidity through which NG soldiers move, between mobilization day (M-Day one weekend per month), active duty, and veteran status, their access to health care benefits can be complex.[7] A "line of duty" (LOD) injury determination status states that those who incur or aggravate an injury, illness, or disease in the LOD are entitled to treatment[10] at an approved military treatment facility and along with pay and allowances.[11] If not already reported, a noncombat injury can be reported at the demobilization when the soldiers complete a battery of health screenings and questionnaires. Without an official LOD, the burden falls on the soldier to prove the injury was incurred during military service. Without this designation, receipt of benefits such as Veteran's Administration (VA) health care, and disability compensation is also jeopardized. There are no known studies that examine the personal or family adjustment trajectory of both combat and nonhostile injured NG members' in relation to navigation of systems during the reintegration process.

The present study employed a comparative case study methodology[12] to explore the impact of differential experiences of system navigation on the adjustment trajectory of injured NG soldiers and their families. This study fills a gap in the literature by using qualitative data to expand the meaning construct of the family stress model and explain the influences of health systems on family resiliency processes. The

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Resiliency Model of Family Stress, Adjustment and Adaptation[4] served as a guide for assessment and interview questions. This model assumes a relational perspective of family adjustment with recursive effects such that overall family adaptation (X) is dependent on the interplay of deployment and injury severity (A), pileup of demands (AA), family resources including utilization of services (BB), and meaning or family perspective of their situation (CC) within the context of dealing with the injury.

METHODS

A comparative case study methodology was employed using cross-case comparison and within case analysis.[12] This method allows for empirical inquiry and in-depth investigation of multiple sources and variables, which captures the complexity of real-life context of family and system interaction. Comparative case study intentionally selects a small number of cases that differ on outcome variable of interest. The small number of cases allow for a more in-depth probe of processes that may be related to the different outcomes. As employed in this study, the comparative case study approach allowed us to contribute to the limited literature specifically exploring the impact of deployment injury on family adaptation from the perspective of a service member and spouse. In this way, this method gives us the strongest means of drawing inference of cases for theory development.[12] The study was approved by all partnering institutional review boards governing the use of human subjects.

Participants and Procedures

Data for the comparative case study were drawn from a larger ongoing mixed-method longitudinal study that followed a battalion of soldiers who deployed to Afghanistan. Soldiers and family who self-identified as resilient during their reintegration event could volunteer to participate in interviews in addition to completing survey data. Unique identification codes were used to match qualitative data with survey data. Because we were interested in family processes that predict resiliency, individuals with suicidal ideation and hazardous alcohol use were excluded from the interview pool. In-depth qualitative interviews were conducted with a target sample of 35 families representing demographics of the larger sample. Only couples in the qualitative interviews reporting an injury as a contributing factor to their reintegration process were eligible for inclusion in this comparative case analysis. We made every attempt to match the cases as closely as possible on variables that could also impact overall adjustment. Table I shows the comparison of cases with their cohort of injured (n = 77) and noninjured (n = 568) soldiers.

Data Collection

Surveys were collected approximately 90 days before deployment, at reintegration events 45 to 90 days after they returned home, and 1 year after reintegration. Surveys measured family adjustment using the Revised Dyadic Adjustment Scale[13] and the Parental Stress Scale.[14] To assess the psychological health of soldiers we used the PTDS checklist,[15] the Patient Health Questionnaire,[16] and the Generalized Anxiety Disorder 7-item scale.[17] Pileup of demands were assessed using a 21-item checklist for life events occurring in the prior year. In addition to the in-depth interview, appraisal of their situation was measured using the Perceived Stress Scale-4[18] and Satisfaction with Life Scale.[19]

The in-depth family interviews were conducted 6 to 9 months postdeployment and averaged 90 minutes in length. Each interview was conducted by a two-person (male/female) team with one licensed therapist and an individual with military experience. In the semi-structured interviews, families responded to questions about family adjustment, supports that contributed significantly to their experience, and the family appraisal of their situation. Field notes of major themes and observations were created following the interviews, which were taped, transcribed, and reviewed by the interviewer for accuracy.

