

Parental military service and adolescent well-being: mental health, social connections and coping among youth in the USA

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ABSTRACT

The association between parental military work factors and adolescent's well-being was examined. Data were collected from 1036 military youth. Using a within-group design, we examined adolescent's well-being related to parental absence, school and neighbourhood transitions, paygrade/rank and participation in military-sponsored activities, and differentiated outcomes by sex and age. Two parental work factors primarily influenced adolescent's well-being, parental paygrade/rank and engagement in military-sponsored activities. Parental paygrade/rank was the only factor uniformly related to poorer well-being, and this variable likely represents a more complex set of family circumstances. Engaging in military-sponsored activities served as a resource and was related to enhanced well-being. Individual-level differences and implications for social workers are discussed.

INTRODUCTION

Combat exposure (Blaisure *et al.* 2012) and psychological demands (Jex *et al.* 2013) influence the well-being of service members and their families. Recent studies show that parental work factors impact the environment of the family and child outcomes (Tisdale & Pitt-Catsuphes 2012). This study extends the work-family spill-over perspective by incorporating a bioecological framework (Bronfenbrenner 2005), therefore examining well-being as influenced by numerous contextual variables. From this person-in-environment perspective, examining a wide-range of parental work factors that influence the context of youth and differentiating outcomes by age and sex are essential to understanding the youth's well-being.

Adolescents in US military families (hereafter, military youth) were examined as there are a variety of potential stressors and resources available to them associated with their parent's occupation and the military culture (Huebner & Mancini 2005; Mmari *et al.* 2009; Card *et al.* 2011). Adolescence is characterized by personal and physical changes, identity formation and the need to acquire certain skills in preparation for adulthood and few studies related to parental work, family environment and military life have focused on this group. Key adolescent well-being outcomes were examined, including mental health, social connections and coping, all related to later life outcomes in the transition to adulthood (Roisman *et al.* 2004). Differences by age and sex were also examined because of the significance of those elements, generally, for adolescent

development and for their relationship to how military youth manage stress (Huebner *et al.* 2007).

Research on Military Youth

Military youth have a profound role in ‘serving and sacrificing’ as the demands of military life are salient (Bowen *et al.* 2013). These adolescents experience similar stressors as non-military peers as well as context-specific stressors related to military life, including extended parental absence and transitions that require adjustment to new environments (Faran *et al.* 2004). Developing our understanding of this population is particularly relevant given the number of military youth, nearly two million in the USA with 25% between the ages of 11 and 18 (Davis *et al.* 2012), and the calls for empirical research to explore how aspects of parental military service are related to adolescent functioning (Mmari *et al.* 2009; Milburn & Lightfoot 2013). The shortage of large-scale, empirical studies focused on the link between contextual military factors and youth outcomes is noted across the literature (Reed *et al.* 2011).

Research on military youth has primarily focused on parental deployment and school transitions because of parental relocation with relatively inconsistent findings. Deployment has been associated with *feelings of ambiguous loss* (Huebner *et al.* 2007), *behaviour problems* (Chartrand *et al.* 2008; Barker & Berry 2009), *physical health symptoms* including higher stress, blood pressure and heart rate (Barnes *et al.* 2007), and *mental health risk factors* including

lower quality of life and more suicidal thoughts (Reed *et al.* 2011), psychosocial morbidity (Flake *et al.* 2009), emotional difficulties (Chandra *et al.* 2010) and anxiety/depression (Lester *et al.* 2010). Other studies suggest the relationship between deployment and youth outcomes is small or non-existent. A recent meta-analysis revealed no significant associations between deployment and academic problems, internalizing symptoms or externalizing problems among adolescents (Card *et al.* 2011). School transitions for military youth have also been associated with adjustment to a new environment, changes in one’s social support system and family tension (Bradshaw *et al.* 2010). Other research has found no link between school transitions and the well-being of military youth (Finkel *et al.* 2003). Alternatively, some studies found that transitions provided opportunities to grow and engage in new, enriching experiences, whereby adolescents developed resilience (Weber & Weber 2005; Bradshaw *et al.* 2010).

