

School Engagement among Youth in Canadian Forces Families: A Comparative Analysis

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There has been a growing body of literature on adolescents in military families since 2002. This research has focused on how frequent moves and parental deployments are two unique potential stressors for youth in military families, and are associated with negative school outcomes. Analyzing data collected from a school in a military community, and data from a national sample of Canadian youth, we examine the impact of military stressors on the school engagement of youth in military families. While we found evidence of residential mobility contributing to negative school engagement outcomes, we also found a positive association between school engagement and parental deployments. Surprisingly, relative to both the civilian youth in our sample and the national sample, military youth exhibited higher levels of school engagement when a parent has been deployed.

Depuis 2002, de plus en plus d'études ont été publiées sur les adolescents de familles de militaires. Cette recherche explique que les déplacements fréquents et les déploiements d'un parent constituent pour ces jeunes des agents de stress potentiels et uniques, et qu'ils sont associés à des résultats scolaires négatifs. Nous avons analysé des données provenant d'une école dans une communauté militaire ainsi que des données tirées d'un échantillon national de jeunes canadiens pour étudier l'impact des agents de stress d'origine militaire sur l'implication scolaire chez les jeunes de familles de militaires. Si nous avons trouvé des indications que la mobilité résidentielle contribuait aux résultats scolaires négatifs, nous avons également trouvé une association positive entre l'implication scolaire et les déploiements d'un parent. Étonnamment, nous avons constaté que, comparés aux jeunes civils dans notre échantillon et dans l'échantillon national, les jeunes de familles de militaires manifestent plus d'implication scolaire pendant les déploiements d'un parent.

Introduction

As a result of the wars in Iraq and Afghanistan, there has been a growing body of literature focusing on adolescents in military families. In the US literature, attention is being paid to the impact of military life on the health, wellbeing and school experiences of young people in military families. Despite the fact that approximately 30,000 troops have been deployed to Afghanistan since 2002, little attention has been paid to the experience of Canadian youth in

military families

We consider two of the military life factors which are known to affect the educational outcomes of young people. The first is the higher than average residential mobility of military families. Research on civilian and military children has uncovered associations between frequent moves and negative school outcomes (Chandra et al., 2010; Mmari et al., 2010). Mmari et al. (2010), for example, found that the majority of parents in their study felt that educational disruptions were very stressful for their children. These disruptions meant an inability to transfer course credits from one school to the next, having to study the same information over again, and missing key courses because they were not available at a new school. In his recent report on Canadian military families (2013), Department of National Defence and Canadian Armed Forces Ombudsperson, Pierre Daigle noted that due to different provincial variations in the age of entry into kindergarten, some military children are set back (or forward) a year because of their inter-provincial moves. Being pushed forward or held back a year because of variations in curriculum are thought to affect self-esteem and adaptation, and have at times resulted in behavioural repercussions (Aronson & Perkins 2013; Astor et al., 2013; Daigle, 2013; Williams, 2013). Daigle (2013) reported that families and service providers repeatedly described that children who were once high achievers and well behaved in one location deteriorated in another. Daigle (2013) explained that school transfers can cause some children to feel isolated and ostracized, and feeling that they are not well understood by educators. With frequent moves, young people experience significant losses in their social networks, and for adolescents, creating new social networks can be especially daunting. In fact, focus groups with adolescents growing up in military families in the US found that the most stressful aspects of moving were having to leave behind their friends and develop new relationships at the new location (Mmari et al., 2010; more on this below). What we don't know is how these young people compare to their civilian peers, in a Canadian context, as a result of these experiences.

Secondly, military youth experience the stress of parental deployments. Having a parent deployed to a war zone evokes powerful emotional responses in children and youth, and changes family dynamics, which inevitably spill over into other areas of life, including school (Daigle, 2013; Huebner et al. 2007; Mmari et al., 2010). At the time of this writing, 158 Canadian soldiers have been killed in Afghanistan, and many thousands injured. Recent attention has also been paid to the high prevalence of post-traumatic stress disorder (PTSD) experienced by returning soldiers (Brannen et al., 2008; Fikretoglu et al., 2007; McFadyen, 2008). Thus, the effects of deployment carry over, even after the parents have returned home, especially if they have experienced trauma while overseas. It has been argued that family members of soldiers returning home with PTSD experience a "secondary traumatization," derived from the military member's symptoms (Dekel & Monson, 2010; Galovski & Lyons, 2003; Suozzi & Motta, 2004; Waysman et al., 1993; Westerink & Giarratano, 1999). PTSD has been associated with poor family functioning and troubled relationships, which impacts the mental well-being of spouses and children (Caselli & Motta, 1995; Davidson & Mellor, 2001; Dekel, 2005; Evans et al., 2003; Glenn et al., 2002; Goff et al., 2007; Jordan et al., 1992; Samper et al., 2004; Taft et al., 2008). Daigle (2013) noted that some children of afflicted parents often take on more household or quasi-parenting responsibilities to compensate for the suffering or disengaged parent. It is possible that parental PTSD also affects school progress and other school outcomes.

