



Group identity, difficult adjustment to civilian life, and suicidal ideation in Canadian Armed Forces Veterans: Life After Service Studies 2016

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ABSTRACT

Introduction: Suicide risk is higher in Canadian Armed Forces (CAF) Veterans than the Canadian general population (CGP). Suicidality is understood to be caused by incompletely clarified, complex interacting combinations of multiple factors. One of the precipitating factors for suicide is thought to be the social identity challenges known to occur in major life transitions. **Methods:** The 2016 Life After Service Studies survey representatively sampled Regular Force Veterans stratified by two release groups: earlier in 1998 to August 2012 ($n = 1,575$) and more recently in September 2012 to 2015 ($n = 1,180$). The linked dataset included socioeconomic and military characteristics and well-being indicators in multiple domains. Weak group identity was indicated by weak sense of local community belonging and/or not feeling part of a group with shared attitudes and beliefs. Associations were evaluated with multiple logistic regression. **Results:** Suicidal ideation, weak community belonging, and perceived difficult adjustment to civilian life were more prevalent in Veterans soon after release (September 2012 to 2015) than in Veterans released earlier (1998 to August 2012). Suicidal ideation and weak community belonging were more prevalent in the Veterans than in the CGP. In the more recently released Veterans, weak group identity was endorsed by the majority with suicidal ideation (93.3%). In adjusted regression models, mental health problems had the strongest association with suicidal ideation (adjusted odds ratio [AOR] = 13.4–79.3); however, weak group identity was moderately strongly associated with both difficult adjustment (AOR = 2.4–4.1) and particularly suicidal ideation (AOR = 3.8–9.0), independently of mental health problems. **Discussion:** Weak group identity was associated with difficult adjustment to civilian life and suicidal ideation in CAF Regular Force Veterans within 3.6 years after military release. These findings indicate the importance in suicide prevention of attending to social identity during transition to post-military life.

Key words: community belonging, identity, LASS survey, military-civilian transition, population survey, suicidal ideation, suicide, suicide prevention, CAF Veterans

LAY SUMMARY

Suicidal thinking and suicides are more common in Canadian Armed Forces (CAF) Veterans than the Canadian general population (CGP). This study found that difficult adjustment to civilian life and suicidal thinking were related to feelings of not belonging to a local community or people with similar beliefs. Difficult adjustment and suicidal thinking were more common in the first 3 years after release. Support for identity challenges could play a role in easing transition and preventing suicides.

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RÉSUMÉ

Introduction : Le risque de suicide est plus élevé chez les vétéran(e)s des Forces armées canadiennes (FAC) que chez la population générale canadienne (PGC). La propension au suicide est supposément causée par une interaction complexe et imprécise entre des facteurs multiples. Un des facteurs précipitant du suicide serait les défis d'identité sociale émanant de transitions de vie importantes. **Méthodologie :** Le sondage Études sur la vie après le service 2016 a fourni un échantillon représentatif stratifié de deux groupes de personnel libéré : entre 1998 et 2012 ($n = 1575$) et entre 2012 et 2015 ($n = 1180$). Les ensembles de données reliés incluaient des caractéristiques socioéconomiques et militaires ainsi que des indicateurs du bien-être dans des domaines variés. Une faible identité de groupe était identifiée par un faible sens d'appartenance à la communauté locale et/ou par un sentiment de ne pas appartenir au groupe en fonction de croyances et d'attitudes partagées. Les associations étaient évaluées par de multiples régressions logistiques. **Résultats :** Les idées suicidaires, le faible sentiment d'appartenance et la perception d'un ajustement à la vie civile difficile étaient plus importants chez les vétéran(e)s peu après leur libération (Septembre 2012 à 2015) que chez ceux ayant été libérés depuis plus longtemps (1998 à 2012). Les idées suicidaires et le faible sentiment d'appartenance étaient plus importants chez les vétéran(e)s que parmi la population générale. Parmi les vétéran(e)s ayant libérés plus récemment, une faible identité de groupe était rapportée par la plupart de ceux rapportant des idées suicidaires (93.3%). Dans des modèles de régression adaptés, les troubles de santé mentale étaient le plus fortement associés aux idées suicidaires (ratios ajustés = 13.4–79.3). Cependant, une faible identité de groupe était modérément associée à un ajustement difficile (AORs = 2.4–4.1) et particulièrement aux idées suicidaires (AORs = 3.9–9.0) indépendamment des troubles de santé mentale. **Discussion :** La faible identité de groupe est associée à un ajustement difficile à la vie civile et aux idées suicidaires chez les vétéran(e)s des FAC pendant les 3.6 années suivants la libération. Ces découvertes indiquent l'importance dans la prévention du suicide de porter attention à l'identité sociale lors de la transition suivant la vie militaire.

Mots-clés: Vétérans, vétérane, identité, appartenance à la communauté, idées suicidaires, prévention du suicide, transition militaire-civile, sondage auprès de la population, sondage Études sur la vie après le service, FAC

RÉSUMÉ VULGARISÉ

Les pensées suicidaires sont plus communes chez les vétéran(e)s des Forces armées canadiennes (FAC) que dans la population générale canadienne (PGC). Cette étude demande qu'un ajustement difficile à la vie civile et à la pensée suicidaire est liée au sentiment de n'avoir aucun lien d'appartenance à la communauté locale ou avec des individus partageant les mêmes croyances. Un ajustement difficile et une pensée suicidaire étaient plus communes dans les 3 ans qui suivent la libération des FAC. Une plus grande attention portée aux défis identitaires pourrait jouer un rôle dans la facilitation de la transition et la prévention du suicide.

