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Childhood Adversity and Mental Health in Veterans Seeking Treatment for Mental Health Difficulties: Comparisons With the General Military Population

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Objective: The aims of the present study were to measure childhood adversity in veterans seeking treatment for mental health difficulties and to compare rates of childhood adversity with the general military population. Further, the study explored associations between childhood adversity and mental health difficulties and demographic variables. **Method:** Participants were recruited from a U.K. veterans mental health charity and completed surveys relating to childhood adversity, mental health, and demographic variables. Ratings of childhood adversity were compared with data previously collected from the wider U.K. military population. Logistic regression analyses were used to explore associations between childhood adversity, mental health, and demographic factors. **Results:** In total, 44% of veterans ($N = 178/403$) reported experiencing 6 or more adverse events in childhood, compared with 24% in the general military population. Many participants reported drug and alcohol misuse or domestic violence between parents. PTSD, anger, and brain injury were all related to high childhood adversity. **Conclusions:** Veterans who are seeking help for mental health difficulties report experiencing a high amount of adversity in childhood, suggesting they are more likely to present with complex mental health profiles. Clinicians working with veterans would benefit from assessment for childhood adversity in formulating mental health difficulties in this population. The Armed Forces and those involved in postdeployment health care have a duty to continue to provide and improve effective mental health assessments and interventions to ensure veterans have access to appropriate support and treatments.

Clinical Impact Statement

This study found that veterans who seek help for mental health difficulties are more likely to report a high level of past childhood adversity than members of the wider Armed Forces population. Furthermore, veterans reported very high levels of childhood adversity, which was linked to mental health difficulties including PTSD. These findings suggest that veterans might present with more complex clinical profiles that will require effective assessment and availability of appropriate psychological and psychiatric treatments.

Keywords: childhood adversity, veterans, mental health, PTSD

There is a well-established link between childhood adversity and the incidence of poorer mental health, physical health, and well-being outcomes in adulthood (Felitti et al., 2019). Childhood adversity includes a variety of events and experiences to which a child can be exposed in early life, such as physical and sexual

abuse, emotional abuse, parental conflict and divorce, domestic violence, lack of a nourishing environment, delinquency and antisocial behavior, poor education, and lack of access to health care and support. Early studies suggested that adverse experiences in childhood increase the risk of a range of anxiety disorders and depression in adulthood (Brown & Harris, 1993). Similar associations have been shown in a large-scale comorbidity survey, linking childhood adversity to the onset of mood disorders, anxiety disorders, addiction, and externalizing behaviors (Kessler, Davis, & Kendler, 1997).

Further associations have also been noted between childhood adversity and future difficulties such as personality disorders, suicidal behavior, and posttraumatic stress disorder (PTSD), as well as interpersonal problems such as intimate partner violence (Booth-Kewley & Larson, 2005; Orcutt, King, & King, 2003; Perales, Galloway, Forys-Donahue, Spiess, & Millikan, 2012; Se-

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ifert, Polusny, & Murdoch, 2011). Recent research has found a dose response relationship between the breadth of exposure to abuse or household dysfunction during childhood and multiple risk factors for several of the leading causes of death in adults (Felitti et al., 2019). Some authors have suggested that adults who have suffered a lot of childhood adversity may be at increased risk of future health problems due to increased participation in harmful activities, such as substance abuse, and might experience greater difficulties in establishing and maintaining healthy relationships and have maladaptive beliefs and more severe emotional difficulties (Kendall-Tackett, 2002). Adverse childhood events may also make individuals more vulnerable to stressful events in adulthood (McLaughlin, Conron, Koenen, & Gilman, 2010).