School Engagement

School engagement has been a topic of interest among researchers for years, especially since research began investigating the impact of school engagement on dropout rates, educational aspirations and achievement, and socioeconomic outcomes in later life (see Reschly et al., 2008). Although *school engagement* has been defined and operationalized in various ways (Simons-Morton & Chen, 2009), it generally refers to the extent to which children are connected and committed to school, and motivated to learn and achieve. It has been described as a multidimensional construct, composed of academic, behavioural, cognitive, and psychological elements, and related to academic, social, and emotional outcomes (Reschly et al., 2008). For the purpose of this research, our working definition of school engagement (outlined in more detail in the methods section of our paper) will include the measures *school attitude*, *school attachment*, *skipping school*, and *talking to teachers*. School engagement depends on a range of factors and demographic characteristics, including gender, economic status and in this paper, the experience of growing up in a military family.

Gender and socioeconomic status are important individual characteristics affecting school engagement, with boys and students from lower SES families exhibiting lower engagement (Li & Lerner, 2011; Simon-Morton & Chen, 2009). Other research suggests that school engagement is affected by academic support, positive student–teacher relationships, school connectedness, order and discipline, and academic satisfaction (Zullig, Huebner & Patton, 2011). While there are myriad characteristics that can be associated with school engagement, our focus is on the unique circumstances experienced by students in military families, which include, as noted above, experiencing the stress of parental deployments and frequent residential mobility.

Residential Mobility and School Outcomes

As previously noted, residential mobility can be a significant life stressor. Moving usually results in the disruption of a child's social networks and makes it necessary to rebuild friendships and an identity within a new school and neighbourhood. Strand and Demie (2007) used national public exam results at the end of secondary school to assess the impact of residential mobility on a sample of British students, finding that the overall school performance of those who attended the same school for the entire five-year period was superior to that of mobile students. They found that mobility was strongly associated with educational attainment, even after controlling for sex, English fluency and race/ethnicity.

South, Haynie, and Bose (2005) used data from two cycles of the American National Longitudinal Study of Adolescent Health to assess the likelihood of mobile students dropping out of school. They found that those who had moved between the two data collection cycles were more likely to drop than non-mobile students (see Rumberger & Larson, 1998). Mobile students had lower levels of academic performance, less participation in extracurricular activities, and less school engagement. Similarly, Engec (2006) found mobility to be negatively associated with test performance and higher rates of suspension, expulsion and grade repetition. Older research by Simpson and Fowler (1994), also found that almost twice as many mobile students as non-mobile students had repeated a grade, or had been suspended or expelled.

Frequent moving negatively impacts the size and longevity of social support networks, and the quality of peer relationships. South, Haynie, and Bose (2005) found that mobile students had smaller, denser friendship networks, and were less centrally located within them. Mobile

students' friends were weaker academically than the friends of their non-mobile peers. Pribesh and Downey (1999) found that moving led to declining educational performance that was partly a function of the loss of social capital (e.g., student-school ties and student-community affiliations). In contrast, an analysis of the 1986 Canadian General Social Survey by Hango (2006) found residential mobility in childhood to be associated with higher educational attainment in adulthood.

When looking at residential mobility of children in US military families, Weber and Weber (2005) found that compared to military adolescents with geographical stability, those who relocated often actually showed better scores on measures of suspension, repeating grades, receiving psychological help or evaluations, and non-routine parent conferences regarding bad behaviour. Similarly, Strobino and Salvaterra (2000) reported on the transitions and school experiences of children of personnel from all four branches of the armed services, at installations in the United States and overseas. Despite an average of five school transitions, adolescents reported average and above-average grades, ample participation in extracurricular school activities, and the support of parents and teachers. An older, classic piece of research by Darnauer (1976) also found that adolescents who relocated a moderate number of times outperformed both those who moved infrequently and those who moved excessively. These findings are consistent with UK research that found that mobility had no effect, and that some children from military and higher socioeconomic backgrounds seemed to benefit from it (Lacey & Blane, 1979).

Parental Deployments, School Engagement in Military Families

Research on the impact of parental deployment on youth has until recently been confined to behavioural and psychological outcomes (Kelley, 2001; Lincoln et al., 2008). Recent US-based research has begun looking at academic outcomes, and found deployment-related parental absence to be negatively associated with test scores for children (Lyle, 2006), with the length of deployment being strongly associated with negative test scores in elementary and middle school (Richardson et al., 2011).