INTRODUCTION

The 2017 Veterans Suicide Mortality Study (VSMS) found that the risk of suicide was consistently higher for both male and female Canadian Armed Forces (CAF) Veterans who were released from service during 1976–2012 than the Canadian general population (CGP), while the age-adjusted rate declined in the male CGP during that period.¹ Suicidal ideation and behaviours are hypothesized to result from incompletely understood interactions between multiple well-being factors, personal characteristics and, in most cases, mental illness.^{2,3} Much remains to be understood about both the characteristics of those in whom suicidality is more common (risk indicators) and factors that play causal roles in suicidal ideation and subsequent suicidal behaviour (risk factors).^{3,4} One possibility for the higher suicide rate in Veterans is the well-documented stress of adjusting to post-military life, regarded as a vulnerable period that for some is accompanied by feelings of abandonment

and isolation.^{5–12} Adjustment difficulties appear to be more intense in the early years after release.^{5–7,9,13}

There is strong evidence that social connectedness is associated with sense of belonging and better mental health, while lack of social connectedness and loneliness are associated with depression, premature mortality, poor well-being and suicide, particularly during major life transitions.^{2,6,7,11,14–31} Social identity theory proposes that, through belonging to and psychologically internalizing valued social groups, social connectedness leads to a sense of shared social identity with others, which is important to self-concept.^{12,22,23,26,32} Social identity has profound implications for well-being in multiple domains including physical and mental health, suicide prevention, security, sense of purpose, sense of belonging and access to resources like social support, employment, finances, housing, and services.^{22,23,27,33,34} Depression and suicide have been linked to social identity disruption.^{2,7,12,23} Achievement of post-military

social identities that confer good well-being therefore is viewed as a key issue in military-civilian transition.^{6,26-29}

Suicidal ideation is an important risk indicator for suicide.^{30,35} Previous analysis of the LASS (Life After Service Studies) surveys identified risk indicators for past-year suicidal ideation and perceived difficult adjustment to civilian life in CAF Veterans surveyed 2.3–12.2 years after release^{9,36-38} rather than within the more intense period of adjustment right after release. Strong sense of community belonging has been associated with perceived ease adjustment to civilian life in CAF Veterans,⁹ but there has been no analysis of the relationships between social identity, difficult adjustment and suicidal ideation in CAF Veterans.

This paper is the first to report population-level analysis of the relationships between group identity, perceived difficult adjustment to civilian life and suicidal ideation in CAF Veterans during the immediate post-release period. The 2016 LASS survey was unique in being designed to representatively sample CAF Regular Force Veterans during what is thought to be the most intense period of adjustment to post-military life: the first 3 years.³⁸ The objectives were to (1) report the prevalences of group identity, perceived ease of adjustment, and suicidal ideation in recently released CAF Veterans compared to those released earlier and to the CGP, (2) assess associations between group identity, difficult adjustment, and suicidal ideation, and (3) identify implications for suicide prevention in transitioning CAF members. We hypothesized that (1) perceived difficult adjustment and suicidal ideation are more prevalent soon after release, (2) difficult adjustment and suicidal ideation are associated with each other, and (3) both are associated with weak group identity. The goal was to add to the evidence base for research and services in easing transition to post-military life and preventing suicides in CAF Veterans.

METHODS

First, we calculated the prevalences of group identity, difficult adjustment, and suicidal ideation for CAF Veterans who were recently released (September 2012 to 2015) and released earlier (1998 to August 2012) using data from the LASS 2016 survey and compared them to age- and sex-adjusted prevalences for the CGP using data from the Canadian Community Health Surveys (CCHS). Then, we conducted logistic regression analyses to assess associations between difficult adjustment and suicidal ideation with well-being measures and

group identity in the recently released (2012–2015). “Well-being” in this paper refers to the superordinate, composite construct developed at Veterans Affairs Canada (VAC) in which well-being is measured subjectively and objectively across the seven domains of employment or other meaningful activity, finances, health, life skills/preparedness, social integration, housing/physical environment, and cultural/social environment.³⁹

Survey sampling frames and samples

The LASS 2016 survey was a computer-assisted telephone interview survey of the well-being of CAF Regular Force Veterans released in 1998–2015, conducted by Statistics Canada.³⁷ Veteran status was identified using a Department of National Defence human resources database. The survey sampled Veterans who, at the time of the survey, had not re-enrolled in the CAF and were not living in institutions, the northern Territories or outside of Canada. Veterans released at entry ranks of Second Lieutenant, Acting Sub-Lieutenant, and Private Recruit were excluded. Ethical approval was provided by Statistics Canada. Participants provided informed consent. The survey sampled 1,180 representing a population of 13,117 Veterans released in September 2012–15 (“recently released”) and 1,575 representing 43,302 released in 1998 to August 2012 (“earlier released”).

Socioeconomic and military characteristics

Age, sex, and military rank at release were obtained from a Department of National Defence database. Other variables were self-reported using questions largely taken from Statistics Canada surveys. Last military rank was used instead of education attained because they were statistically correlated (Kendall's $\tau = 0.52$, $p = 0.01$) and rank reflects a socioeconomic gradient.³⁸ Household income was adjusted for number of people in the household using the ratio of household income to Statistics Canada's 2013 Low Income Measure and quintiles were established using weighted data in an automated SPSS procedure.⁴¹ The main activity “Reserve service” was combined with “working” because there were so few of the former.