Data Analysis

Qualitative data were organized using Atlas.ti software (Scientific Software Development, Berlin, Germany).[20] The coding team employed theoretical thematic analysis[21] to identify patterns or interactions related to the constructs in our theoretical model. Consistent with theoretical thematic analysis, factors from the Resiliency model of Family Stress, Adjustment and Adaptation (i.e., family adaptation [X], deployment and injury severity [A], pileup of demands [AA], family resources [BB], and family meaning making [CC]) were used to guide initial coding. To this end, transcripts were initially coded independently and then codes (e.g., ABCX) and their application were compared, discussed, and consolidated into broader themes within each factor. Further the scored survey measures from pre, post, and 1 year follow-up were charted, mapped, interpreted, and incorporated into the analyses to explore the potential interaction between systems of support, family appraisal, pileup of demands, individual, and family outcomes.

RESULTS

Table I shows a comparison of outcomes for each case throughout the deployment cycle. A number of overall themes, concepts, and relationships emerged from the within-case analysis and cross-case comparisons. Factors contributing to a positive reintegration trajectory following service-related injury included prior deployment experience, timely medical and behavioral health treatment, financial stability in particular uninterrupted income through the community-based warrior transition unit (CBWTU), formal and informal supports from a community that understands their experiences, and personal grit of the spouse. In comparison, not having a LOD triggered a pileup of demands including a delay in VA health care treatment and disability compensation that exacerbated their problems leading to poorer family adjustment. Key factors of

TABLE I. Cases Compared With Injured and Noninjured Cohort at Postdeployment (T2)

	Case 1			Case 2			Case 3			Injured Cohort T2(n = 77)	Noninjured Cohort T2(n = 568)
Family Type (Demographics)											
Gender (Male)	Male			Male			Male			95%	96%
Rank (E1–E4)	E1–E4			E5–E6			E1–E4			48%	50%
Years in NG (0–4)	0–4			5–10			0–4			39%	37%
Income ($25–50 K)	$25–50 K			$75–100 K			$25–50 K			51%	48%
Education (Some College)	Some College			Some College			Some College			37%	41%
Age (22–30)	31–40			41–50			22–30			52%	55%
Marital Status (Married or Cohabitating)	Married			Married			Married			60%	67%
Years in Current Relationship	10–15			15–20			0–5			6.51 (6.7)	7.08(6.1)
Number of Children (1 or More Child in Home)	1			3			2			57%	55%
Age Range of Children	0–3			8–10			0–3				
A-Stressors											
Number of Deployments (2)	2			2			1			39%	27%
Deployment Injury Type	Combat Related			Nonhostile			Nonhostile			*	*
Measurement Scores	T1	T2	T3	T1	T2	T3	T1	T2	T3	M (SD)	M (SD)
PTSD (PCL[a])	*	53	47	23	20	20	*	37	51	38.67 (16.9)	29.31 (13.5)
Depression (PHQ 9[b])	*	17	13	3	0	0	6	7	7	6.45 (5.6)	3.82 (4.6)
Anxiety (GAD 7[c])	*	19	11	3	1	0	1	13	6	5.87 (5.6)	3.39 (4.2)
B-Family Resources											
Any MH Intervention Past Year T2	Yes			No			Yes			31%	15%
Type MH (Medication Past Year)	Medication						Medication			14%	7%
Type MH (Individual Therapy Past Year)	Individual									13%	7%
C-Family Meaning/Schema											
Life Satisfaction (SWLS[d])	*	23	24	23	25	24	23	26	8	21.51 (7.6)	24.66 (6.4)
Perceived Stress (PSS 4[e])	*	8	6	5	0	0	8	5	*	6.6 1 (2.86)	5.01 (3.10)
X-Family Adaptation											
Dyadic Adjustment (RDAS[f])	*	52	40	29	43	50	38	60	*	49.78 (11.1)	51.83 (9.8)
Parental Stress (PSS[g])	*	31	41	45	39	35	*	42	34	38.23 (14.2)	34.83 (10.8)
Spouse Dyadic Adjustment (RDAS[f])	*	50	51	22	39	31	51	26	12	50.88 (9.15)	51.70 (8.87)
Spouse Parental Stress (PSS[g])	*	36	37	29	24	24	*	41	36	32.05 (9.75)	32.61 (9.14)