The effects of childhood adversity have been studied in military personnel, with similar findings to those discovered in the general population: higher reports of childhood adversity are linked with poorer health outcomes. For example, a study of over 3,000 Canadian military personnel found that adverse childhood experiences were associated with poorer mental health (Lee, Phinney, Watkins, & Zamorski, 2016). Further research has shown that 29% of female veterans reported experiencing childhood abuse, which was predictive of poorer physical health and greater depressive and PTSD symptoms (Mercado, Wiltsey-Stirman, & Iverson, 2015). Some researchers have explored the role of adverse experiences as a predictor of mental health among military personnel (Cabrera, Hoge, Bliese, Castro, & Messer, 2007; Seifert et al., 2011). A large cohort study of U.K. Armed Forces personnel found associations between childhood adversity and mental health difficulties (Iversen et al., 2007), and a more recent study found such adversity to predict problems with anger (Rona et al., 2015).

Prevalence of childhood adversity has been found to be high in those who are no longer actively serving in the Armed Forces—that is, veterans (McCauley, Blosnich, & Dichter, 2015). There is recent evidence of a substantially greater prevalence of childhood adversity in military personnel, highlighting the importance of research in this area (Blosnich, Dichter, Cerulli, Batten, & Bossarte, 2014). Laird and Alexander (2019) evaluated the prevalence of childhood adversity at a community-based outpatient mental health clinic within the Department of Veterans Affairs and found that 85% of veterans reported experiencing at least one category of adverse childhood experience before the age of 18, while nearly half of veteran participants (46%) reported experiencing four or more categories.

Given the high prevalence of childhood adversity in military veterans, alongside the established link between childhood adversity and poorer mental health, one might expect there to be a high rate of reported childhood adversity among veterans who seek help for mental health difficulties. However, this has not previously been investigated. If it is the case that help-seeking veterans do endorse childhood adversity at a high rate, and that this is linked to mental health difficulties, this will be very relevant to clinical teams working with those veterans. It will also add to our understanding of what factors might lead to some individuals being more vulnerable to developing mental health difficulties.

The first aim of the present study were first to compare rates of childhood adversity in help-seeking military veterans with those still serving in the U.K. Armed Forces. The second aim was to

investigate whether childhood adversity was associated with mental health and various demographic variables.

Method

Setting

Participants were recruited from Combat Stress (conditional stimulus; CS), a national charity providing specialist mental health services to military veterans, which receives referrals from a variety of sources (e.g., GPs, NHS, charities, self-referrals). Veterans from across the United Kingdom receive treatment from CS. Referrals are accepted for anyone who has served in the U.K. military and identifies as suffering from some form of mental health difficulty. CS receives approximately 2,500 new referrals per annum (Murphy, Weijers, Palmer, & Busuttill, 2015). Treatment options vary from residential treatment programs that integrate psychological therapy, psychoeducation groups, art therapy, and occupational therapy to community support groups and specialist substance misuse support.

Participants

Data for the present study were taken from a separate study investigating the wider needs of help-seeking veterans (Murphy, Ashwick, Palmer, & Busuttill, 2019). Participants were randomly sampled from a population of veterans who had sought support from CS over a 12-month period, between January 31st, 2015 and February 1st, 2016. The sample was randomly drawn from the total number of veterans who had attended an initial assessment and at least one further appointment during this period ($N = 3,335$). The randomization process involved assigning a randomly generated number to the entire population of CS veterans, then placing them in chronological order. From this group, the top 20% was taken ($N = 667$), 67 of whom were removed prior to data collection either due to participant death or not having sufficient contact information. The final sample size was 600. Of these, 403 (67%) were recruited into the study and completed the measures. Demographic factors associated with responding were assessed. After adjustment, the only factor associated with responding was age, with participants over 45 years being more likely to respond than younger veterans (Murphy et al., 2019).

Procedure

A cross-sectional design was used, with questionnaire responses collected between April and August of 2016. The questionnaire contained instructions informing participants that participation was not compulsory and that the research was being conducted independently from clinical services at CS, so it would not affect their treatment in any way. Questionnaires were sent to participants in the mail using a three-wave mail-out strategy. Individuals from whom a response was not received were contacted by telephone, provided they had not opted out. A research assistant made three attempts to follow up with these individuals by telephone.

