

Comparing Sense of Control between Veterans and Civilians using the Health and Retirement Study

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Abstract

Background: Sense of control has been associated with age-related outcomes. Veterans may experience a reduced sense of control due to the sacrifices associated with military service—potentially contributing to increased health problems in this population.

Purpose: This study seeks to understand how military service affects the sense of control in older veterans in the United States.

Materials and methods: Veterans and civilians were compared on measures of perceived control using data from the Health and Retirement Study. Initial differences were compared using the MIDI Sense of Control scale, and items measuring perceived control over health, social life and finances were analysed using t-tests. Multiple regression was used to control for variables associated with sense of control. Service era was also examined using the same analyses to determine differences in sense of control between draft-era and all-volunteer-era veterans.

Results: Significant differences were initially found with veterans reporting fewer perceived constraints than civilians. However, controlling for covariates, this difference was no longer significant. No other significant differences were found between veterans and civilians, nor between the draft and all-volunteer eras. However, service-related disability was associated with greater perceived constraints.

Conclusions: Sense of control is unlikely to be the significant cause of increased health problems in veterans. However, as service-connected disability was associated with perceived constraints, future studies should examine how military variables can influence the sense of control in veterans.

Keywords: sense of control, veterans, Health and Retirement Study

Introduction

Older adult populations face a variety of changes that have been demonstrated to lower their sense of control over time.¹ Sense of control is defined as one's perception that personal actions will influence life outcomes. Reduced sense of control has been associated with lowered engagement in certain coping strategies that may provide a buffer against age-related declines. Alternatively, a greater sense of control has been associated with greater engagement in health-related coping strategies such as increased physical activity, greater involvement in medical decision making and better health prognoses.²⁻⁴ US Veterans are generally older than the civilian population (median ages of 62 and 38.9 years old,

respectively) and have widely cited health problems, reporting reduced engagement in certain health behaviours, and worsened health than civilians.⁵⁻⁸ Veteran status is often not observed in studies examining aging-related variables, and few studies examine sense of control in veteran populations.⁹ Given this, the relationship between military service and sense of control warrants further study. Previous studies have examined aspects of sense of control within military populations, finding that increased sense of control was associated with reduced PTSD symptom severity and course, and greater resilience.¹⁰⁻¹² However, in environments with greater external control, the internal sense of control has been reduced.¹³⁻¹⁶ Military service requires the relinquishment of certain aspects of personal and

professional life during one's military career. It is thus possible that military service may lead to a reduced sense of control compared to civilian life. However, few studies have examined differences in sense of control between military populations and civilians.

This study seeks to examine whether veteran status is associated with reduced sense of control by using the Health and Retirement Study (HRS), a national study that examines aging outcomes in the US. HRS measures sense of control through two variables: perceived obstacles in life (labelled perceived constraints), and a sense of personal competence (labelled perceived mastery). We additionally sought to examine whether military-specific variables were associated with a reduced sense of control. HRS collected data on whether veterans had a service-related disability, experienced combat and whether they were in a drafted era or volunteer era. Thus, these variables were examined in relation to sense of control in our veteran group.

Sense of control

Sense of control (also referred to in the literature as perceived control) has been studied extensively, with many theories and constructs developed to capture contributing factors to control. In Skinner's review of perceived control terms, she conceptualised the constructs of contingency and competence as the two primary themes underlying existing control theories.¹⁷ Contingency is defined as one's belief that there is a connection between one's own behaviours and an outcome. Related to contingency, competence refers to one's belief in their ability to complete specific tasks or engage in behaviours that lead to desired outcomes. Prior literature has determined that sense of control may be both a state and a trait variable, with support for its functioning as a personality trait, demonstrating some variation across the lifespan and susceptibility to various environmental factors.^{15,18-20} When examining sense of control across the life span, a curvilinear pattern demonstrates that perception of control is strongest in midlife, with lower levels in early life and later life.¹