Physical and mental health

Questions about chronic physical health conditions were taken from the CCHS. They followed a preamble about health conditions diagnosed by a health professional that were expected to last or have lasted 6 months or more. The conditions were grouped into ten categories: obesity (body mass index based on reported height and weight), cardiovascular (heart disease, effects of stroke or high

blood pressure), respiratory (asthma or chronic bronchitis, emphysema or chronic obstructive pulmonary disease [COPD]), musculoskeletal (back problems or arthritis), central nervous system (effects of traumatic brain injury, dementia, or migraine headaches), gastrointestinal (ulcers or bowel disorder), diabetes, urinary incontinence, or cancer. Hearing problems were assessed using the Health Utilities Index Mark 3 module. A composite indicator for “mental health problems” was developed and validated for LASS analyses.⁴² The three components were self-reported diagnosed chronic mental health conditions from the CCHS (mood disorder, anxiety disorder, or posttraumatic stress disorder [PTSD]); the K-10 symptom screener for psychological distress (symptoms of depression and anxiety); and the PC-PTSD screener for posttraumatic stress disorder symptoms. The indicator had three severity categories: no/little, mild/moderate and severe.

Group identity

Weak group identity at the time of the survey was indicated by weak sense of local community belonging and/or not feeling part of a group with shared attitudes and beliefs. These two measures of current sense of group identity were taken from Statistics Canada surveys of the CGP. The first measure was “How would you describe your sense of belonging to your local community?” The four response options were combined into two categories: very/somewhat strong and very/somewhat weak. This indicator was validated for the CGP in a mixed methods study where it was found to be associated with well-being and social engagement.²⁵ The second measure was one of the 10 items in the SPS-10 Social Provisions Scale: “I feel part of a group of people who share my attitudes and beliefs.” Responses were grouped into two categories: agree/strongly agree and disagree/strongly disagree. The two measures were combined into a derived measure with four categories owing to evidence that people can have a weak sense of belonging to their local community but identify with a geographically distant group, for example through social media or travel.⁴³

Perceived ease of adjustment to civilian life

Perceived ease of adjustment to civilian life was assessed with the survey question “In general, how has the adjustment to civilian life been since you were released from the Canadian Armed Forces?” The five options were combined into three categories: very/moderately easy, neither, and very/moderately difficult. This indicator

was adapted for LASS from a United States (US) Air Force study and found in prior LASS analyses to be correlated in expected ways with well-being indicators.^{9,44}

Suicidal ideation

Using questions from the CCHS, respondents were asked “Have you ever seriously considered committing suicide or taking your own life?” and “Has this happened in the past 12 months?”

Statistical analysis

Representative weighted population proportions were calculated from respondent weights provided by Statistics Canada that accounted for survey stratification and non-response.⁴⁰ Associated 95% confidence intervals (CIs) were calculated by Taylor linearization using Stata, version 13.1 (StataCorp, College Station, TX). CGP comparison prevalences were calculated from the CCHS 2013–14 and the CCHS Mental Health 2012 public use microdata files by age–sex adjustment in 5-year age group frequencies to the Veteran population. Statistical significance of population estimates was tested using CIs, the *t*-test, and the Chi-square test. Logistic regression was conducted using respondents with complete data. Unadjusted odds ratios (UORs) were calculated for suicidal ideation and difficult adjustment as dependent variables. Independent covariates were identified through examination of the literature and prior LASS analyses.^{9,30,36,37,44,45} Covariates in the adjusted models were group identity, age, sex, marital status, main activity, household income, rank, mental health problem, and number of physical health conditions.

RESULTS

The recently released were surveyed an average of 2.1 years since release (range 0.6–3.6 years) while those released earlier were released an average of 10.5 years (range 3.6–18.2 years). More than half of the recently released (53.0%, 49.6%–56.4%) were VAC clients versus less than half of the earlier released (43.5%, 40.5%–46.6%). Compared to the earlier released group (see Figure 1), the recently released group more often were younger (mean age 41 years, range 19–63 vs. mean age 50 years, range 24–81); single/never married; not working, in school or disabled; enrolled in 2001–2015; in the Army; released involuntarily; and had less than 10 years of service. The difference in sex ratio (females 12.8% vs. 12.0%) was not statistically significant.