MH, mental health; T1, Time 1 survey completed before deployment; T2, Time 2 survey completed approximately 90 days following battalion demobilization, and T3, Time 3 survey completed approximately 1 year later; PCL, PTSD Checklist; PHQ, Patient Health Questionnaire; GAD, Generalized Anxiety Disorder; SWLS, Satisfaction with Life Scale; RDAS, Revised Dyadic Adjustment Scale; PSS4, Perceived Stress Scale-4; PSS, Parental Stress Scale. *Missing data. [a]PCL scores ≥50 is likely PTSD. [b]PHQ 9 scores of 5, 10, 15, and 20 represent cut points for mild, moderate, moderately severe, and severe depression, respectively. [c]GAD 7 scores of 5, 10, and 15 represent cut points for mild, moderate, and severe anxiety, respectively. [d]SWLS scores 26 to 30 = satisfied, 21 to 25 = slightly satisfied, 5 to 9 = extremely dissatisfied. [e]PSS4 higher scores indicate higher levels of perceived stress. [f]RDAS scores ≤48 indicate distressed relationship. [g]PSS higher scores indicate higher levels of parenting stress.

the deployment and reintegration process were collected at 4 time point from multiple sources. The case comparisons of that data are illustrated in Figure 1 showing how injury intersects with other life-course events and how pathways to adjustment may be altered by system level barriers and supports. The trajectories are described in greater detail providing background information and quotes from the soldiers and spouses.

Case 1: Mixed Adjustment Trajectory

Prior deployment experience: reintegration from the first deployment was reported as difficult. According to the soldier, "When I came home from Iraq I put her through hell. I was drinking and doing other stuff and staying out late .... I promised her when I came back from Afghanistan that I wouldn't do that to her." Both vowed to make the second deployment experience different (CC).

When soldier returned to Walter Reed for treatment, spouse was able to join him for the lengthy rehabilitation process. Supports (BB) were central to sustaining family. According to spouse, "I was just very fortunate with my job and the family and my parents took our dogs and somebody else took care of our house and somebody mowed our lawn and coordinated all of those services that you don't really think about and take for granted." They spoke positively about the support they received from nonprofits that donate to the wounded warriors. In addition, the commanding officer's wife reached out to the spouse in support.

The couple also talked about their frustrations in navigating the formal medical system: "I don't know exactly what we needed but I feel like a lot of the stuff we were left to our own devices and I think we are assertive people overall, but with the military everything is bureaucratic that you do one thing for something and then they send you somewhere