Recent research on American adolescents in military families with deployed parents reported that while their parents were deployed, adolescents' grades worsened due to poor concentration; they had less time for homework because of household responsibilities, and were less motivated to do homework because the parent who encouraged them was absent (Huebner & Mancini, 2005; Huebner et al., 2007). School personnel and caregivers of military adolescents with deployed parents have reported that during deployment, adolescents displayed more problematic behaviour at school (Mmari et al., 2009). Others report that parents and school personnel have associated deployment-related stress with anxiety, lowered school performance and reduced school engagement (Chandra et al., 2010a; Ternus, 2008). On the potentially more positive side, Chandra and colleagues (2010b) found in their focus group study of school personnel that children of all ages relied on their schools for emotional support during deployments. In their interview study of adolescent children of deployed Canadian Armed Forces members, Harrison and Albanese (2012) found that adolescents who performed high levels of instrumental and emotional household work during a stressful deployment had higher expectations of support from their school than adolescents who did not.

In sum, research on the impact of residential mobility on school engagement and attainment has been contradictory. Hango (2006), Strobino and Salvaterra (2000), and Weber (2005) for

example, found that residential mobility was *not* negatively associated with educational attainment and school engagement. In contrast, South, Haynie and Bose (2005), Engec (2006), and others found that school performance *was* negatively associated with mobility. At the same time, most research on adolescents in military families has *generally* found school performance to be negatively affected by mobility (Chandra et al., 2010; Daigle, 2013; Mmari et al., 2009) and the same was found to be true when the impact of parental deployments was considered (Kelley, 2001; Mmari, et al., 2010). But for the most part, these have been subjective studies that have asked parents and adolescents about how they *thought* moves and deployments affected their school experiences. We believe that a more complex, detailed and nuanced, quantitative analysis needed to be done to compare survey results of youth in Canadian Forces families to their civilian peers on measures of school engagement. On top of helping us make sense of the impact of residential mobility and parental deployments on school engagement, we aim to shed light on the experiences of an under-researched group of adolescents in Canada, namely those growing up in Canadian Armed Forces families. Specifically, we are interested in knowing how youth growing up in Canadian Armed Forces families compare to their civilian peers, both within their high school and nationally, on various measures of school engagement.

Hypotheses

As previously described, residential mobility has the potential to weaken the attachments that youth have with their peers and with school, resulting in reduced school engagement. The overall effect of residential mobility on military youth, however, appears to be positive, according to evidence provided by previous research on military families in the UK and the US. The stress of having a parent deployed to a war zone places enormous emotional distress and additional familial responsibilities onto military youth, which may be reflected in their school engagement. Youth who struggle with a parental deployment may withdraw from their studies and their social lives. As such, our major hypotheses, consistent with literature on military youth, are that: (1) school engagement will be comparatively low for military youth who have had a parent deployed overseas; and 2) military youth who experience residential mobility will exhibit increased school engagement compared to their civilian peers, as we believe the school may be one of their few experiences of stability.

Data

Upon obtaining ethics approval from four Canadian universities, our research was conducted in Armyville, Canada, a “company town” dominated by the presence of a large army base. The ratio of Canadian Forces (CF) to civilian adolescents attending Armyville High School (AHS) was approximately 50:50 in 2008-09. In September 2008, we mailed an information package to parents and students that included a supportive letter from the principal, along with a “dissent” form, which the parent (or student aged 16 or over) was asked to complete and return to the school if they did not want their child to participate. Youth for whom the school had received no dissent form, who were present on the day of the survey (October 7, 2008), and who signed a consent form indicating that they (or, if applicable, their parents) had read and understood the information that had been sent home, completed the survey. Several students who had come to school intending to fill out the survey did not do so, by virtue of admitting to the research assistant that they had not shown the information package to their parents. Participants in our

survey included most of the students at AHS--1066 out of a total school enrolment of 1219. Our survey was constructed primarily from Statistics Canada's National Longitudinal Survey of Children and Youth (NSLCY) measures of psychological wellbeing, family functioning, attitudes toward school, and peer relationships (See Appendix 1 for a selection on survey items used in this analysis). The survey also included questions that were designed to elicit each participant's "CF status."

The NSLCY is a national study of the development and wellbeing of Canadian children that began collecting data in 1994, and has been following its initial cohort of over 22,000 every two years (Statistics Canada, 1997). NSLCY measures were appropriate for our research because they allowed CF adolescents to be compared with their civilian peers on a range of health and social indicators. Our national comparison group was the CF AHS students' nation-wide age-appropriate peers who had participated in cycle 7 (2006-07) of the NSLCY.