Prior studies have demonstrated that age-related health outcomes are influenced by sense of control, with cross-sectional and longitudinal studies showing that higher levels of perceived control are associated with fewer severe health limitations, higher self-rated health, fewer chronic conditions and greater engagement in positive health-related behaviours.^{1,3} A greater sense of control was associated with increased cognitive abilities, such as improved memory recall, effective use of memory

strategies, and greater intellectual functioning.³ Sense of control can buffer against health risks. For example, individuals with low socioeconomic status who reported a higher sense of control demonstrated health outcomes similar to those of higher-income groups.³

Mental health outcomes are also associated with a sense of control in both longitudinal and cross-sectional studies. In a sample of older adults, a lower sense of control was associated with increased anxiety and depression.²¹ A higher sense of control was associated with reduced inflammation over time in response to stress and trauma exposure in individuals over the age of 50.²² A greater sense of control was associated with the use of adaptive coping skills and better psychological health with increased control over the job environment over time.^{23,24} Individuals reporting a greater perception of control additionally reported greater life satisfaction, a greater sense of hope for the future, and increased happiness.³

Sense of control in veteran populations

Veteran status may be associated with a sense of control relative to civilian populations due to the unique demands of military service. When service members join the military, they relinquish certain rights to defend their country.²⁵ Military life is one of rigid rules and regulations. Alternatively, the military may instil a sense of competence through its emphasis on training and competent performance as vital components to military readiness.²⁶

The military service era may affect sense of control, as it has been associated with a variety of outcomes, including differing rates of combat exposure. Draft-era veterans were exposed to greater mortality and combat-associated wound rates than the all-volunteer force.²⁷ Given that veterans during these eras were required to serve and experienced combat at higher rates, an examination of whether their sense of control differs between service eras is warranted. Previous studies have examined perceptions of control in military populations; however, the literature is limited. In active-duty populations, an increased sense of control was associated with positive mental health outcomes and favourable impressions of military variables, such as job satisfaction and leadership.²⁸ In veteran populations, sense of control has been associated with post-traumatic stress disorder, with lowered sense of control associated with greater symptom severity and reduced coping strategies.²⁹ Increased perceived mastery was associated with greater life satisfaction in older Australian veterans.³⁰

While these studies indicate benefits of increased sense of control in military populations, we are not aware of a prior study that has examined whether former military service is associated with differences in perceived control compared to civilians. Understanding potential differences in sense of control among veterans may help explain differences in health behaviours and provide avenues for intervention to address them.

Study aims

Given the relinquished control required by military service, we hypothesised that veterans would report higher levels of perceived constraints than civilians. However, as military training strongly emphasises personal competence, we hypothesised that veterans would have a greater sense of perceived mastery than civilians. Additionally, we hypothesised that draft-era veterans would exhibit greater perceived constraints than all-volunteer veterans, but that there would be no difference in perceived mastery.

Materials and methods

Study population

The Health and Retirement Study is a longitudinal panel survey that examines factors associated with aging populations in the US and has been collecting bi-yearly assessments since 1992. Additional information about HRS sampling methodology can be found elsewhere.³¹ Starting in 2006, sense of control data was collected in a leave-behind questionnaire. The current study included participants who completed this questionnaire at least once in the 2018, 2020 and 2022 collection cycles, and indicated whether they had prior military service ($n = 6872$). Individuals were sequentially removed who were missing main outcome data ($n = 191$), secondary outcome data ($n = 90$) or covariates ($n = 329$), yielding a final sample of 6262. None of the military members in this group had missing data on military covariates.