Demographics

Participants were asked to report on demographic variables (e.g., age, sex, relationship status, and employment status). Age

Table 1
Childhood Adversity Items

1. Did not come from a close family
2. Used to get shouted at a lot at home
3. Often used to play truant from school
4. Did not feel valued by family
5. Regularly used to see fighting between parents
6. No member of family who they could talk to
7. Regularly hit or hurt by a parent or caregiver
8. Parents had problems with alcohol or drugs
9. Family did not used to do things together
10. Spent time in local authority care
11. No special teacher/youth worker/family friend who looked out for them
12. Often in fights at school
13. No activity that made them feel special/proud
14. Suspended or expelled from school
15. Problems with reading and writing at school
16. Problems and trouble with police

was categorized into four groups (<35, 35–44, 45–54, and >55). Data was also collected on whether participants were classified as early service leavers (i.e., <5 years), on the time taken between leaving the service and seeking help for mental health, as well as on relationship status.

Outcome Measures

Childhood adversity factors. The primary outcome for this study was a list of 16 self-report childhood vulnerability factors. This list was originally developed in a large-scale longitudinal study investigating the health of U.K. military personnel (Fear et al., 2010; Iversen et al., 2007), using items adapted from the Adverse Childhood Exposure Study scale. Using the same measure allowed for comparison between help-seeking veterans and the wider military population. Participants were asked to give a true or false response to each item, which followed the stem statement “When I was growing up. . . .” A full list of items is displayed in Table 1.

A vulnerability count was computed by totaling the scores for the 16 items and recoding them into four groups: 0–3, 4–5, 6–7, and 8+ factors. These were made into a dichotomous variable by splitting them into two groups, 0–5 factors and 6+ factors, to represent low and high groups of reported vulnerability factors. Choosing 6+ was based upon previous research that used this measure and employed 6+ as the highest count category (Iversen et al., 2007). The additional 8+ group was created to indicate how many 6+ factors were endorsed in the high-count group.

A tetrachoric principal-component factor analysis of the childhood adversity scale had previously identified two groups of vulnerabilities that could be grouped together most appropriately (Iversen et al., 2007). The first factor consisted of eight items from the scale and was termed the “family relationships” factor. The items that made up this factor were “did not come from a close family,” “often used to play truant from school,” “did not feel valued by family,” “regularly used to see fighting/verbal abuse between parents,” “no member of family who they could talk to,” “regularly hit or hurt by a parent or caregiver,” “parents had problems with alcohol or drugs,” and “family did not used to do things together.” The second factor contained four items and was

termed “externalizing behaviors.” The items included in this factor were “often used to play truant from school,” “often in fights at school,” “suspended/expelled from school,” and “problems and trouble with police.” Total scores on each of these two factors were then divided into tertiles and dichotomized between the highest tertile (most reported vulnerabilities) and the lower two tertiles. These groups were used in the current study to make direct comparison between help-seeking veterans and the general military population possible.

Health outcomes. Several mental health outcomes were measured. PTSD was measured using the PTSD Checklist (Weathers et al., 2013), a validated, 20-item measure assessing all domains of PTSD. Common mental health difficulties were assessed using the 12-item General Health Questionnaire (Goldberg & William, 1998), and difficulties with anger were assessed using the five-item Dimensions of Anger Reactions measure (Forbes et al., 2014). Additionally, the Work and Social Adjustment Scale (Mundt, Marks, Shear, & Greist, 2002) was used as a basic measure of functional impairment, and the Brain Injury Screening Index (Ramos, Lidde-ment, Addicott, Fortescue, & Oddy, 2018) was used as a self-report measure of traumatic brain injury.