Outcome Variables

Four outcomes related to school engagement were considered: school attitude, school attachment, skipping school, and talking to teachers (See Appendix 1).

School Attitude was measured by a single item: "How do you feel about school?", with response categories: I like school very much, I like school quite a bit, I like school a bit, I don't like school very much, and I hate school.

School Attachment was measured by a scale of eight items. The first item was "How do you feel about school?" with the response categories: "I like school very much", "I like school quite a bit", "I like school a bit", "I don't like school very much" and "I hate school". The remaining items pertained to a question "How important is it to you to do the following in school?" which had the following items: make friends, get good grades, participate in extra-curricular activities, learn new things, always show up for class on time, express your opinion, take part in student council or other similar groups, and hand in assignments on time. Response categories were: very important, somewhat important, not very important, and not important at all. The items were reverse-coded, so that higher scores on this scale were attributable to positive attitudes towards school. The Cronbach's alpha for the scale was 0.770.

Skipping School was measured by a single item: "Since the beginning of this school year, how many times have you skipped a day of school WITHOUT permission?", with the response categories: never, once or twice, three or four times, 5 or more times.

Talk to Teachers was measured by a single item that asked the respondent how often he or she spoke to a teacher outside of class. Six response categories ranged from every day to almost never. This item was reverse coded, so that higher scores were associated with a greater frequency of talking to teachers.

CF Status, Sample Membership, Moves and Deployments

Of key interest to addressing our hypotheses were "Canadian Forces status," sample membership, number of moves experienced, and, for Canadian Forces youth, whether they had experienced parental overseas deployment(s).

Canadian Forces Youth. We defined a "CF adolescent" as a youth who had at least one parent or step-parent who either: (a) was a regular or reservist CF member; or (b) took their release from the regular or reserve CF during the previous five years *and* had been a member for

at least four years prior to release. We defined a “civilian” as a youth who had no parents/step-parents who had ever belonged to the CF. Questionnaires completed by participants who had parents who had been in the CF but out of scope for criterion (b) were not included in our analyses (N=52).

Sample Membership. A dummy variable was included that indicated if the respondent was part of the Armyville sample.

Number of Moves. In our sample and the NLSCY, the youth were asked about frequency of moves. The variable measuring number of moves asked about residential moves experienced by the youth over the past three years. The variable was coded 0 for no moves, 1 for one move, and 2 for more than one move.

Parental Deployment. In the Armyville sample, youth were asked whether they had ever experienced the overseas deployment of a parent. A single variable was created that was coded 1 for “yes” and 0 for “no.”¹

Control Variables

Several control variables were used including gender, age, region, family structure, total number of siblings, and number of parents working. Gender and age are straight-forward controls used to improve model fit. Family structure was included because many studies have shown how it is closely linked to school success. A recent meta-analysis of 122 studies of family structure and child wellbeing in OECD countries has found a disadvantage associated with being raised by a sole parent rather than by two biological parents (Chapple, 2009). Others have found associations between negative child well-being and being raised in family structures that differ from the biological two-parent model (e.g. Brown, 2004; 2006; Bulanda & Manning, 2008; Carlson & Corcoran, 2001). We included family structure in the model so as to not overstate the effect that military family membership might have on the outcomes examined. Total number of siblings was included, to take into account the resource dilution explanation (Downey, 2001) that parental resources are finite, and the more siblings a child has, the less total resources are available to each individual child. Number of parents working in the household was used to approximate the economic state of the child’s household. We did not have an objective measure of gross household income. We used region as a control variable in the pooled analyses to account for geographical variations in school-related outcomes since previous research identified notable differences in school achievement by region (see Corak & Lauzon, 2002; Stack, 2006).

Gender. A dummy variable for female was created where female was coded 1 and male was coded 0.

Age. Age was measured in years.

Family Structure. A variable measuring family structure was created with the categories: intact biological parents, living in a stepfamily, single parent family, and other.

Total number of siblings. A variable measuring the youth’s total number of biological and step-siblings residing in the same residence was created. Cases of four or more siblings were grouped together.

Number of parents working in household. This variable was derived from information reported on parents’ employment activities. In our survey, the possible values of the variable were no parents working, one parent working, and two parents working. In the NLSCY, the derived variable created by Statistics Canada is slightly different, as parents who are full-time

students are categorized as economically active. The youth data that we collected did not obtain information on the current educational enrollments of parents. While this difference had to be recognized, it was expected to be minimal.