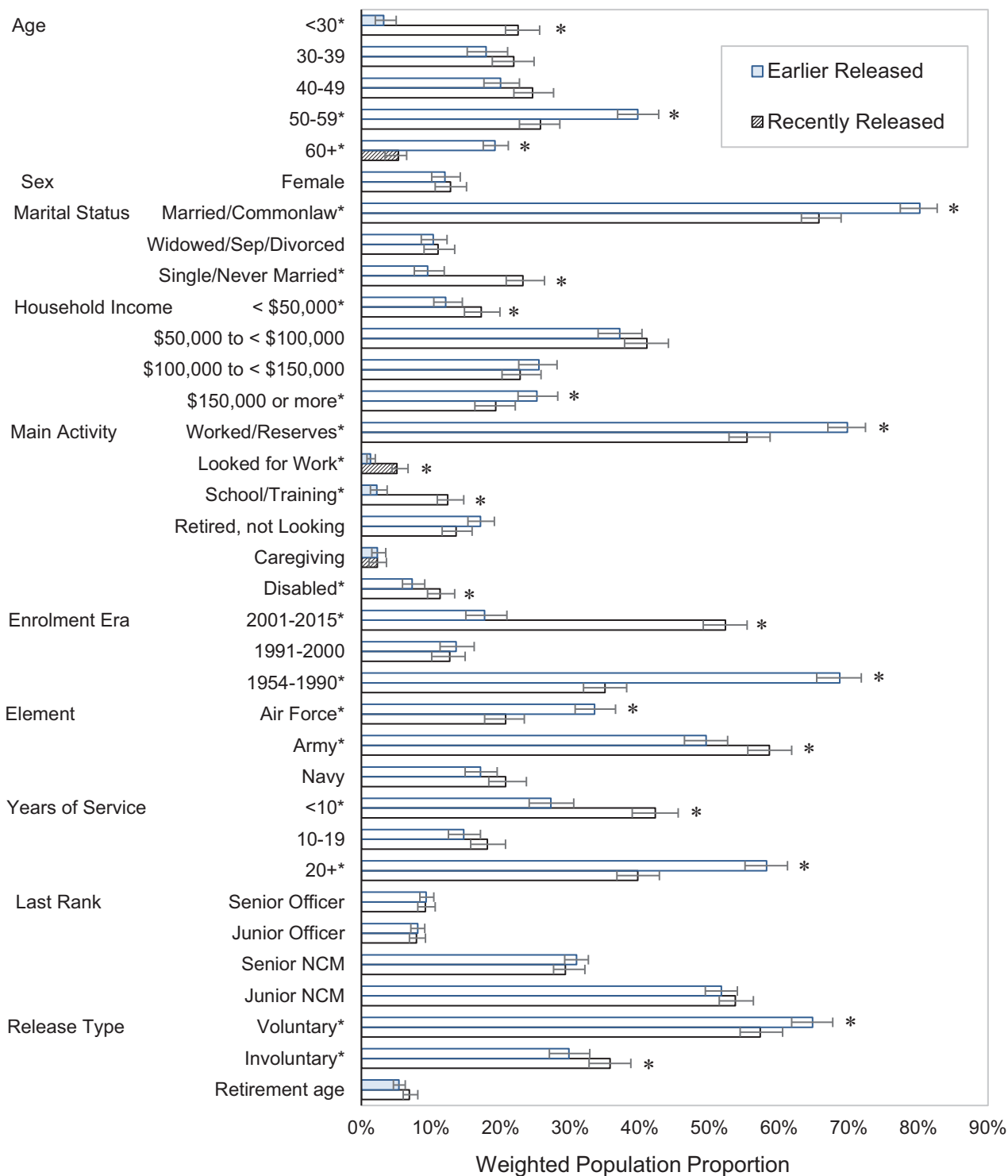


Figure 1. Comparison of the socioeconomic and military characteristics of the earlier released (1998–2012) and recently released (2012–2015) groups using unadjusted weighted population estimates and 95% CIs

*Difference between the two release groups statistically significant comparing 95% CIs.

Prevalences of difficult adjustment, suicidal ideation, and weak group identity

As Table 1 shows, the prevalences of difficult adjustment, suicidal ideation, weak sense of community belonging,

and not feeling part of a group were higher in the recently released (2012–2015) than the earlier released (1998–2012). Figure 2 shows that the prevalences of difficult adjustment and weak community belonging varied year to

Table 1. Comparisons between release groups for suicidal ideation, perceived adjustment to civilian life, sense of local community belonging, and feeling part of a group with shared attitudes and beliefs

Indicator	Indicator prevalence (%), (95% CI)	
	Recently released (2012–2015)	Earlier released (1998–2012)
Past-year suicidal ideation*	10.9 (9.1–13.0)	7.2 (5.7–9.0)
Adjustment to civilian life†		
Very/moderately easy	45.6 (42.3–49.0)	54.4 (51.3–57.5)
Neither difficult nor easy	12.6 (10.5–15.1)	16.0 (13.8–18.5)
Very/moderately difficult	41.7 (38.5–45.1)	29.6 (26.8–32.5)
Sense of community belonging†		
Very/somewhat strong	48.4 (45.0–51.8)	60.1 (57.0–63.1)
Very/somewhat weak	51.6 (48.2–55.0)	39.9 (36.9–43.1)
Feel part of a group with shared attitudes and beliefs‡		
Agree	81.1 (78.4–83.5)	85.2 (82.7–87.3)
Disagree	18.9 (16.5–21.6)	14.9 (12.7–17.3)

* Statistically significant difference between release groups comparing 95% CIs.

† Statistically significant difference between release groups, Chi-squared, $p < 0.020$.

‡ Statistically significant difference between release groups. Chi-squared, $p < 0.001$.

year but trended downward with years since release from service. As shown in Figure 3, prevalences of suicidal ideation and both types of weak group identity were higher in both release groups than the CGP when the latter age–sex matched to the respective Veteran group.

Almost all (93.3%) of the recently released who had suicidal ideation did not have a strong sense of group identity (see Figure 4). They had either (a) a strong sense of local community belonging but did not feel part of a group of people who shared their attitudes and beliefs (6.4%), or (b) a weak sense of community belonging regardless of how they felt about belonging to such a group (86.9%). Suicidal ideation prevalence was highest in those who did not feel part of a group with shared attitudes and beliefs, regardless of whether they had a strong (26.8%) or weak (35.1%) sense of community belonging.

Regression findings

Table 2 identifies risk indicators for difficult adjustment to civilian life and past-year suicidal ideation using unadjusted odds ratios (UORs). Weak group identity and categories of all the socioeconomic, military, and health variables except sex were risk indicators for both indicators (UOR 1.6 to 79.3). Males and females were equally likely to have reported difficult adjustment or suicidal ideation. Difficult adjustment and suicidal ideation were strongly associated with each other (UOR 10.4 and 17.1).

Table 2 shows adjusted models for difficult adjustment and suicidal ideation in which all the variables

were included together to account for mutual effects. Difficult adjustment to civilian life had a moderate to strong, independent association with weak group identity (adjusted odds ratio, [AOR] = 4.1–17.1), and weak to moderate independent associations with single/never married (1.8), lower household income (2.1–3.8), mental health problems (1.6–4.7), and chronic physical health conditions (2.2–2.9). Age and rank were not independently associated with difficult adjustment. Suicidal ideation had a strong independent association with mental health problems (AOR = 6.6–20.2), but had a moderate to strong association with weak group identity (AOR = 3.8–9.0) that was independent of mental health problems. The other covariates were not associated with suicidal ideation in the adjusted model.