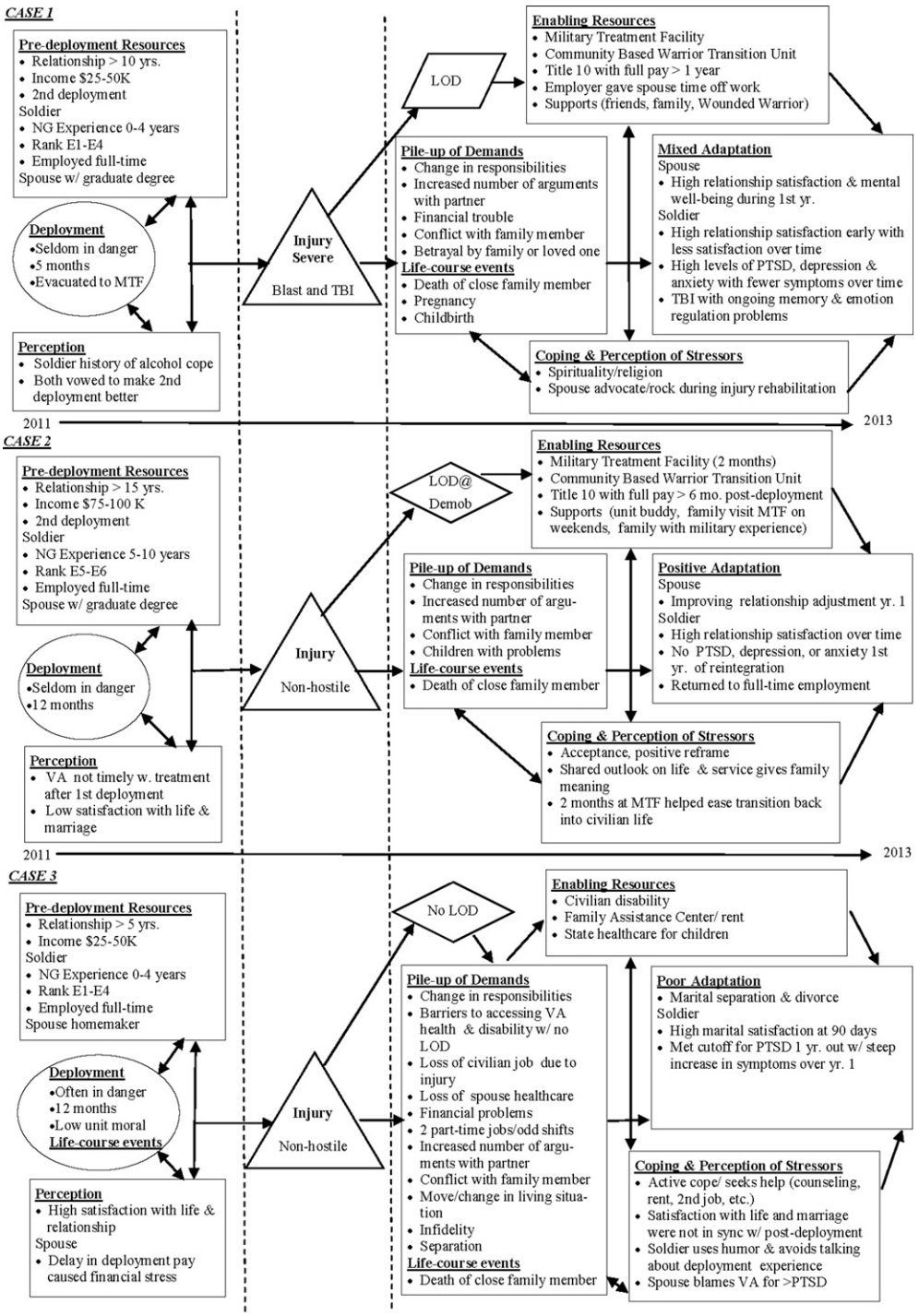

FIGURE 1. Comparison of injury adjustment.

else . . . we just kind of ended up giving up so they did offer programs, they did offer evening counseling sessions for couples . . . but we didn't really bother with a lot of just because of our experiences so far weren't very helpful . . ."

Spouse credited her training as a mental health counselor in helping her cope. Both cited spirituality/religion as an important coping resource. Although the rehabilitation was described as difficult, the spouse was an advocate for her soldier, calming him, and keeping track of what needed to be done. According to soldier, "She [spouse] was my angel . . ." The spouse also said, "I knew that my role in our relationship was to be the rock through this whole thing."

With respect to overall family adaptation (X), results seem mixed. From a relationship perspective, the couple

assessments reflect high marital satisfaction and nondistressed adjustment postdeployment consistent with the in-depth interview. The spouse said, "I think it (second deployment) definitely made our marriage stronger not weaker and we really found out some things about each other in the midst of it all." One year later, the soldier reports less marital satisfaction and more distress compared to the spouse. Though his symptom level of depression, anxiety, and PTSD improved over time, the soldier continues to struggle: "The thing I deal with the most is the TBI just because my memory, my irritation and my anger and what not . . . I have some anxiety pills . . . which help a lot." The spouse also said, "He had no history of anxiety, depression or any other kind of mental health [issue] prior to this. I have known him for a long time and it was like a switch that was thrown because now he has anxiety."

Case 2: Positive Adjustment Trajectory

Soldier said that he was injured (nonhostile) during his first deployment but did not report it because he was eager to return home to his family. He assumed he would be able to access treatment but ran into considerable difficulty: (regarding the first deployment injury) ". . . I am just going to let the VA take care of this when I get there. And as it turns out, the wheels of justice turn very slowly at the VA so in the year and a half that I was home between the deployments, I managed to get an MRI and some physical therapy. I never even got to talk to a surgeon." (A) Because of his previous experience, soldier completed an official LOD injury report, stating: "I had made up my mind overseas that I was not coming off active duty orders until I was fixed—even if I had to stay . . . ."