Region. In the pooled analyses, four dummy variables were created to identify geographic region: Atlantic Canada, Central Canada (Ontario and Quebec), Prairies (Alberta, Saskatchewan, and Manitoba), and British Columbia. Our sample was placed in the category appropriate to its geographical location.

Analytic Approach

Data analysis was carried out in two stages. The first restricted the scope of analysis to only the AHS data. We used bivariate statistical tests to examine the hypotheses around stressors specific to military youth and the school engagement outcomes we considered. We then carried out multivariate analyses, adding the control variables to the models. We used ordinary least squares regression, since the distribution of our dependent variables was fairly normal.

Our second stage involved pooling our data with the age-equivalent NLSCY sample. We used simple bivariate analyses to explore differences between our sample and the NLSCY on school engagement outcomes, as well as differences between CF youth and all civilians (i.e. those in the AHS sample and in the NLSCY national sample). We used multivariate techniques to estimate the effect of CF membership, Armyville membership, and moves (and control variables) on the dependent variables.² Not all questions were asked to all age groups in the NLSCY; the majority of school engagement questions were asked only of participants aged 15 and 16, therefore restricting our sample comparisons. We included “CF status” and residence in Armyville in the pooled sample to identify the AHS respondents and compare their responses to the national sample. The longitudinal weights for NLSCY Cycle 7 were employed.³

Results

Table 1 reports the different mean outcome scores based upon the reported frequency of residential mobility for the entire AHS sample. Those who experienced more than one move scored differently on the school engagement outcome measures, compared to those who had not moved and those who had moved once. The *F* statistic reported in the bottom row reports whether the analysis of variance revealed any statistically significant mean differences between groups. In terms of skipping school and talking to teachers, the ANOVA results were statistically significant. Number of moves was positively associated with skipping, while those who had moved once reported talking to teachers less often than those who had not moved or who had moved more than once. Overall, those who did not move skipped school less and talked to teachers more.

Table 2 restricts the analysis of school engagement outcomes and moves to CF youth within Armyville. Similar patterns emerge, although the relationship between the outcomes and moves appears more pronounced in the CF-only sample. For example, in terms of the school engagement outcomes, the ANOVA results were statistically significant for all outcomes considered except talking to teachers. Mean differences were observed among the frequency of moving and school engagement (those who had not moved were the most attached), school attitude (non-movers had the most positive attitude) and skipping (non-movers skipped the least). Those who had moved the most scored lowest on school attachment and school attitude,

Table 1

Number of Moves by School Engagement Outcomes, AHS Sample.

Moves Over Last 3 Years	School Attachment	School Attitude	Skipping School	Talk to Teachers	N
None	3.175	3.227	1.255	3.188	256
Once	3.134	3.188	1.300	2.794	173
More than Once	3.123	3.162	1.441	3.033	483
<i>F</i>	1.01	1.35	4.22**	3.70*	

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 2

Number of Moves by School Engagement Outcomes, CF youth only within AHS

Moves Over Last 3 Years	School Attachment	School Attitude	Skipping School	Talk to Teachers	N
None	3.301	3.355	1.105	3.307	150
Once	3.195	3.256	1.207	2.873	80
More than once	3.167	3.231	1.338	3.164	191
<i>F</i>	3.45**	2.98+	5.58**	2.27	

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3

Parental Deployment and School Engagement Outcomes, CF youth only within AHS

Parent Deployed	School Attachment	School Attitude	Skipping School	Talk to Teachers	N
Yes	3.284	3.342	1.142	3.283	279
No	3.153	3.212	1.262	2.826	156
<i>T</i>	5.309***	5.682***	4.304***	3.207**	

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

and scored highest on skipping. Their score on talking to teachers was similar to Table 1: more frequent movers reported talking to teachers more than single-time movers, possibly to compensate for weaker social ties, or because they relied on teachers for extra guidance.

Table 3 presents the results of the averages of school engagement measures, comparing CF youth who had experienced a parental deployment with those who had not. The results indicate more attachment, more positive attitude, less skipping, and more talking to teachers amongst students who had experienced a parental deployment. The results of the t-tests for differences in means between those who experienced a parental deployment and those who had not were all statistically significant, but in the opposite direction of the literature we cited.

Table 4 presents the multivariate analysis of the school engagement outcomes examined here regressed on CF status, deployments, moves, and controls. When all controls are accounted for, CF status was not a statistically significant predictor of any of the outcomes examined.