DISCUSSION

Suicidal ideation and both measures of weak group identity were more prevalent in CAF Veterans released since 1998 than in the CGP. Suicidal ideation, perceived difficult adjustment to civilian life and weak group identity were more prevalent in the recently released group compared to those released earlier, supporting the hypothesis that transition is a vulnerable time. There was a strong association between difficult adjustment and suicidal ideation, supporting our second hypothesis. Weak sense of group identity was associated with both difficult adjustment and suicidal ideation independently of

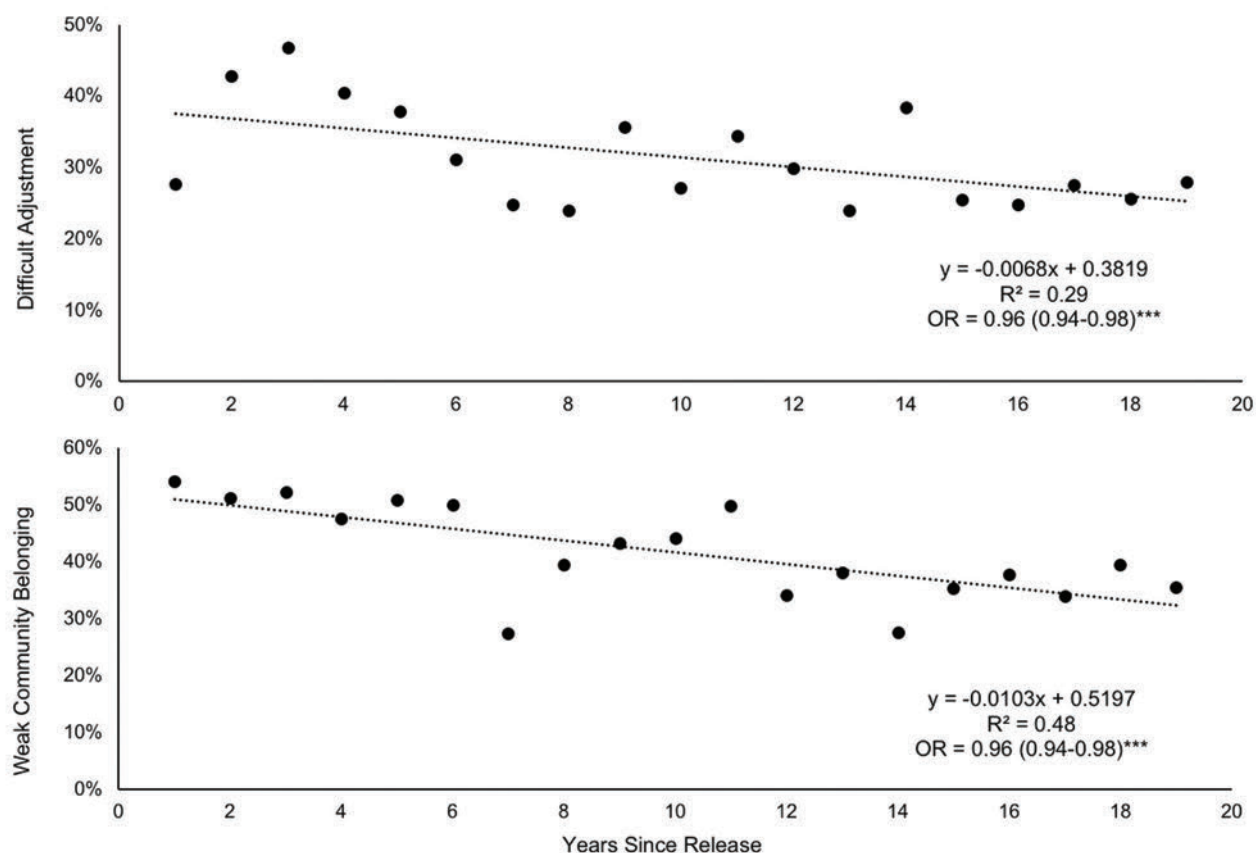


Figure 2. Trends in prevalences of difficult adjustment to civilian life and weak sense of local community belonging, by years since release from service in CAF Regular Force Veterans surveyed in LASS 2016

Note: R^2 = regression correlation of determination;

CAF = Canadian Armed Forces; OR = odds ratio for having the indicator versus not against years since release.

* $p < 0.001$.

other factors including mental health problems, supporting our third hypothesis.

Prevalence of difficult adjustment and suicidal ideation

The finding that perceived difficult adjustment to civilian life and suicidal ideation were more prevalent in Veterans released recently (2012–2015) than in those released earlier (1998–2012) when surveyed in 2016 contributes to evidence that the early release period of transition to post-military life is a relatively vulnerable period.^{6,7,10,13} The findings suggest that Veterans who have been longer out of military service are more likely to have adapted and achieved better well-being. In other LASS analyses, CAF Regular Force Veterans were less likely to have regular physicians and were more likely to be unemployed and have decreased earnings in the early years after release from service were than later.^{13,35} It is important to note, however, that in all years after release from service there were Veterans with suicidal ideation.