Measures and materials

MIDI sense of control scale

Sense of control was measured by using a subset of questions from the Midlife Development Inventory (MIDI). This scale was developed to measure personal control for the Midlife in the United States (MIDUS) national survey, which examines health and wellness factors across the life course.^{32,33} The scale defines sense of control through the constructs of perceived constraints and perceived mastery, which

map onto Skinner's constructs of contingency and competence.³³

The original MIDI Sense of Control Scale includes eight items for perceived constraints, and four items for perceived mastery. However, different items have been added and removed at different MIDUS waves. HRS collects five items on perceived constraints and five items on perceived mastery at all waves of data. Higher scores on perceived constraints reflect greater perceived obstacles, and higher scores on perceived mastery reflect greater perceived competence. In the current sample, perceived constraints and perceived mastery demonstrated high internal consistency (α 's = 0.85 and 0.90, respectively).

Health, social and financial control

Sense of control is often studied as a global trait that determines how an individual engages with the world. However, researchers have argued that examining domain-specific sources of perceived control increases predictive validity.³⁴ HRS collects domain-specific control variables relating to perceived control over health, social life and finances, thus, this study included these variables as exploratory measures to provide greater depth into sense of control across comparison groups. Participants were asked, 'How would you rate the amount of control you have over your health?', 'How would you rate the amount of control you have over your social life these days?' and, 'How would you rate the amount of control you have over your financial situation these days?' on a scale of 0–10 with 10 indicating very in control.

Military status

Military status was assessed with the question, 'Have you ever served in the active military of the United States?'. This question appears to have been asked only when participants enrolled in HRS, and so was backfilled from surveys between 2002 and 2022. Era status was determined by birth year, as HRS did not explicitly ask whether veterans volunteered or were drafted. Veterans born prior to 1956 were grouped as draft-era veterans, as the final draft was in 1975, making individuals born in 1956 the last eligible members of the draft.³⁵ Individuals born after 1956 were grouped into the all-volunteer veteran group. The draft era was coded as 1, and the all-volunteer era was coded as 0.

Covariates

Participants self-reported demographic characteristics. Sex was coded as female or male, ethnicity as Hispanic or non-Hispanic, and race as Black/African American, White/Caucasian, and

other. Participants could select multiple categories for the race variable. To account for this, we dummy coded each individual race selected by each participant.

Factors hypothesised to be associated with sense of control were included as covariates, including distress about financial strain, health problems and caregiver status. Financial strain was measured by asking participants to rate financial strain and associated distress on a 4-point Likert scale with responses including 'No, did not happen', 'Yes, but not upsetting', 'Yes, somewhat upsetting' and 'Yes, very upsetting'. Participants who indicated they both experienced financial strain and that it was upsetting were coded as experiencing financial strain. Participants rated their health as 'excellent', 'very good', 'good', 'fair', or 'poor'. Participants who rated their health as poor were coded as having health problems. Finally, participants provided how often they cared for a sick or disabled adult. Participants who cared for a sick or disabled adult at least once a week were coded as caregivers.

Military covariates thought to influence sense of control were combat experience and service-related disability. Combat experience was examined by including participants who responded 'yes' to the question 'Did you ever fire a weapon against the enemy or come under enemy fire?'. Previous research has demonstrated that military combat exposures tend to overlap in exposed service members.³⁶ Additionally, firing a weapon was one of the most common exposures for veterans in the period examined.³⁷ Military-related disability was measured by asking participants, 'Do you have a disability connected with military service?' with individuals dummy coded as endorsed vs not.

Analysis plan

Group descriptive statistics were examined using chi-square and t-tests to determine significant differences between veterans and civilians on covariates, as well as between draft-era and all-volunteer-era veterans. T-tests were also used to determine mean differences in scores on sense of control scales, identifying whether there were significant differences in perceived constraints, perceived mastery, and perceived control over health, social life and finances across veterans and civilians, and across draft-era veterans and all-volunteer-era veterans. Given the potential for violations of homogeneity of variance and unequal group size, Satterthwaite degrees of freedom were used.