Medical treatment (BB: formal support) extended his deployment for 2 months, bringing his total time away from family to 14 months. The spouse and kids had phone access and traveled to visit on weekends diminishing some informal support (BB—familial). The spouse admitted not utilizing formal supports (BB) because meetings and events were too far away for her to get to. She reported informal support (BB) from her family, most of whom live in the same neighborhood and have prior military service.

The couple noted the difficulty of separation, but they also shared how it helped ease the transition back into family life. A unit buddy with the soldier during the rehabilitation process was an important source of informal support (BB). According to soldier, "I mean as sucky as that was not to be able to come home, it was probably really good as well because it gave me time to adjust from the daily life in Afghanistan to be more civilized. . . . one of the guys I deployed with was there with me [in hospital] and we would go out and see movies and go out to dinner so it gave me that decompression time that I didn't have the first go round." When asked about accessing military benefits after this deployment, soldier responded, "They have been spot on with them . . . as far as benefits, they have been very good. I haven't missed a paycheck so I am still on Title 10 order."

The couple seem to share an outlook on life and service that connects them (CC). In commenting on his future job prospects, soldier said, "There has to be somewhere for somebody with my skills to do something that makes a difference and that is the big thing to me . . . . I don't have to change the world but I want to do something that makes a difference." Spouse reflected, "What is important to me is change so I don't look at things so much as obstacles, I look at is as being willing to adapt to what is going on and accept that other things can be just as important . . . Look at what is important to you today . . . . That is how I live every day."

Overall family adjustment seemed positive. The couple talked about having learned from the first deployment how to reintegrate more successfully. Spouse talked about being less timid in her communication, more direct and firm. According to soldier, "I feel better now than I did before the first deployment . . . So for whatever reason, this deployment was really good for my marriage . . ." Both the soldier and the spouse assessed on the dyadic adjustment scale show significant improvement from pre to postdeployment.

Case 3: Poor Adjustment Trajectory

The soldier did not complete a LOD at demobilization but offered no explanation for why he did not do this. At the time of the interview the injury had not healed and he was on pain medication. Following deployment, the soldier went back to former employer but injury interfered with ability to continue in position. He took a part-time position for less pay and subsequently experienced a pileup of demands including loss of health care insurance and other financial stress (AA).

In terms of resources (BB), the spouse noted that other formal supports like the Armory's Family Assistance Center were very helpful in providing rent money when the couple was struggling and their children were able to get health care through a government subsidized program (BB). The soldier said he was receiving disability benefits through his civilian employer while he waits for VA disability. His frustration is evident: ". . . it is the VA itself that sucks. They take forever to do anything . . .. We applied [to the VA for benefits] in December so we're on month four of the waitlist which is like 16–18 months . . .. That is to find out if you have been denied or approved for it. And then if you are denied you can appeal and you put your appeal in and it takes another 16–18 months."

Spouse elaborated her concerns about the level of support from the VA: "It would definitely help if the VA wasn't so slow at doing things and they could actually get the records [of soldier's service] . . . instead of just prescribing narcotics all the time . . .. He is going to end up in a rehab facility for being addicted to them if you just keep prescribing more and more on top of one another . . ."

When asked how soldier was coping, the spouse said, "the VA not helping him is really getting to him. That is when his PTSD really kicks in and he gets so frustrated and so anxiety ridden over not being able to provide for his family that it is just irritating him and that doesn't help at all." The family narrative is consistent with the increase in PTSD symptoms from early postdeployment to 1 year later. When asked how they were functioning as a couple, spouse said: "We have our moments and we tend to argue, but I don't know how to explain it. Especially now. The biggest thing is his PTSD. Now I see the changes—he doesn't necessarily see the changes but I definitely do. His mother does .... I think a lot of people don't understand why he is the way he is now because they don't know." The soldier also noted changes in his interactions with others. The couple's assessments suggest that the spouse experienced a decline in life and relationship satisfaction earlier than the soldier and by the 1 year postdeployment survey the couple were going through a divorce.