Table 4

Multivariate Analysis of Engagement Outcomes on CF Status, Moves, Deployments, and Controls, AHS only

	School Attachment	School Attitude	Skipping School	Talk to Teachers
CF	0.065	0.075	-0.055	0.087
Deployment	0.108	0.107*	-0.101	0.299
1 Move ^a	-0.074*	-0.073*	0.066	-0.474**
> 1 Moves ^a	-0.049	-0.048	0.179**	-0.108
Female	0.168***	0.163***	-0.034	0.448***
Age	-0.031*	-0.036**	0.099***	0.376***
Stepfamily ^b	0.027	-0.006	0.109*	-0.061
Single Parent ^b	-0.126**	-0.143***	0.177**	-0.188
Other Family ^b	-0.142	-0.163	0.202	-0.372
Total Siblings	-0.020	-0.014	-0.027	-0.110
1 Parent Works ^c	0.083	0.068	-0.290*	0.085
2 Parents Work ^c	0.089	0.078	-0.337**	0.130
Constant	1.581***	1.548***	0.074	10.44***
<i>N</i>	871	871	869	866
<i>R</i> ²	0.099	0.093	0.107	0.095

^a Reference category is not moving.

^b Reference category is two-parent biological family.

^c Reference category is no parents working.

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Parental deployments, in contrast, were significantly and positively associated with school attachment and school attitude. Compared to those who had not moved, moving once in the last 3 years was negatively and significantly associated with attachment, school attitude and talking to teachers. Moving more than once was associated with increased skipping.

The control variables revealed that being female was positively associated with school attachment, school attitude, and talking to teachers. Age also contributed, such that each additional year reduced attachment and school attitude, and contributed to more skipping, but also increased frequency of talking to teachers. Also, compared to two-parent biological families, youth from stepfamilies were more likely to skip; living in a single parent household was negatively associated with attachment and school attitude, and positively associated with skipping. Number of siblings was not statistically significant, while the number of working parents helped contextualize skipping behaviour, with membership in one and two-parent worker families contributing negatively to skipping.

We next pooled our Armyville data with the NLSCY (national sample). We conducted simple comparisons of means to explore the uniqueness of the Armyville sample vis-a-vis the outcome variables of interest. Initial results indicate statistically significant mean differences in school attitude, skipping school, and talking to teachers (Table 5). Youth in Armyville (civilian and CF) tended to have poorer attitudes towards school and spoke to teachers less often than those in the national sample. Skipping school was practised by Armyville youth significantly less frequently than by youth in the national sample.⁴

Table 5

T-tests of Outcome Variables by Sample.

	School Attachment	School Attitude	Skipping School	Talk to Teachers
NYSCY	3.177	3.133	1.490	2.245
Armyville	3.149	3.088	1.293	1.009
<i>T</i>	1.382	2.439*	6.029***	18.505***

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 6

T-tests of Outcome Variables by Comparing CF with all Civilians.

	School Attachment	School Attitude	Skipping School	Talk to Teachers
All Civilians	3.160	3.114	1.452	1.884
CF	3.235	3.183	1.186	1.116
<i>T</i>	3.085**	2.823*	6.154***	8.727***

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 7

Multivariate Analysis of Pooled Sample of Engagement Outcomes on CF Status, Moves, Sample Membership, and Controls

	School Attachment	School Attitude	Skipping School	Talk to Teachers
CF	0.089*	0.107*	-0.029	0.066
Armyville	0.000	-0.009	-0.261**	-1.588***
Moved More than Once ^a	-0.040	-0.038	-0.017	0.014
Never Moved ^a	0.000	-0.004	0.100	0.154
Female	0.096**	0.094**	0.047	-0.210
Stepfamily ^b	-0.149**	-0.172***	0.340**	0.043
Single Parent Family ^b	-0.094	-0.086	0.235	-0.057
Other Family Form ^b	-0.183	-0.158	-0.181	-0.086
Total Siblings	-0.018	0.005	0.044	0.091
1 Parent Works ^c	0.070	0.071	0.089	0.057
2 Parents Work ^c	-0.737	-0.087	0.193	-0.208
Constant	1.883**	1.928 **	1.337***	2.709***
<i>R</i> ²	0.049	0.052	0.041	0.024
<i>N</i>	2070	2073	2061	1601

^a Reference category is moving once.

^b Reference category is two-parent biological family.

^c Reference category is no parents working.

Output for regions not shown.

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

We refined the analyses of mean difference to CF youth versus all civilians in the sample (Armyville and NLSCY). In all instances there were statistically significant differences between the two groups (Table 6). CF youth reported greater school attachment, better school attitude, less skipping, and less frequent talking to teachers than all civilians.