Multiple regressions were used to determine

associations between military status and draft-era status with perceived constraints, perceived mastery, and perceived control over health, social life and financial situation, controlling for sex, age, race, ethnicity, caregiver status, financial status and health conditions. In the military group analysis, the additional military covariates of combat exposure and service-connected disability were included. Analyses were conducted using R version 4.2.3.³⁸

Results

After filtering for non-response on the leave-behind questionnaire and covariates, the final sample included 6262 participants, with veterans accounting for 11.6% (see Table 1). Civilians were predominantly white, female and significantly younger on average than the veteran group. Veterans were predominantly white, disproportionately male and older than civilians. Veterans additionally had significantly fewer Hispanic individuals and significantly more Black individuals.

Draft-era veterans made up 42.7% of the military sample (see Table 2). Veterans in both groups were predominantly white, male, and non-Hispanic. Demographics between the two eras were mostly not significantly different; however, the draft-era veteran group included fewer women, fewer Black individuals, more combat exposure and, of necessity, were older than the all-volunteer group.

Comparing perceived control between veterans and civilians

Initial t-tests revealed that veterans reported fewer perceived constraints than civilians ($t(958.64) = 2.09, p = 0.03$). There was no significant difference between veterans and civilians in perceived mastery ($t(934.69) = 0.13, p = 0.90$). Additionally, there were no differences between veterans and civilians on perceived control over social life ($t(947.45) = 1.02, p = 0.31$) or finances ($t(932.58) = -0.26, p = 0.80$). There was a significant difference between veterans and civilians on perceived control over health ($t(915.31) = 2.27, p = 0.02$).

Results of a multiple regression analysis indicated that military status was no longer associated with perceived constraints ($b = -0.26, p = 0.25$) when controlling for financial strain, caregiver status, health problems, sex, ethnic identify and racial identify. Complete regression results are included in Table 3. Regarding perceived mastery, multiple regression analysis indicated that military status was not significantly associated with perceived mastery ($b = 0.05, p = 0.83$), controlling for the above

Table 1. Differences between veterans and civilians on measures of control and demographics

Variable		Civilian (n = 5536)	Military/veterans (n = 726)	p
Perceived constraints	M(SD)	10.22(5.61)	9.79(5.22)	<0.04*
Perceived mastery	M(SD)	24.32(5.46)	24.29(5.35)	0.90
Perceived health control	M(SD)	7.52(2.24)	7.32(2.30)	0.02*
Perceived social control	M(SD)	7.90(2.30)	7.81(2.19)	0.31
Perceived financial control	M(SD)	7.62(2.42)	7.64(2.38)	0.80
Age	M(SD)	64.79(6.53)	67.83(7.20)	<0.001***
Ethnicity	Hispanic	16.8%	7.3%	<0.001***
	Non-Hispanic	83.2%	92.7%	
Race	Black	23.2%	31.3%	<0.001***
	Other Race	12.4%	11.0%	0.30
	White	68.1%	63.2%	<0.01**
Gender	Female	63.1%	11.0%	<0.001***
	Male	36.9%	89.0%	

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

Table 2. Differences between draft-era veterans and all-volunteer veterans on measures of control, demographics and military variables

Variable		All-volunteer military/ veterans (n = 416)	Draft-era military/veterans (n=310)	p
Perceived constraints	M(SD)	9.80(5.11)	9.77(5.36)	0.94
Perceived mastery	M(SD)	24.46(5.29)	24.07(5.43)	0.34
Perceived health control	M(SD)	7.31(2.32)	7.33(2.28)	0.95
Perceived social control	M(SD)	7.76(2.25)	7.88(2.10)	0.44
Perceived financial control	M(SD)	7.54(2.42)	7.78(2.32)	0.16
Age	M(SD)	62.92(4.18)	74.43(4.66)	<0.001***
Ethnicity	Hispanic	7.9%	6.5%	0.54
	Non-Hispanic	92.1%	93.5%	
Race	Black	36.1%	24.8%	0.002**
	Other Race	11.3%	10.6%	0.87
	White	58.7%	69.4%	0.004**
Gender	Female	16.6%	3.5%	<0.001***
	Male	83.4%	96.5%	
Combat exposure		17.3%	31.6%	0.001***
Military disability		26.0%	22.6%	0.34