Data Analysis

The first stage of the analysis was to calculate prevalence rates for each childhood adversity vulnerability factor. The second stage was to dichotomize the count of vulnerability factors into two groups (low count: 0–5 factors and high count: 6+ factors). Chi-square analysis was performed to explore differences in demographic characteristics between participants reporting low and high vulnerability counts. Logistic regression models were then fitted to examine associations between the group reporting a high vulnerability count and a range of health outcomes. These models were adjusted for early service leaver status as this was found to differ between the high and low count groups. Finally, logistic regression models were fitted to assess associations between the two sets of childhood vulnerability factors (family relationships and externalizing behaviors) and the same health outcomes. All analyses were conducted using STATA Version 13.0.

Results

A total of 403 veterans participated, the majority of whom were male (96%). This is comparable with CS referrals more widely, which have previously been reported (Murphy et al., 2019). Most of the participants were in a relationship (68%) and unemployed (69%). The mean age of participants was 51 years.

Table 2 shows the number of participants who reported experiencing each childhood adversity vulnerability factor. Forty-four percent of participants reported experiencing six or more events (178/403). This is compared to 24% among those still serving in the Armed Forces who endorsed six or more (Iversen et al., 2007). Furthermore, 29% reported experiencing eight or more events.

The most commonly endorsed factors related to family functioning, such as “did not come from a close family” (70%). Nearly a third of participants reported that they regularly witnessed violence between their parents (32%), while 25% said their parents had problems with alcohol or drugs. Furthermore, over 6% of participants spent time in local authority care.

Table 2
Frequency of Vulnerability Factors and Counts of Factors

Vulnerability factor	<i>n</i> /403 (%)
Did not come from a close family	281 (69.7)
Used to get shouted at a lot at home	188 (46.7)
Often used to play truant from school	170 (42.2)
Did not feel valued by family	274 (68.0)
Regularly used to see fighting/verbal abuse between parents	129 (32.0)
No member of family they could talk to	240 (59.6)
Regularly hit or hurt by a parent or caregiver	109 (27.0)
Parents had problems with alcohol or drugs	102 (25.3)
Family did not used to do things together	276 (68.5)
Spent time in local authority care	25 (6.20)
No special teacher/youth worker/family friend who looked out for them	291 (72.2)
Often used to get into physical fights at school	178 (44.2)
No activity that made them feel special/proud	301 (74.7)
Suspended/expelled from school	91 (22.6)
Problems with reading or writing at school and needed extra help	95 (23.6)
Problems and trouble with police	180 (44.7)
Vulnerability count	
0–3	151 (37.5)
4–5	74 (18.4)
6–7	61 (15.1)
8+	117 (29.0)

Findings also suggest that being an early service leaver—that is, before 5 years—was linked to being more likely to endorse six or more vulnerability factors (see Table 3). No other demographic characteristics were linked to childhood adversity.

Associations between childhood adversity and health outcomes suggest that meeting diagnostic criteria for PTSD was related to a vulnerability count of six or more. Both significant anger problems and self-reported brain injury were also related to having six or more vulnerability factors (see Table 4). Table 5 shows a breakdown between family relationships factors and externalizing behavior factors by health outcome. PTSD and anger problems were related to both areas of vulnerability. Common mental health difficulties (anxiety and depression), functional impairment, alcohol problems, and harm-related alcohol consumption were all associated with externalizing behaviors.

Discussion

Higher rates of childhood adversity were reported in this sample of U.K. treatment seeking veterans, compared to those previously reported in a wider U.K. military population study. Almost half of the sample reported experiencing six or more adverse childhood events, compared with 24% in the wider military population (Iversen et al., 2007). The endorsement of six or more adverse events was associated with some physical and mental health outcomes, such as PTSD, anger problems, and brain injury. Childhood adversity factors that were classified as externalizing behaviors were more likely to be associated with later problems such as depression, anxiety, alcohol misuse, and functional impairment.

These findings provide further evidence for both the high prevalence of childhood adversity in veteran populations as well as the link between childhood adversity and poorer health outcomes in

adulthood. The fact that treatment-seeking veterans endorsed higher rates of childhood adversity compared to the wider military population is perhaps not surprising given the established links between such adversity and mental health difficulties in adulthood. However, it is striking that such a high proportion of this sample reported a high number of adversity factors. This finding could help explain why veterans typically respond less well to mental health treatments than other groups—it may be due to the complexity of their presentations (Bisson, Roberts, Andrew, Cooper, & Lewis, 2013).