The finding in this study that suicidal ideation was more prevalent in CAF Veterans than in the CGP parallels the VSMS finding that CAF Veterans released during 1972–2006 were at higher risk of suicide than the CGP.¹ Reasons for the excess suicidality in CAF Veterans remain unclear and continue to be explored.³ Other LASS analyses found that the prevalences of chronic mental and physical health problems and health-related disability were higher in CAF Veterans than the CGP,¹³ consistent with the observation that military service is demanding and associated with the risk of acquiring physical and mental health problems. Transition to post-military life is a major life transition requiring cultural adjustment for all released members that is quite stressful for some and could be contributing to Veteran suicidality.^{3,7,10,45}

Difficult adjustment, suicidal ideation, and mental illness

The finding that perceived difficult adjustment to civilian life and suicidal ideation were strongly associated

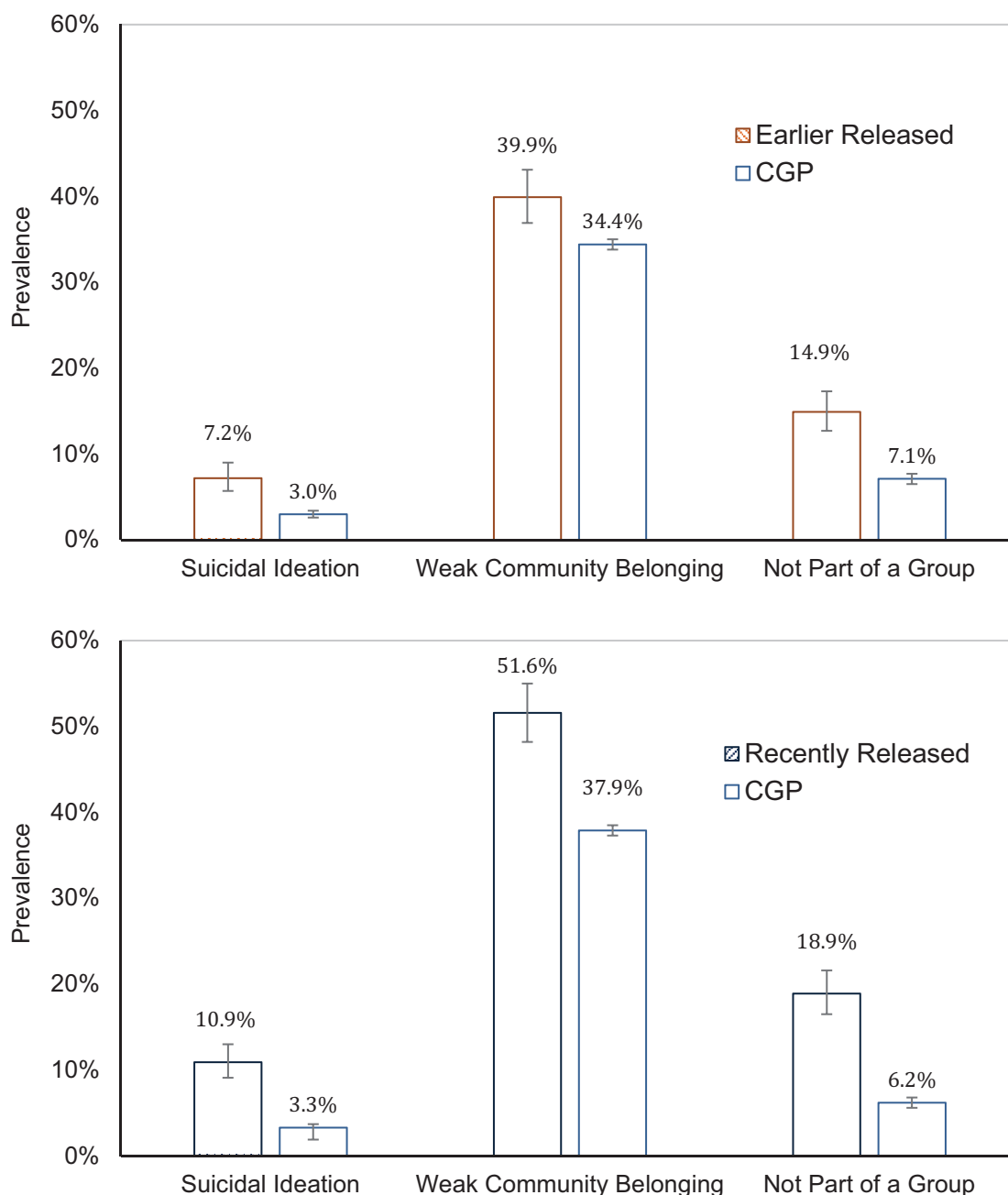


Figure 3. CAF Regular Force Veterans compared to the CGP, by release group

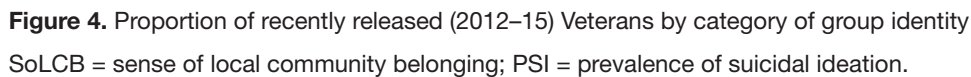
CAF = Canadian Armed Forces; CGP = Canadian general population, age- and sex-adjusted to match the corresponding Veteran release group.

Comparator for past-year suicidal ideation and not feeling part of a group with shared attitudes and beliefs: Canadian Community Mental Health Survey 2012.

Comparator for weak sense of local community belonging: Canadian Community Health Survey 2013–14.

supports the hypothesis that transition difficulties can promote suicidal feelings in vulnerable individuals.⁷ The findings of this study are consistent with other literature showing that problems adjusting to post-military life are associated with many well-being factors.^{5,6,8,9,44,45} Policy and public focus has been on Veterans who are

medically released but, in a prior LASS analysis, type of release was not significantly associated with difficult adjustment when adjusting for health problems, and 60% of those with difficult adjustment had not been medically released.³⁷ In another prior LASS analysis,⁹ mental and physical health problems had independent



The finding in this study that mental health problems had the strongest adjusted association with suicidal ideation is consistent with previous findings in CAF Veterans and other populations.^{30,37} However, the finding in this study that a variety of well-being factors had moderate to strong unadjusted associations with suicidal ideation is consistent with extensive literature indicating a range of socioeconomic, biological, health and disability problems that also need to be considered in understanding and preventing mental illness and suicidality. Suicide theories emphasize that causal factors are complex, interrelated, and include life stressors from multiple well-being domains in addition to mental illness.^{3,13,30,46}