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$

Table 3. Multiple regression results comparing veterans and civilians on measures of perceived control

Variable	Perceived constraints	Perceived mastery	Perceived health control	Perceived social control	Perceived financial control
	<i>b(p)</i>	<i>b(p)</i>	<i>b(p)</i>	<i>b(p)</i>	<i>b(p)</i>
Military vs civilian	-0.26 (.25)	0.05(.83)	-0.09(.28)	-0.04(.67)	0.0003(1.00)
Financial strain	2.74(<.001)***	-1.94(<.001)***	-0.85(<.001)***	-0.66(<.001)***	-1.88(<.001)***
Caregiver status	0.68(.001)***	-0.07(.70)	-0.006(.93)	-0.18(.02)*	-0.11(.16)
Sex	0.16(.28)	-0.20(.16)	-0.20(<.001)***	-0.19(.002)**	-0.16(.009)**
Health problems	3.14(<.001)***	-3.26(<.001)***	-2.04(<.001)***	-1.20(<.001)***	-0.95(<.001)***
Hispanic	1.01(<.001)***	0.68(.001)***	0.46(<.001)***	0.18(.03)*	0.33(<.001)***
Black	-0.07(.66)	0.32(.05)*	0.34(<.001)***	0.50(<.001)***	0.31(<.001)***
Other Race	.60(.005)**	-0.24(.27)	-0.002(.98)	-0.11(.21)	-.24(.008)**

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

Table 4. Multiple regression results comparing draft-era and all-volunteer veterans on measures of perceived control

Variable	Perceived constraints	Perceived mastery	Perceived health control	Perceived social control	Perceived financial control
	<i>b(p)</i>	<i>b(p)</i>	<i>b(p)</i>	<i>b(p)</i>	<i>b(p)</i>
All-volunteer vs draft-era veterans	0.35(.35)	-0.50(.21)	-0.03(.87)	0.12(.46)	0.18(.30)
Fired weapon in combat	-0.89(.05)*	0.47(.33)	-0.03(.89)	-0.04(.82)	-0.05(.82)
Military-related disability	1.64(<.001)***	-0.73(.13)	-0.14(.49)	-0.33(.09)	0.07(.73)
Financial strain	3.33(<.001)***	-2.28(<.001)***	-1.15(<.001)***	-1.05(<.001)***	-1.92(<.001)***
Caregiver status	1.15(.03)*	-1.45(.01)*	-0.23(.34)	-0.52(.03)*	-0.87(<.001)***
Sex	-0.23(.70)	-0.77(.22)*	-0.11(.69)	-0.32(.22)	-0.08(.77)
Health problems	3.01(<.001)***	-3.29(<.001)***	-1.81(<.001)***	-1.14(<.001)***	-0.15(.003)**
Hispanic	-0.95(.21)	-0.06(.94)	0.88(.01)**	0.27(.41)	0.39(.25)
Black	-1.01(.01)*	-0.95(.03)*	0.37(.04)	0.47(.007)**	0.62(.001)**
Other race	-0.21(.74)	-0.14(.83)	0.04(.90)	0.24(.38)	0.38(.18)

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

covariates. Similarly, perceived control over health ($b = -0.09$, $p = 0.28$), social life ($b = -0.04$, $p = 0.67$) and finances ($b = 0.0003$, $p = 1.00$) were nonsignificant after controlling for the same covariates.