Present Study

We utilize Bronfenbrenner’s Process-Person-Context-Time model (Tudge *et al.* 2009) to examine adolescent’s well-being in relation to parental work (both stressors and resources) and to parse out individual-level differences (Fig. 1). Development and well-being are considered a function of multiple factors, including involvement in activities and social interactions (*process*), individual characteristics (*person*) and the

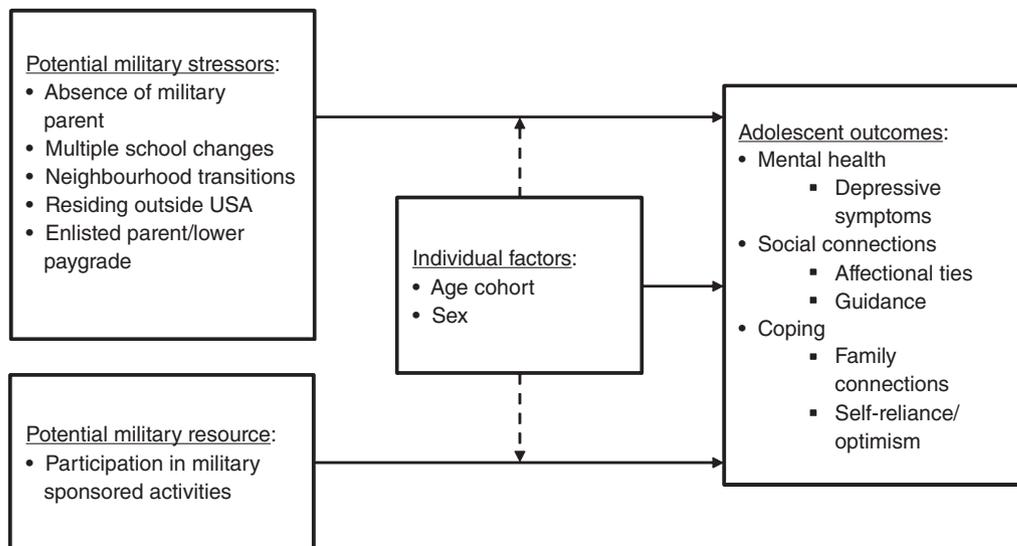


Figure 1 Parental work factors and adolescent well-being.

environment (*context*); the model also emphasizes *time* and how ecological aspects change.

Contextual and process related parental work factors

Military work-related factors were conceptualized as the *context* in which adolescents live and were defined as potentially adverse factors over which the adolescent exerts no control. First, *extended parental absence* (away for more than 6 months over the last year) encompassed deployment, temporary duty assignments, training and other military-related absences. Note that preliminary analyses in the present study revealed extended parental absence was a more informative measure than whether a parent was currently deployed. This approach aligns with findings that show cumulative deployment time is a strong predictor of adverse outcomes for adolescents in military families (Chandra *et al.* 2010; Lester *et al.* 2010). Examining recent parental absence expands the literature beyond studies of deployment to examine recent parental absence related to military duties (Hiew 1992). Residential transitions included *multiple school changes* (more than two in 5 years) and *neighbourhood transitions* (living somewhere less than 2 years) as increased mobility has been associated with poorer health and psychosocial adjustment (Blaisure *et al.* 2012). *Residential location* was examined to explore the impact of living outside the USA (Europe), a factor that may pose challenges because of isolating factors, including language barriers and physical distance from familiar others. Finally, *parental paygrade/rank* tapped into socio-economic and social address effects, which highlights both financial and structural differences among military personnel (Pittman *et al.* 2004).

One *process*-related variable was also examined and conceptualized as a potential resource for military youth, *participation in military-sponsored activities*, a proxy for the adolescent's engagement in resources to support military dependents, as engagement in programmes is related to positive youth development (Saltzman *et al.* 2011). These events were provided on the military installation specifically as a means to gather with other youth in military families in a fun, relaxed environment. Different activities and events are provided on US military installations throughout the year to support military dependents, and these include picnics, game nights, movie nights, performances/concerts, festivals and holiday celebrations. This activity reflects engagement in one or more social activities available to military youth, providing a

basis for initiating and maintaining social relationships with others, as well as supporting relationships within families.

Parental work variables (stressors and resources) were examined simultaneously to reflect the complex familial and social environment (Saltiel 2013) and were predicted to impact adolescent's well-being, including depressive symptoms, social connections and coping. Given the cross-sectional nature of the data, examinations of *time* were outside the study scope, thus this study reflects a partial test of the Process-Person-Context-Time model. These contextual and process variables represent factors that have a long-term impact on adolescent development and well-being and reflect contexts and situations that have occurred over time, arguably prior to these examinations of outcomes.