The final multivariate analysis pooled the Armyville sample with the NLSCY national sample. Because the majority of school-related questions were only asked to 15 and 16 year olds in the NLSCY, the analysis in Table 7 is restricted to 15 and 16 year olds.⁵ The multivariate analysis allowed us to test whether the mean differences identified in Tables 5 and 6 remained after control variables were included in the estimation procedure.

The results in Table 7 indicate that membership in the Armyville sample correlated with reduced skipping and the frequency of talking to teachers, compared to those in the NLSCY and controlling for other variables in the model. Being a CF youth had a small but positive effect on school attachment and school attitude. Variables measuring residential mobility were not statistically significant. Being female had a small but significant positive effect on attachment and school attitude. Living in a stepfamily was negatively associated with school attachment and school attitude, and positively with skipping. Number of siblings and the number of working parents was not statistically significant.

Discussion

Similar to other scholars who found mobility to be negatively associated with educational attainment in the general youth population (i.e. Rumberger & Larson, 1998; South, Haynie, & Bose, 2005; Strand & Demie, 2007), our bivariate analyses revealed that in the Armyville sample as a whole, multiple moves were associated with greater frequency of skipping school. When the analysis was restricted to CF youth, the frequency of moving was significantly associated with three of the four outcomes examined. For CF youth, more moves were associated with lower school attachment and school attitude, and more frequent truancy. However, we found that in the pooled sample the direct impact of moves on school engagement outcomes was not statistically significant, suggesting that the effect of mobility on educational outcomes was mediated through other factors. When we took the controls into effect, residential mobility had no direct effect on the school engagement outcomes examined, for either military or civilian youth.

Others have provided evidence of mediating factors between residential mobility and educational outcomes. Pribesh and Downey (1999) found that moving results in a decline in educational performance that is partly a function of the loss of social capital, which results in lower educational attainment aspirations. They explained that a high proportion of the moving effect reflects differences that are evident before the move occurs, including life stressors such as parental divorce, parental (re)marriage, or a parental death. Pribesh and Downey suggest that families who move tend to already be disadvantaged (poorer, fewer living with two biological parents, etc.), which explains the school engagement and achievement scores among adolescents. This is unlikely to be the case in our sample. While we found that moving more than once was associated with an increase in skipping, CF adolescents' moves are not often the result of poverty, bereavement, or divorce. Military moves tend to be related to lateral or even vertical (upward) career moves for the CF parent. In Armyville, in fact, membership in the Canadian Forces is a more lucrative way to make a living when compared to other available employment options. This may help explain why moves failed to achieve statistical significance

in the pooled sample.

Hango (2006) found evidence of the long-term, positive effect of residential mobility on later-life educational attainment, suggesting that mobility may signal economic opportunity for some. Our findings are somewhat consistent with earlier findings on military youth from Lacey and Blane (1979), who found that mobility among military adolescents had no effect, and that some children from military and higher socioeconomic backgrounds seemed to benefit from moves (also see Strobino & Salvaterra, 2000).

We examined how experiencing a parental deployment was associated with school engagement for CF youth. Opposite to what we expected, and consistent with what previous researchers have found (Huebner & Mancini, 2005; Huebner et al., 2007; Richardson et al., 2011; Ternus, 2008), CF youth who had experienced a parental deployment had significantly *higher* mean scores on school attachment, school attitude and talking to teachers, and lower scores on frequency of skipping (Table 3). These results remained statistically significant for school attachment and attitude, even after controls were introduced.

Recent research by Kwan-Lafond et al. (2011) suggests that adolescent children of deployed parents are encouraged to display heightened maturity during deployments, in order to assist and support their parents who remain at home. This appears to be possibly reflected in the apparently greater school engagement of Armyville adolescents with deployment experience, relative to their civilian peers. Like enhanced maturity at home, a relatively high level of school engagement can be viewed as a positive adaptation to adverse conditions. Resilience among military youth is a relatively unexplored topic, although civilian resilience researchers argue that resilient children have the advantage of being affected by protective factors which serve to mitigate the impact of the risk factors to which they are exposed (Rutter, 2006; Schoon, 2006). The presence of numerous military youth in the school, the strong presence of the military in the community, and supportive teachers who were experienced in dealing with children of deployed personnel are three examples of protective factors which may help military youth cope with the deployment of parents in a single industry military community such as Armyville. Additionally, talking to teachers may be the outcome of missing a parental role model and being enterprising enough to seek adult mentoring elsewhere. A serious shortcoming of our study is that our deployment variable did not take into account length of deployment, or how long ago the deployment occurred. We therefore failed to capture the heterogeneity surrounding this variable.

We found partial support for our hypothesis regarding residential mobility. Residential mobility was positively associated with school engagement in the Armyville sample (CF and civilian), which may reflect an upward socioeconomic geographical transition. We found no support for our hypothesis that deployments are associated with reduced school engagement, and instead found the opposite.