Comparing perceived control between the draft and all volunteer eras

T-tests revealed no significant differences between draft-era veterans and the all-volunteer veterans across perceived constraints ($t(648.14) = 0.08$, $p = 0.94$), perceived mastery ($t(656.59) = 0.96$, $p = 0.34$), perceived control over health ($t(671.44) = -0.06$, $p = 0.95$), social life ($t(689.08) = -0.78$, $p = 0.44$) and finances ($t(681.23) = -1.40$, $p = 0.16$). Multiple regression analyses were conducted controlling for firing a weapon, military disability, financial strain, caregiver status, health problems, sex, ethnic identity and racial identity. Controlling for these covariates, there was no significant association between military eras on perceived constraints ($b = 0.35$, $p = 0.35$), perceived mastery ($b = -0.50$, $p = 0.21$), perceived control over health ($b = -0.03$, $p = 0.87$), social life ($b = .12$, $p = .46$), and finances ($b = 0.18$, $p = 0.30$). Covariates were examined, finding that having a military-related disability was associated with greater perceived constraints ($b = 1.64$, $p < 0.001$), whereas combat was not significantly associated with perceived constraints ($b = -0.89$, $p = 0.05$). Complete results from these regressions are in Table 4.

Discussion

The current study examined sense of control using the HRS dataset with the constructs of perceived constraints and perceived mastery, as well as domain-specific sense of control over health, finances and social life. The current study found that older veterans and civilians differed initially, with veterans reporting fewer perceived constraints. There was a significant difference in perceived control over health between veterans and civilians, but no significant differences in perceived mastery, control over finances or social life between the two groups. After controlling for relevant demographic differences, perceived constraints and perceived control over health were no longer significant between veterans and civilians.

Draft-era and volunteer-era veterans were also compared on sense of control. There were no significant differences between draft-era and volunteer-era veterans in perceived constraints, perceived mastery, or perceived control over health, social life or finances. This finding was confirmed when controlling for relevant demographic differences and military-specific variables. However,

when examining covariates, service-related disability was associated with greater perceived constraints, while combat exposure was not associated with perceived constraints. This indicates that while there were no group differences across service eras, certain aspects of military service may impact sense of control in different ways.

Our first hypothesis proposed that the relinquished control required by military service may lead to an increase in perceived constraints was not supported. Sampling characteristics may partially explain why no differences were found. Various studies have examined attrition rates and characteristics of participants willing to engage in longitudinal studies. Particularly relevant to this study, individuals with more significant health difficulties, unemployment, less education, lower socioeconomic status and drug abuse are associated with greater attrition rates, while things like altruism and perceived study value increase participation in longitudinal studies.^{39,40} As several of these factors are likely associated with a reduced sense of control, the findings of this study may be limited to individuals with a higher sense of control. However, Veterans are at greater risk of worsened health, substance use and homelessness than the civilian population.⁴¹⁻⁴⁴ These outcomes indicate the need for further study of sense of control among difficult to reach military populations. This need is further supported by the finding that service-connected disability was associated with greater perceived constraints.

Surprisingly, combat exposure was not significantly associated with perceived constraints, given that combat exposure is associated with PTSD and a loss of perceived control.⁴⁵ HRS did not collect data on PTSD; given the role of combat exposure in developing PTSD, it was assumed that combat exposure would lead to greater perceived constraints. This may be attributed to the sampling characteristics examined previously, as individuals with significant PTSD may be less likely to engage in a longitudinal study. However, it may also reflect some strengths associated with military service, as, while not significant, the directionality of scores trended towards fewer perceived constraints with combat exposure.

Prior studies have examined the role of combat on coping strategies, with findings indicating that while combat was associated with negative outcomes such as misery and disruption to life, certain military variables mitigated these outcomes. As such, the majority of combat veterans reported developing skills such as increased competence, discipline, a greater value placed on life, and the ability to cope with

adversity.^{46,47} Our hypothesis that veterans might show greater perceived mastery than civilians due to their military training was not supported. However, recent literature has found that veterans reported that military training prepared them for aspects of active-duty life but did not help with the transition to civilian life⁴⁸. This suggests that their sense of mastery may have been domain specific rather than global, and that the measure of perceived mastery in this study may not have captured coping skills for navigating the challenges of combat. This may help explain why, while no significant differences were found between veterans and civilians, combat exposure was not significantly associated with sense of control in this sample.