Personal characteristics

Personal factors were explored to identify how *person*-level factors (i.e. individual characteristics) influence the relationship between parental work variables and adolescent outcomes. Differences may exist between adolescents based on age. Younger youth are on the cusp of entering adolescence, having recently left behind childhood and beginning the process of identity formation (Steinberg & Morris 2001). Older youth have a more stable sense of self and are preparing to enter adulthood, at the same time feeling the pressure in making those transitions (Steinberg & Morris 2001). For military youth specifically, there is also evidence to suggest that the cognitive development of older adolescents allows them to more fully understand the consequences and possible danger of their parent's military work (Huebner & Mancini 2005; Milburn & Lightfoot 2013). Examining sex differences appears particularly critical during this life stage as differences between boys and girls tend to increase from middle to late adolescence (e.g. girls have higher levels of stress, while boys have greater self-esteem) (Moksnes *et al.* 2010). Female adolescents have reported more challenges during and following parental deployment (Chandra *et al.* 2010). Conducting interaction analyses by age, and then by sex, allowed us to more precisely identify for whom these military factors were most salient.

Within-group design

While comparing military youth to non-military youth has provided important information about the well-being of adolescents in different familial and

contextual environments (e.g. Reed *et al.* 2011), a within-group design was intentionally selected to examine the nuances of military life in relation to youth outcomes. Although there is great interest in knowing how military culture and demands affect youth, as compared with what non-military youth experience, we intentionally avoid comparing our data with findings from civilian studies most likely conducted under very different research parameters.

METHOD

Procedure

Data were collected in 2012 from four active duty US Army installations, one of which was in Europe. Adolescents had at least one active duty military parent. Participation was voluntary. Participant assent and parental consent were obtained. Surveys were administered at computer laboratories on-installation to provide easy access to families and their youth. All procedures were approved by the University's Institutional Review Board for Human Subjects and the Army Research Institute. Multiple community-based methods were used to recruit a convenience sample of participants including print and radio advertising, signs at the youth centres, flyers at military and community stores and restaurants and email blasts to service members.

Sample characteristics

Participants ($N = 1036$) were between the ages of 11 and 18 ($M = 13.39$ years, $SD = 1.98$ years); 49.7% were males. Two-thirds (64.3%) changed schools two or more times in the past 5 years. Over half (66.9%) reported living in the same neighbourhood over 2 years. Almost one-fifth of the adolescents (18.4%) lived outside the USA at the time of the survey. The majority (72.4%) reported that their parent was enlisted. Over half (63.0%) participated in at least one military-sponsored activity in the past year.

The majority of youth lived with both biological, married parents (66.2%); 17.2% lived in a two-parent, stepfamily; 12.6% lived in a single-parent home; 3.9% lived in another family environment (e.g. parent and non-relative adult or with a relative). Most participants had one active duty military parent (91.9%; $n = 952$), rather than being in a dual-military family (8.1%). Of those with one active duty military parent, 92.3% were homes in which the father served.

Variables and measures

Demographic, independent and contextual variables

Demographic data and information on military-related factors were dichotomized at meaningful cut-off points in line with the previous research (e.g. Appleyard *et al.* 2005). Males and females were compared, and the age of participants was dichotomized (early adolescents [11–14] compared with late adolescents [15–18]). Military-related factors included parental absence because of military-related work (away less than or more than 6 months in the last year), parental paygrade/rank (enlisted or officer), number of school transitions because of military reassignment (less than or more than two school changes in the last 5 years), neighbourhood transition (in current neighbourhood less than or more than 2 years), residential location (inside or outside the continental USA) and participation in at least one military-sponsored activity or event provided on the installation (participant or non-participant). In order to follow-up with certain first-level findings, three more variables were examined: race/ethnicity comparing white (38%) vs. racial minority (62%), having siblings (61.6%) vs. no siblings (38.4%) and school location with 17% on the military installation vs. off the installation (83%). These were added to further explore findings related to rank/paygrade.

Dependent measures of well-being

Depressive symptoms were measured using the Center for Epidemiological Studies Depression Scale for children (Faulstich *et al.* 1986). Participants rated how often during the previous week they experienced 20 depressive symptoms (e.g. 'During the past week, I felt like crying.' and 'During the past week, I was bothered by things that usually don't bother me.') using a scale from zero (not at all) to three (a lot). Higher values indicated more depressive symptoms. Values were summed ($M = 15.50$, $SD = 11.31$, $\alpha = 0.90$). Traditionally, a score of 16 or above represents a clinical indication of depressive symptomology (Radloff 1977); although, for adolescents, scores above a 22 appear to be a more accurate indicator of depression (Roberts *et al.* 1991).

Subscales from the Social Provisions measure (Cutrona & Russell 1987) were utilized to examine social connections. This Affectional Ties measure (Motl *et al.* 2004) revealed the adolescent's perceived

level of informal support tapping into social integration and the presence of close personal relationships. This scale, consisting of three subscales (Reliable Alliance, Attachment and Social Integration) contains 12 items (e.g. 'I feel part of a group who share my attitudes and beliefs,' and 'I have a strong bond with at least one other person.'). Adolescents responded on a scale from one (strongly disagree) to four (strongly agree), and higher scores reflected more social connections and better informal or community support ($M = 3.38$, $SD = 0.43$, $\alpha = 0.82$).