DISCUSSION

Over the course of the study, the couple representing a nonhostile injury (Case 2) receiving treatment and compensation through the CBWTU showed the most resilience across all domains including dyadic adjustment, parenting stress, and life satisfaction. This couple had the benefits that come with older age, higher income, rank, more years in their relationship, and older children. He also had the benefit of a previous service-related injury where he learned the value of a LOD for receiving care through the CBWTU that integrated primary care, mental health, and social services intended to reduce barriers.[22] Like 30% of veterans receiving VA medical care in the Sayer study,[23] Case 3 experienced marital conflict and anger control problems following deployment. Lower family income/resources, no prior deployment experience, young children, and intersection with life-course events may be confounding issues and opportunities for targeted intervention. The ability to access health care and disability benefits in a timely manner seemed to be critical junctures in the reintegration process and the additive stressors further complicated family finances and marital strain leading to marital separation, as well as increased symptoms of anxiety and PTSD. Both cases of a nonhostile injury shed light on the unique challenges NG families face navigating systems of care without a LOD. Though the Case 2 couple faced delay in treatment following the soldier's first deployment, the spouse's income could support the family and likely buffered some of the financial stress as well as access issues associated with injury treatment.

A deployment-related injury is an unexpected event in the life course of a soldier, yet the detrimental psychological and financial affect seemed ameliorated by formal and informal supports. Though Case 1 experienced a combat injury of greater severity, the formal and informal supports seemed to buffer the effect on family outcomes and well-being. Case 2 had experienced CBWTU during reintegration from his most recent deployment and VA during reintegration from a previous deployment. His experiences were stark in contrast and illustrate a challenge for NG early in the reintegration cycle that is not faced by their active duty counterparts who have uninterrupted pay and access to health care at military treatment facility. Severity of the injury with extended treatment and chronic symptoms affects the trajectory of soldier and family well-being. In addition, a delay in diagnosis, wait time for treatment, lack of comprehensive formal, and financial support may be associated with a pileup of demands and need further investigation. This comparative case study suggests that families with a greater pileup of demands exhibit poorer health and family outcomes.

Of note in this comparative study is that each case is different. This is in contrast to programs and services offered to military personnel that may treat all individuals the same. Each case in our study had a married soldier, who experienced a war time physical injury. Each soldier had a spouse as a part of the deployment. However, each family had a different trajectory postinjury that was dissimilar. Some of these changes can be ascribed to individual characteristics of the soldier, others to military and civilian supports and resources. Although others to pre-existing marital dynamics, and the ability of the couple to work through the event together. What stands out among the case comparisons is how different each trajectory looks, and how maximization of supports and minimizations of frustrations and barriers to recovery can ameliorate the pileup of stressful events.

The in-depth case comparison was limited to three families from a Midwest NG unit, which limits the generalizations to a narrow sample of NG families contingent on region of the country and barriers to access health and social services within that region.[12] In ddition, we acknowledge that we were particularly interested in factors associated with navigation of injury. There may be other factors not captured in our study that also contribute to difference in adjustment. Despite these noted limitations, the comparative case analysis begins to provide insight into some of the reintegration challenges and complex interaction effects unique to NG families of injured soldiers. The deeper investigation of three cases within the constructs of the Resilience model illustrates the additive effects of multiple stressors. The comparative case study may serve as a way to identify potential causal variables to focus on in future research and larger quantitative studies of injury trajectory.

CONCLUSION

This study increases our understanding of risk, resilience, and coping among NG families when a soldier is injured during deployment. Study findings regarding intersection of normative life events and trajectory of soldier and family well-being are consistent with other conceptual models.[23] This study builds on the qualitative study of New York veterans that found the systems of care that serves them is complicated and

difficult to navigate.[7] This study sheds light on the family's perceptions of services and how a delay in diagnosis, wait time for treatment, lack of comprehensive formal, and financial support following the soldier injury interacts with process of risk and resilience as families tackle subsequent pileup of stressors. The additive effects of multiple stressors and barriers point toward poorer soldier and family adjustment within the first year of reintegration and greater life-course disruption. Young soldiers, first-time deployers, and spouses may benefit from education regarding the necessity of LOD and remaining on active duty military status for nonhostile injuries. This study raises significant concern about an unknown number of veterans who do not meet the VA priority ranking to receive services and are now spiraling toward mental and financial instability as well as family disruption and crisis. Further study is needed to understand how system level issues, such as wait time for treatment of nonhostile injuries, may impede resilience. Immediate actions could do much to ameliorate risk and build resilience and coping strategies among injured veterans and their families.

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