The finding that weak group identity was independently associated with both difficult adjustment and suicidal ideation while adjusting for mental health problems and other variables suggests that the group identity variable measured something not captured in the other variables. Another LASS analysis also found

Sense of belonging has been defined as the experience of personal involvement in an environment so that the person feels an integral part of it.¹⁴ Low belongingness and perceived social isolation are commonly associated with suicidality.^{2,7,30,47} Qualitative research has demonstrated the importance of sense of belonging to the psychological well-being of women serving in the CAF.⁴⁸ Sense of local community was lower in immigrants within 5 years of arriving in Canada, and was associated with full time work and home ownership,¹⁰ evidence that adjustment to a new culture takes time. Sense of community belonging has been associated with health status and other well-being measures in the CGP.^{19,25,49,50} In the United Kingdom (UK), released members had more social isolation than serving members, which partially accounted for the increased risk of common mental disorders in service-leavers.⁹

Characteristic	Sample size, weighted population estimate (%)	Difficult adjustment to civilian life		Past-year suicidal ideation	
		Unadjusted OR	Adjusted model	Unadjusted OR	Adjusted model
Suicidal ideation					
No	1,024, 89.0	Ref.	–	–	–
Yes	151, 11.0	10.4 (5.9–18.1)	–	–	–
Perceived adjustment					
Easy	537, 45.6	–	–	Ref.	–
Neither	136, 12.7	–	–	4.1 (1.5–11.4)	–
Difficult	504, 41.8	–	–	17.1 (8.1–36.3)	–
Group identity					
Strong SoLCB, part of group	522, 45.9	Ref.	Ref.	Ref.	Ref.
Strong SoLCB, not part of a group	34, 2.5	7.2 (3.2–16.1)	2.7 (0.9–7.9)	23.1 (7.7–70.7)	6.0 (2.0–18.4)
Weak SoLCB, part of a group	403, 35.2	3.2 (2.3–4.5)	2.4 (1.6–3.4)	7.1 (3.3–15.1)	3.8 (1.7–8.9)
Weak SoLCB, not part of a group	208, 16.3	11.4 (7.2–18.1)	4.1 (2.2–7.7)	34.2 (16.2–71.9)	9.0 (3.7–22.1)
Age, y					
< 30	163, 22.5	2.3 (1.3–4.3)	1.5 (0.7–3.6)	0.9 (0.4–2.6)	0.7 (0.2–3.6)
30–39	217, 21.9	4.4 (2.5–7.9)	2.1 (1.0–4.5)	3.9 (1.6–9.4)	1.3 (0.3–5.2)
40–49	281, 24.6	2.8 (1.6–4.9)	1.3 (0.6–2.5)	2.5 (1.0–6.2)	1.2 (0.3–4.7)
50–59	409, 25.7	1.5 (0.8–2.6)	0.8 (0.4–1.6)	1.8 (0.7–4.4)	1.1 (0.3–3.9)
60 +	110, 5.3	Ref.	Ref.	Ref.	Ref.
Sex					
Male	1014, 87.2	Ref.	Ref.	Ref.	Ref.
Female	166, 12.8	0.7 (0.5–1.1)	0.7 (0.4–1.2)	1.0 (0.6–1.8)	1.0 (0.5–2.1)
Marital status					
Married/Common-law	850, 65.7	Ref.	Ref.	Ref.	Ref.
Widowed/Sep./Divorced	114, 11.0	2.1 (1.3–3.3)	1.5 (0.8–2.8)	2.1 (1.2–3.7)	1.1 (0.6–2.3)
Single/Never married	214, 23.3	1.9 (1.3–2.7)	1.8 (1.1–3.0)	1.4 (0.9–2.3)	1.6 (0.8–3.0)
Main activity year prior					
Working or in Reserves	569, 55.4	Ref.	Ref.	Ref.	Ref.
Looked for work	66, 5.1	5.1 (3.0–8.9)	3.8 (2.0–7.1)	3.4 (1.4–8.0)	1.6 (0.5–5.6)
School or training	149, 12.4	3.9 (2.4–6.3)	2.0 (1.3–3.1)	3.5 (1.9–6.5)	1.9 (0.9–4.2)
Retired/not looking	201, 13.5	1.1 (0.8–1.5)	0.7 (0.5–1.1)	1.9 (0.9–3.7)	1.4 (0.6–3.2)
Caregiving	24, 2.3	1.0 (0.4–2.1)	0.7 (0.2–2.3)	E	E
Disabled	167, 11.2	11.7 (7.8–17.8)	8.3 (2.5–13.7)	11.7 (6.8–20.1)	2.0 (1.0–4.2)
Household income					
Quintile 1 (lowest)	269, 28.0	6.4 (3.8–10.8)	3.8 (1.9–7.4)	5.8 (2.5–13.4)	2.1 (0.8–5.6)

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Table 2. (Continued)