The Guidance measure, also from the Social Provisions Scale, examined the presence of someone to whom the adolescent could rely in times of need, and also consisted of four items (e.g. 'There is someone I could talk to about important decisions in my life,' and 'There is a trustworthy person I could turn to for advice if I were having problems.'). The scale ranged from one (strongly disagree) to four (strongly agree) with higher scores indicating a relationship with a trusted person who provides advice ($M = 3.48$, $SD = 0.52$, $\alpha = 0.70$).

Scales from the Adolescent Coping Orientation for Problem Experiences (Patterson & McCubbin 1987) were used to assess active coping. Participants were asked how often they engaged in various behaviours to manage stress. The 6-item Solving Family Problems subscale assessed family connections and whether the participant turned towards his/her family when he/she felt tense (e.g. 'Talk to your father/mother about what bothers you.', 'Do things with your family.', 'Try to reason with your parents and talk things out; compromise.'). Items were scored from one (never) to five (most of the time). Higher values indicated turning to parent(s) more frequently for support ($M = 3.01$, $SD = 0.81$, $\alpha = 0.74$). The 6-item Self-Reliance/Optimism scale examined whether the participant attempted to manage problems independently and with a positive attitude (e.g. 'Try, on your own, to figure out how to deal with your problems or tension.', 'Organize your life and what you have to do.' and 'Try to make your own decisions.'). Items were scored from one (never) to five (most of the time) with higher scores reflecting greater reliance on self and optimism ($M = 3.41$, $SD = 0.81$, $\alpha = 0.75$).

Analyses

Three separate one-way multivariate analysis of covariance (MANCOVA) tests were conducted in MPlus using full information maximum likelihood estimates which allowed us to simultaneously examine

multiple predictor and outcome variables and retain all participants, even those with missing data. The first MANCOVA examined the main effects of military-related factors on outcomes (Model 1). The second examined the interaction between military-related factors and age on outcomes (Model 2) and the third explored the interaction between military-related factors and sex on outcomes (Model 3). All contextual variables and well-being measures were included in each of the MANCOVAs; thus, each model accounted for all other variables.

RESULTS

Main effects

In general, variables were normally distributed. Significant findings from the main effects model are presented (Table 1 – Model 1).

Personal characteristics

Late adolescents had higher levels of depressive symptoms and higher levels of self-reliance/optimism than early adolescents. Males had lower levels of depressive symptoms, affectional ties and guidance than females.

Military-related factors

Depressive symptoms were higher for those with an enlisted (lower paygrade) parent. Affectional ties were lower for those with an enlisted parent and higher for those who participated in military-sponsored activities. Guidance was lower for those with multiple school changes and an enlisted parent, but higher for those who participated in military-sponsored activities. Family connections were stronger among adolescents residing outside the USA and those who participated in military-sponsored activities. Self-reliance/optimism was used as a coping strategy less by those whose military parent was absent more than 6 months in the last year, but more by those who changed schools multiple times and participated in military-sponsored activities.

Influence of military-related factors and age on well-being (Table 1 – Model 2)

Depressive symptoms

There were no significant interaction effects between early and late adolescents in relation to military