When we compared the CF youth to all civilians in simple bivariate analyses, we found that CF youth had higher average school attachment, school attitude, and less frequent skipping, although they spoke less frequently to their teachers (Table 6). In the multivariate analysis of the pooled sample (Table 7), CF status was positively associated with school attachment and school attitude, while living in Armyville was negatively associated with skipping and talking to teachers. This suggests that compared to the national sample, Armyville may be unique and that CF youth, compared to all civilians, may exhibit exceptional qualities in terms of school engagement. It suggests that our sample of military youth may be uniquely resilient, possibly due to the strong support for the military in the wider community. A large proportion of

students at AHS are from military families, so they do not comprise a socially isolated minority. Military youth at AHS receive strong support from fellow students, teachers and the wider community, an important social factor pertaining to “single industry” military towns that is under-discussed in the literature. The following are a summary of the key findings:

All youth in AHS sample:

- Overall, youth who have experienced parental deployment have more school attachment and a more positive school attitude.
- Overall, youth who have not moved in the past 3 years have more school attachment, a more positive school attitude, skipped school less, and talked to teachers more.

CF youth in AHS sample:

- Overall, CF youth who have experienced parental deployment have more school attachment, a more positive school attitude, skipped school less, and they talk to teachers more.
- Overall, CF youth who have not moved in the past 3 years have more school attachment, a more positive school attitude, and skipped school less.

AHS & NLSCY pooled sample:

- CF youth in particular have more school attachment and a more positive school attitude.
- Overall, AHS youth skip school less.

Conclusion and Recommendations

Adolescents in military families experience multiple stressors in their lives as a result of frequent moves and parental deployments. Suldo and Huebner (2004) have demonstrated that high life satisfaction in adolescence moderates the effects of stressful life events on subsequent externalizing behaviour. Similarly, more active positive school engagement may help adolescents in CF families in Armyville (and beyond) to be resilient in the face of their unique life stressors.

According to the findings of a recent interview study of Canadian Armed Forces (CAF) adolescents, the adolescents who belonged to a PTSD peer support group at their high school, which was facilitated by a guidance counsellor, viewed the group as their most important source of extrafamilial support (Harrison, Albanese & Berman, 2010). This finding suggests the potential fruitfulness of extending the model of small-group peer support to a broader range of students living through parental deployments. Other useful ways of enhancing school support for children of deployed members, and thereby their school engagement, would include: (1) providing more resources to guidance departments in communities where military bases are located; and (2) providing frequent (and compulsory) professional development seminars to school personnel in military communities on the topic of the impacts of deployments on children and adolescents.

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Notes

- 1 There are no time references for this variable; the parent could have been deployed at the time of the survey or in the distant past.
- 2 Because number of deployments is a military-specific question, we cannot include this measure in the multivariate analysis of the pooled sample as it would be irrelevant to most respondents.
- 3 We explored a series of interactions to examine whether gender differentially impacted the effect of CF status and Armyville sample membership on the outcomes considered here, but the results were not statistically significant, so they are not reported here.
- 4 This difference may reflect the lack of alternative activities to participate when skipping, given the relative geographic isolation of the community.
- 5 Multilevel modelling techniques were not used because of Statistics Canada's emphasis on using the sample weights for all analyses. Typical MLM techniques cannot account for sample and probability weights. Comparative results using MLM without weights, however, resulted in nearly identical output.

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Appendix: Survey Items Used to Create School Engagement Measures

School Attitude

	I like school very much	I like school quite a bit	I like school a bit	I don't like school very much	I hate school.
C1. How do you feel about school?	1	2	3	4	5

School Attachment

	Very important	Somewhat important	Not very important	Not important at all
C9. How important is it to you to do the following in school?				
a. Make friends?	1	2	3	4
b. Get good grades?	1	2	3	4
c. Participate in extra-curricular activities?	1	2	3	4
d. Learn new things?	1	2	3	4
e. Always show up for class on time?	1	2	3	4
f. Express your opinion in class?	1	2	3	4
g. Take part in student council or other similar groups?	1	2	3	4
h. Hand in assignments on time?	1	2	3	4

Skipping School

	Never	Once or twice	3 or 4 times	5 times
C12. a. Since the beginning of this school year, how many times have you skipped a day of school WITHOUT permission?	1	2	3	4

Talk to Teachers

C15. How often do you talk to a teacher outside of class?

- 1☐ Every day
- 2☐ A few times a week
- 3☐ Once a week
- 4☐ A few times a month
- 5☐ Less than once a month
- 6☐ Almost never