These findings may reflect two additional concepts. First, it is possible that as service members leave the military environment, the control relinquished during military service is reduced, thus more closely approximating that of civilians. Second, public support and access to VA resources may serve as a protective factor against perceived constraints. Global and national studies have demonstrated that public support for veterans in the US is currently at an all-time high, with citizens more likely to rate veterans as heroes and to endorse government spending on veteran support services.^{49,50} Perception of veteran support has been associated with positive outcomes, including reduced depression, increased self-efficacy and increased life satisfaction. Thus, public support may function to serve as a buffer against perceived constraints in military populations.⁵¹

Strengths, limitations and future directions

As sense of control is a multidimensional construct, our study may have excluded some factors associated with it that may differ between civilian and veteran populations. However, prior research has demonstrated that perceived constraints and perceived mastery reflect the two primary constructs associated with sense of control—contingency and mastery—indicating that our study captures key elements of sense of control.^{17,32,33}

Generalisability to the overall veteran population may be limited, as our sample included only veterans eligible for HRS and contained limited measures of military experience. As discussed previously, the sampling characteristics of participants in longitudinal studies limit the findings of this study, as it likely did not adequately capture veterans or civilians with the poorest life outcomes, and may not have adequately captured veterans from the OIF/OEF eras due to the focus on older age groups.

Measurement of military variables in this study, such as service era and combat exposure have some limitations in scope. Regarding the service era, individuals who served in the draft era are still likely to have not been drafted, although they would have been likely to serve with drafted personnel. Differences may still exist based on the method of military accession. The measure of combat available only examines a single type of exposure that does not capture the range of potentially dramatic exposures that occur in combat. Therefore, some individuals may be incorrectly classified as not having combat exposure. However, military combat exposures tend to co-occur such that shorter measures of combat often identify the same individuals as more extensive measures.³⁶ Finally, our study was cross-sectional in design rather than longitudinal. A sense of control has been shown to decline later in life due to compounding life stressors.¹ Future studies may benefit from examining whether veteran status predicts differential rates of change in perceived control through aging.

HRS is not a veteran-specific study, and, as such, does not collect extensive data on military-specific variables, which may be necessary for a closer examination of factors affecting sense of control in this population. However, HRS has some particular strengths, including a large number of veterans and the inclusion of combat exposure and service-related disabilities. Therefore, we were able to examine some key aspects of military service related to the sense of control. Additionally, HRS is representative of the general aging population in the US, thus increasing the generalisability of findings across demographically similar individuals.

The findings of this study demonstrated that service-connected disability was associated with greater perceived constraints. As veterans report poorer health than civilians, future studies may want to examine the relationship between specific health conditions and their impact on sense of control in veteran populations. Specifically, health data from HRS have previously been studied in civilian populations, finding that increased sense of control over time was associated with a lower risk of stroke, lung disease, physical limitations, cognitive impairment and chronic pain, and participants endorsed better self-rated health⁵². Examining these conditions in relation to service-connected disability may provide further clarification on the role of sense of control in this population.

Conclusion

This study examined how military service affects the sense of control in aging populations. Results indicated that veteran status did not predict significant differences in sense of control, even after controlling for relevant demographic, health and financial variables. Additionally, service era was not associated with differences in sense of control; however, when controlling for service-related variables, service-related disability was associated with greater perceived constraints, indicating that certain military-related variables may play some role in sense of control. Given the unique factors associated with military service, understanding its nuances is particularly important among older adults, as several military-related factors have been shown to appear later in life.³⁰ Specifically, service-connected physical health conditions and both positive and negative mental health outcomes

associated with prior military service may emerge or intensify later in life.^{30,53,54} This study provides context for the role of military service in sense of control, demonstrates that veteran status does not appear to have a detrimental effect on sense of control above that of civilians, and highlights the need for further research on veteran sense of control.

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