Table 1 Examination of youth well-being by military factors and age

	Model 1 – main effects		Model 2 – interaction by age				
			Early adolescents		Late adolescents		W
Depressive symptoms	15.86***	(1.22)	15.04***	(1.40)	21.58***	(2.33)	5.79*
Age (Late)	3.57***	(0.77)					
Sex (Male)	-3.60***	(0.69)	-2.80***	(0.79)	-5.89***	(1.37)	3.81*
Absence of military parent	-0.59	(0.76)	-0.16	(0.88)	-1.05	(1.52)	0.51
Multiple school changes	0.42	(0.75)	0.18	(0.88)	1.05	(1.45)	0.32
Neighbourhood transitions	-1.07	(0.75)	-1.03	(0.86)	-1.55	(1.5)	0.17
Residing outside USA	1.32	(0.90)	0.20	(0.04)	4.57*	(1.90)	3.21
Enlisted parent	1.86*	(0.85)	2.06*	(0.97)	1.52	(1.70)	0.00
Part in military activities	-0.82	(0.72)	-0.04	(0.84)	-2.83*	(1.40)	2.19
Affectional ties	3.45***	(0.05)	3.44***	(1.40)	3.47***	(0.09)	0.11
Age (Late)	0.03	(0.03)					
Sex (Male)	-0.08**	(0.03)	-0.09**	(0.03)	-0.05	(0.05)	0.57
Absence of military parent	-0.01	(0.03)	-0.02	(0.03)	-0.00	(0.06)	0.02
Multiple school changes	-0.04	(0.03)	0.00	(0.03)	-0.13**	(0.05)	4.48*
Neighbourhood transitions	0.00	(0.03)	-0.02	(0.03)	0.05	(0.06)	0.99
Residing outside USA	-0.01	(0.03)	0.00	(0.04)	-0.02	(0.07)	0.13
Enlisted parent	-0.09**	(0.03)	-0.09*	(0.04)	-0.11*	(0.06)	0.08
Part in military activities	0.11***	(0.03)	0.10**	(0.03)	0.15**	(0.05)	0.67
Guidance	3.59***	(0.06)	3.60***	(0.07)	3.61***	(0.10)	0.01
Age (Late)	0.03	(0.04)					
Sex (Male)	-0.09**	(0.03)	-0.11**	(0.04)	-0.03	(0.06)	1.32
Absence of military parent	-0.03	(0.04)	-0.06	(0.04)	0.05	(0.06)	1.47
Multiple school changes	-0.07*	(0.04)	-0.03	(0.04)	-0.17**	(0.06)	3.72*
Neighbourhood transitions	-0.05	(0.04)	-0.08*	(0.04)	0.04	(0.07)	2.07
Residing outside USA	0.02	(0.04)	0.03	(0.05)	0.02	(0.08)	0.01
Enlisted parent	-0.08*	(0.04)	-0.05	(0.05)	-0.16*	(0.07)	1.55
Part in military activities	0.09**	(0.03)	0.08*	(0.04)	0.15**	(0.06)	0.98
Family connections	2.93***	(0.09)	2.94***	(0.11)	2.79***	(0.17)	0.60
Age (Late)	-0.09	(0.06)					
Sex (Male)	0.02	(0.05)	-0.01	(0.06)	0.08	(0.10)	0.59
Absence of military parent	-0.02	(0.06)	-0.05	(0.07)	0.05	(0.11)	0.57
Multiple school changes	0.02	(0.06)	0.07	(0.07)	-0.09	(0.10)	1.61
Neighbourhood transitions	-0.07	(0.06)	-0.10	(0.07)	-0.01	(0.11)	0.58
Residing outside USA	0.10 ⁺	(0.07)	0.13 ⁺	(0.08)	0.05	(0.13)	0.20
Enlisted parent	-0.02	(0.06)	-0.03	(0.07)	-0.03	(0.12)	0.00
Part in military activities	0.21***	(0.05)	0.20***	(0.06)	0.28**	(0.10)	0.33
Self-reliance/optimism	3.26***	(0.09)	3.27***	(0.10)	3.54***	(0.16)	2.07
Age (Late)	0.29***	(0.06)					
Sex (Male)	-0.06	(0.05)	-0.04	(0.06)	-0.14	(0.09)	0.99
Absence of military parent	-0.10 ⁺	(0.05)	-0.13*	(0.06)	0.02	(0.10)	1.31
Multiple school changes	0.14**	(0.05)	0.13*	(0.07)	0.18*	(0.10)	0.18
Neighbourhood transitions	-0.02	(0.06)	-0.01	(0.06)	-0.09	(0.10)	0.43
Residing outside USA	-0.05	(0.06)	-0.15*	(0.07)	0.26*	(0.13)	7.66**
Enlisted parent	0.01	(0.06)	-0.04	(0.07)	0.12	(0.12)	1.45
Part in military activities	0.10 ⁺	(0.05)	0.16**	(0.06)	-0.06	(0.09)	4.10*

Note: Unstandardized coefficients (standard error); early adolescents ($n = 749$) and late adolescents ($n = 286$).

W = Wald test for parameter comparison (1 *df* for each comparison).

⁺ $P < 0.10$, * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$.

factors (Wald test for parameter comparison), yet a handful of significant findings emerged based on military factors (Table 1 – Model 2). Residing outside the USA was associated with more depressive symptoms for late adolescents. Having an enlisted parent was associated with more depressive symptoms for early adolescents. Participating in military-sponsored

activities was associated with fewer depressive symptoms for late adolescents.

Affectional ties

There was a significant interaction effect for the influence of multiple school changes by age, such that late

adolescents who changed schools multiple times had fewer affectional ties; no difference was found for early adolescents. Having an enlisted parent was related to fewer affectional ties for both early and late adolescents. Participating in military-sponsored activities was related to more affectional ties for early and late adolescents.