Characteristic	Sample size, weighted population estimate (%)	Difficult adjustment to civilian life		Past-year suicidal ideation	
		Unadjusted OR	Adjusted model	Unadjusted OR	Adjusted model
Household income					
2	258, 23.6	3.5 (2.1–6.0)	2.6 (1.4–4.8)	3.7 (1.5–8.9)	1.9 (0.7–5.0)
3	215, 18.5	2.6 (1.5–4.6)	2.1 (1.1–4.1)	3.0 (1.2–7.4)	1.7 (0.6–4.8)
4	184, 14.9	2.4 (1.3–4.3)	3.1 (1.6–6.0)	1.8 (0.7–4.9)	1.6 (0.5–4.9)
5 (highest)	205, 15.1	Ref.	Ref.	Ref.	Ref.
Rank					
Commissioned officer	405, 17.1	Ref.	Ref.	Ref.	Ref.
Non-commissioned member	775, 82.9	3.1 (2.3–4.2)	1.4 (0.9–2.1)	2.1 (1.3–3.3)	0.7 (0.4–1.4)
Mental health problem					
No/little	581, 51.8	Ref.	Ref.	Ref.	Ref.
Mild/moderate	268, 23.7	2.4 (1.7–3.5)	1.6 (1.0–2.4)	13.4 (4.1–44.2)	6.6 (2.1–21.1)
Severe	329, 24.5	10.2 (7.0–14.9)	4.7 (2.8–7.8)	79.3 (25.9–243.2)	20.2 (6.5–63.1)
Physical conditions					
0	259, 28.6	Ref.	Ref.	Ref.	Ref.
1	298, 27.4	2.4 (1.6–3.6)	2.4 (1.5–4.0)	2.3 (1.0–5.2)	1.1 (0.4–3.1)
2	281, 22.0	2.4 (1.6–3.7)	2.2 (1.2–3.9)	4.7 (2.1–10.3)	1.5 (0.5–4.1)
3 +	335, 22.1	4.2 (2.8–6.3)	2.9 (1.5–5.4)	7.8 (3.7–16.7)	1.7 (0.6–4.8)

OR = odds ratio; Ref. = reference category; SoLCB = sense of local community belonging.; E = empty, meaning none who were caregiving reported suicidal ideation.

*Statistically significant odds ratios ($p < 0.050$) are shown in bold.

In this study, the great majority with suicidal ideation had either a weak sense of local community belonging, or a feeling of not belonging to a group with shared beliefs, or both, consistent with social identity studies reporting associations between various measures of reduced social connectedness, depression, and suicidality.^{6,14,15,17,22,23,30,33} Decreased social connectedness was associated with suicidal ideation in older US military Veterans.²¹ Research suggests that sense of local community belonging may capture a diverse set of features predominately in terms of one's geographic neighbourhood.^{19,50} Community belonging was associated with lower risk of suicidal ideation and attempts in disadvantaged Canadian subpopulations.¹⁵

This study did not find elevated suicidal ideation prevalence in the majority of Veterans who had weak community belonging but felt that they were part of a group with shared beliefs. This finding supports the idea that Veterans can have a weak sense of belonging to a local community while identifying with a more remote

or virtual group, perhaps facilitated by social media and ease of travel.⁴³ Psychological identification with social groups rather than just social contact or social group membership was found to explain health effects of social connectedness.^{23,51} Almost half of the recently released Veterans in our study had both a strong sense of community belonging and felt that they were part of a group with shared beliefs. Many may have been doing well by having dual identities: connectedness to the military/Veteran community as well as developing identities with civilians. A mixed methods study of immigrants to Canada found that they commonly had a sense of community belonging owing to dual identities: belonging to their ethnic community of origin as well as identifying with Canadian society.²⁵

Strengths and limitations

LASS 2016 was designed specifically to assess the well-being of CAF Veterans very soon after release from service during what is thought to be the most vulnerable

period of adaptation to civilian life. Veteran status was objectively determined through data linkage. The sample size was sufficient to be considered representative of the sampled populations. The weighting procedure accounted for non-response. The survey was conducted by Statistics Canada independently of VAC and CAF. The finding of expected correlations between perceived ease of adjustment to civilian life and multiple well-being indicators in this and other LASS analyses^{9,44} contributes to evidence of the validity of this indicator.

It is not possible to prove causal relationships because the data are cross-sectional, however the statistical associations allow for hypothesis formation about causality and support findings from other studies. The identity, adjustment to civilian life and suicidal ideation measures were self-reported. Findings for the 2012–15 release group cannot necessarily be generalized to other CAF Veterans. Although relevant factors might not have been considered, the covariates represent most well-being domains.

Implications for Veterans and their cultural/social environment

The findings of this study support efforts by the CAF and VAC to collaborate on supporting adjustment to post-military life and promoting resilience to suicidality. The findings support the CAF-VAC joint suicide prevention strategy's two-pronged approach to suicide prevention: access to health care for mental illness on the one hand, and promotion of good mental health through supports in all the well-being domains on the other.^{3,4} This study points to the importance of promoting positive post-military social identities in supporting well-being during transition to civilian life,^{14,27–29} and mental health promotion and suicide prevention in military Veterans. The findings support calls for attention to existential factors like group identity when clinicians treat physical conditions, mental illness and suicidality.^{22,28,33} Community belonging is a determinant of Veteran well-being modifiable by both the individual and the community in which they live.^{25,50} There is longitudinal evidence for managing depression by encouraging people to join positive social groups, and the development of meaning and purpose in life in mitigating suicidal ideation.^{22,23,34} To support well-being in transition, Demers recommended support groups for Veterans, transition groups for families and friends, and military cultural competence training for health practitioners.⁶ Boerstler described a system for promoting Veteran-friendly communities in Houston, Texas.⁵²

Implications for research

Further research is required to more clearly understand and assess the meaning and role of group identity in supporting the well-being of transitioning military personnel and enhancing their resilience to suicide. Relationships and directions of causality between mental illness, identity challenges, difficult adjustment and suicidality remain to be clarified. There are very limited cross-sectional quantitative and qualitative social identity data for transitioning CAF members, and no longitudinal studies. Validated social identity measures are needed for transition studies in military populations.⁴⁶ Lastly, social identity measures could enhance the ability of screening tools to better identify Veterans vulnerable to transition difficulties and suicide.

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COMPETING INTERESTS

None declared.

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CONTRIBUTORS

Jim Thompson conceived the study and drafted the manuscript. Jim Thompson, Sanela Dursun, Linda VanTil, and Jill Sweet designed the analysis. Jim Thompson and Jill Sweet analyzed the data. All authors reviewed the analysis plan, reviewed drafts of the manuscript, and approved the final version submitted for publication.

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