Guidance

There was a significant interaction effect for multiple school changes by age, such that late adolescents who changed schools multiple times reported less guidance; no difference was found among early adolescents. Living in one's neighbourhood less than 2 years was associated with less guidance for early adolescents, having an enlisted parent was associated with less guidance for late adolescents and participating in military-sponsored activities was related to more guidance for early and late adolescents.

Family connections (coping)

No significant interaction effects were found. However, early adolescents residing outside the USA (Europe) were more likely to turn to their family as a means of coping, and participating in military-sponsored activities was positively associated with turning to one's family to manage stress for both early and late adolescents.

Self-reliance/optimism (coping)

There were two significant interactions. Residing outside the USA was related to lower levels of self-reliance/optimism for early adolescents, but higher levels of self-reliance for late adolescents. Participating in military-sponsored activities was related to higher levels of self-reliance/optimism for early adolescents, but not for late adolescents. Absence of one's military parent was related to lower levels of self-reliance/optimism for early adolescents, and multiple school changes were related to higher levels of self-reliance/optimism for both early and late adolescents.

Influence of military-related factors and sex on well-being (Table 2 – Model 3)

Depressive symptoms

There was a significant interaction effect for having an enlisted parent by sex; having an enlisted parent was

associated with higher levels of depressive symptoms for females, but not males (Table 2 – Model 3).

Affectional ties

No significant interaction effects were found. Having an enlisted parent was associated with fewer affectional ties for both males and females, and participating in military-sponsored activities was associated with more affectional ties for both males and females.

Guidance

No significant interaction effects were found, although changing schools multiple times was associated with less guidance for females and having an enlisted parent was associated with less guidance for males. Participating in military-sponsored activities was related to more guidance for both males and females.

Family connections (coping)

Two significant interaction effects were found. Living in the same neighbourhood for less than 2 years and having an enlisted parent were negatively associated with turning towards family to manage stress for females, but not for males. Participating in military-sponsored activities was positively associated with turning towards family to cope for both males and females.

Self-reliance/optimism (coping)

There was one significant interaction, such that females of enlisted parents had significantly lower levels of self-reliance/optimism; no differences were found for males. For males, prolonged absence of the military parent was associated with lower levels of self-reliance/optimism and multiple school changes were associated with higher levels of self-reliance/optimism.

DISCUSSION

Parental work factors influence the family environment and military youths' well-being, although perhaps not to the degree that has previously been thought. Our findings support the bioecological framework that describes systems in which humans are embedded, assuming social and structural contexts and individual well-being are inextricably

Table 2 Examination of youth well-being by military factors and sex

	Model 3 – interaction by sex				
	Female		Male		W
Depressive symptoms	14.50***	(1.84)	13.43***	(1.45)	0.21
Age (Late)	4.91***	(1.16)	2.14*	(0.99)	3.27 ⁺
Sex (Male)					
Absence of military parent	0.00	(1.18)	-1.09	(0.96)	0.36
Multiple school changes	-0.03	(1.16)	0.80	(0.95)	0.27
Neighbourhood transitions	-1.09	(1.13)	-0.98	(0.98)	0.00
Residing outside USA	2.18	(1.40)	0.50	(1.17)	0.55
Enlisted parent	3.39*	(1.37)	0.50	(1.01)	2.88 ⁺
Part in military activities	-1.17	(1.12)	-0.52	(0.91)	0.13
Affectional ties	3.43***	(0.06)	3.38***	(0.07)	0.40
Age (Late)	0.00	(0.04)	0.05	(0.05)	0.71
Sex (Male)					
Absence of military parent	-0.01	(0.04)	-0.02	(0.04)	0.05
Multiple school changes	-0.02	(0.04)	-0.06	(0.04)	0.43
Neighbourhood transitions	0.00	(0.04)	-0.01	(0.05)	0.01
Residing outside USA	-0.01	(0.05)	-0.01	(0.05)	0.00
Enlisted parent	-0.09*	(0.05)	-0.10*	(0.05)	0.04
Part in military activities	0.11**	(0.04)	0.11**	(0.04)	0.00
Guidance	3.61***	(0.08)	3.48***	(0.08)	1.37
Age (Late)	-0.01	(0.05)	0.08	(0.05)	1.67
Sex (Male)					
Absence of military parent	-0.01	(0.05)	-0.04	(0.05)	0.17
Multiple school changes	-0.10*	(0.05)	-0.04	(0.05)	0.65
Neighbourhood transitions	-0.08	(0.05)	-0.02	(0.05)	0.08
Residing outside USA	0.05	(0.06)	0.00	(0.06)	0.40
Enlisted parent	-0.04	(0.06)	-0.11 ⁺	(0.06)	0.64
Part in military activities	0.09*	(0.04)	0.10*	(0.05)	0.00
Family connections	3.21***	(0.13)	2.69***	(0.12)	9.20**
Age (Late)	-0.12	(0.08)	-0.04	(0.08)	0.46
Sex (Male)					
Absence of military parent	-0.04	(0.08)	-0.01	(0.08)	0.07
Multiple school changes	-0.05	(0.08)	0.11	(0.08)	1.90
Neighbourhood transitions	-0.18*	(0.08)	0.04	(0.08)	3.87*
Residing outside USA	0.07	(0.10)	0.14	(0.09)	0.20
Enlisted parent	-0.20*	(0.10)	0.12	(0.08)	6.62**
Part in military activities	0.20**	(0.08)	0.23***	(0.07)	0.09
Self-reliance/optimism	3.38***	(0.12)	3.12***	(0.12)	2.40
Age (Late)	0.34***	(0.08)	0.24**	(0.08)	0.82
Sex (Male)					
Absence of military parent	-0.04	(0.08)	-0.15*	(0.08)	0.68
Multiple school changes	0.12	(0.08)	0.18*	(0.08)	0.24
Neighbourhood transitions	-0.04	(0.08)	0.00	(0.08)	0.13
Residing outside USA	-0.12	(0.09)	0.02	(0.09)	1.56
Enlisted parent	-0.15 ⁺	(0.09)	0.12	(0.08)	4.96*
Part in military activities	0.11	(0.07)	0.08	(0.07)	0.20

Note: Unstandardized coefficients (standard error); female (*n* = 521) and male (*n* = 514).

W = Wald test for parameter comparison (1 *df* for each comparison).

⁺*P* < 0.10, **P* < 0.05, ***P* < 0.01, ****P* < 0.001.

related. Two factors were most consistently related to adolescent’s well-being: attending a military-sponsored activity and parental paygrade/rank.

Attending a military-sponsored event was largely associated with positive outcomes across adolescents, particularly strong social connections and adaptive coping. This variable captured whether military youth

participated in at least *one* activity on-post in the last year (unfortunately our measure does not fully capture the nuances of the meaning of attending a military-sponsored event, as we note below when discussing study limitations). This variable may represent youth who are connected to military resources, as involvement in one’s community and available pro-

gramming has been found to promote well-being (Eccles & Gootman 2002) and serve as a protective factor for adolescents (Guibord *et al.* 2011). Engagement in community activities buffers potential stressors and provides an environment where military life is normalized, relationships are developed even in the context of transitions and isolation is decreased. Of those youth who participated in events, the majority engaged in multiple events and activities on-post. This variable likely reflects higher levels of parental involvement and encouragement of adolescents to attend military-sponsored events. Our measure serves as a most general proxy rather than a precise examination of the merits of activity participation for youth.

The factor most consistently related to poorer adolescent outcomes was parental paygrade/rank. Adolescents with an enlisted parent reported higher levels of depressive symptoms, fewer affectional ties and less available guidance; a higher prevalence of maladaptive coping was also found among females. Paygrade/rank is a complex variable that reflects a family's opportunity structure and available resources (Booth *et al.* 2007). Enlisted personnel are more likely to report lower levels of education (Maclean & Edwards 2010), financial difficulties, being of minority status and lower levels of satisfaction with military life (Booth *et al.* 2007). Spouses of enlisted personnel were also less likely to feel supported by military support groups (Booth *et al.* 2007). In the present study, military youth of enlisted personnel were more likely to be a racial minority, have more siblings, attend public school off the installation and experience longer periods of parental absence because of work when compared with youth whose military parent was in the officer ranks. This reflects the complexity of rank and paygrade, indicating a host of factors influencing adolescent outcomes that culminate to pose unique challenges (Conger *et al.* 2002).

We question broadly held assumptions about the effect of military context on youth's lives; the factors we examined were not universally associated with poorer outcomes although some significant findings emerged. A prevailing notion in the literature surrounding military families is that military youth are not faring well in large part because of an environment of change and stress (e.g. Barker & Berry 2009; Flake *et al.* 2009; Reed *et al.* 2011), however, our findings suggest that the influence of military context on youth is not clear cut.

The military's focus on family readiness provides tools to prepare children and youth for demands of the military and general life skills, as there are numerous

programmes to support families (Huebner *et al.* 2009). Few associations between work factors and well-being outcomes may be present because of the investment of programming for adolescents dealing with military demands (e.g. child and youth services programmes). Knowledge of available military and civilian programmes and resources should be a priority for those working with military families, especially when considering strategies for building community capacity to support military families (Mancini & Bowen 2013).

Our findings reflect different norms in military families (i.e. transitions and deployment are part of general expectations and possibly not as salient as researchers expect them to be). While some research suggests parental deployment is associated with maladaptive coping (Reed *et al.* 2011), others find that parental deployment was not associated with academic problems, internalizing or externalizing symptoms (Card *et al.* 2011). Youth in military families may have necessitated a process of 'resilience development' (Weber & Weber 2005). Research has previously conceptualized this process as a way to frame relocation in military families, such that better coping and resilience emerge during periods of increased stress. This resilience-based developmental trajectory may extend to other areas of military youths' lives. Multiple school changes may be related to poorer outcomes for some (Bradshaw *et al.* 2010), but transitions are also associated with higher levels of adaptive coping (Finkel *et al.* 2003; Weber & Weber 2005) such as self-reliance. Social workers engaged with military families should be aware of potential stressors to military youth without applying a broad deficit perspective in evaluating the family environment.

Personal characteristics of youth (age and sex) intersect with contextual (military) factors and personal well-being to some extent (see Moksnes *et al.* 2010). Programme professionals who work with military youth should take into account the age and sex of youth when implementing future interventions. Females with enlisted parents reported higher levels of depressive symptoms, more maladaptive coping (e.g. less likely to turn to family to manage stress) and lower levels of self-reliance. Late adolescents who have changed schools multiple times report fewer affectional ties and less guidance (person to rely on). Late adolescents who live outside the USA also have higher self-reliance, whereas early adolescents have significantly lower self-reliance/optimism. These findings illustrate the need to diversify programmes and target specific services based on the issues youth are

facing. Interaction analyses by age and sex inform future directions of interventions aimed at enhancing youth resilience, particularly females of enlisted personnel and older adolescents.

Future research

While this study provides a meaningful look at the impact of parental military service on essential adolescent outcomes, cautions should be noted in the interpretation of these data. Reports are cross-sectional so the influence of contextual factors on future well-being can only be speculated. Longitudinal research is needed to investigate the nuances of and changes in adolescent's well-being in relation to relevant military related factors, especially before, during and after transitional periods. A within-group design is useful in exploring the nuances of this particular population, yet additional insight related to the general influence of parental work on adolescent's well-being could be gained by using non-military youth as a comparison. Future work incorporating a between-group design may identify aspects of parental work relevant to both military and non-military youth. We also argue for incorporating multiple respondent reports in future research on youth in military families. Data from multiple informants would be able to explore perceptions of adolescents and parents and speak to family-level factors that influence youth outcomes. The current study dichotomized independent, contextual variables in line with the previous research (e.g. Appleyard *et al.* 2005). However, we understand that this limits variability and works against more nuanced findings. For example, operationalizing engagement in military-sponsored activities should be expanded to include the frequency and duration of involvement as a mechanism to understand the relationship between engagement and well-being.

We made an effort to identify military youth who may be at a higher risk for adverse outcomes related to being a military family member, but additional work is needed to provide helping professionals more details on identifying at-risk youth and risky transition periods. Future work should explicitly identify the type of deployment and the specific phase of deployment with attention to youth's perceptions of separation and understanding of parental risks while deployed, particularly when it is to combat zones. Providers are encouraged to be familiar with the phases of deployment as unique challenges are associated with each phase, especially reintegration, and

researchers are challenged to identify mechanisms that support adolescent's well-being at each phase of deployment. Additionally, future research should consider the interaction of multiple 'risk' factors on adolescent's well-being and examine other important youth outcomes, including substance use and risky behaviours. Examinations of cumulative risk and mechanisms that buffer the relationship between risk and adolescent outcomes inform our understanding of military family life and intervention efforts.

CONCLUSION

Current research on the well-being of US military youth leaves us contemplating how much we understand their lives, timing of life events and effect of parents' work spill-over. Our findings indicate while US military youth are influenced by their parents' military duties, there are few military-related stressors that uniformly related to adverse outcomes. Protective factors, such as military-sponsored activities, appear particularly salient in relation to youth outcomes, warranting future research to examine specific mechanisms that lead to increased youth well-being. Stressors, such as parental absence and school transitions, lead to poorer outcomes (Chartrand *et al.* 2008; Barker & Berry 2009). These transitional factors were not uniformly related to poorer outcomes in this study. One stressor associated with military life, rank/paygrade, was related to some adverse outcomes, but further work is needed to explore the complexity of this variable. There remains a need for programming efforts and informed support for military youth and their parents (Huebner & Mancini 2008), and this study of military youth provides insight into future efforts by beginning to identify factors that influence the well-being which account for dimensions of the individual, the family and the military environment.

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