Some researchers have discussed possible mechanisms by which childhood adversity might have a particular impact on military personnel. One explanation is that subsequent military service following adversity in childhood continues a trajectory of adversity that leads to an accumulation of disadvantages over the life span (Gaska & Kimerling, 2018). Using latent class analysis, these researchers found that distinct patterns of adversity were present among a military sample, each of which had different probabilities of past-year diagnoses of mental health and chronic health conditions. Mean differences in trauma, depression, and anxiety symptoms have also been found across attachment styles (Grady, Banford-Witting, Kim, & Davis, 2018), which may offer an alternative mechanism for this difference. What this hypothesis does not account for, however, is any veterans who in fact thrived in military roles while coming from backgrounds of adversity in childhood.

Different pathways can be used to account for the association between adversity in childhood and health in adulthood, such as interpersonal difficulties, underestimating one's sense of mastery, and being more likely to experience stressors later in life. This claim has been supported by research that found that a large proportion of the relationship between childhood adversity and mental health was explained by the mediating effects of low social support, low mastery, and a greater number of combat stressors (Lee et al., 2016).

Table 3
Vulnerability Count by Demographic Factors

Demographic	Vulnerability count, <i>n</i> (%)		χ^2	<i>p</i> -value
	0–5	6+		
Age group				
<35	26 (11.6)	23 (12.9)	5.66	.129
35–44	46 (20.4)	49 (27.5)		
45–54	59 (26.2)	51 (28.7)		
55+	94 (41.8)	55 (30.9)		
Relationship status				
In relationship	158 (70.2)	115 (64.6)	1.43	.231
Single	67 (29.8)	63 (35.4)		
Employment status				
Working	62 (27.6)	64 (36.0)	3.26	.071
Not working	163 (72.4)	114 (64.0)		
Time to contact Combat Stress				
<5 years	116 (51.6)	94 (52.8)	.06	.802
>5 years	109 (48.4)	84 (47.2)		
Early service leaver				
No	209 (92.9)	148 (83.1)	9.34	.002
Yes	16 (7.1)	30 (16.9)		

Table 4
Associations Between Vulnerability Count and Health Outcomes

Health outcome	Vulnerability count, <i>n</i> (%)			Vulnerability count, OR [95% CI] ^a
	0–5	6+	0–5	6+
PCL-5 case (PTSD)	169 (75.1)	162 (91.0)	1.00	3.15 [1.71, 5.78]*
GHQ case (CMD)	157 (70.4)	133 (75.1)	1.00	1.20 [.76, 1.89]
DAR-5 case (anger problems)	148 (66.7)	146 (83.0)	1.00	2.17 [2.33, 3.56]*
WSAS case (functional impairment)	145 (64.4)	129 (69.1)	1.00	1.12 [.73, 1.72]
BISI case (brain injury)	88 (39.1)	104 (58.4)	1.00	2.10 [1.39, 3.16]*
Audit case (alcohol problems)	89 (39.6)	77 (43.3)	1.00	1.20 [.80, 1.81]
Hazardous drinking case	103 (45.8)	74 (41.6)	1.00	.87 [.58, 1.31]
Dependent drinking case	34 (15.1)	28 (15.7)	1.00	1.04 [.60, 1.81]
Harm-related drinking case	74 (32.9)	72 (40.5)	1.00	1.42 [.93, 2.15]

Note. PCL-5 = PTSD Checklist; GHQ = General Health Questionnaire; CMD = common mental health difficulties; DAR-5 = Dimensions of Anger Reactions; WSAS = Work and Social Adjustment Scale.

^a Odds ratios adjusted for early service leaver status.

* $p < .05$.

It is possible that high rates of childhood adversity in military populations is partly explained by socioeconomic status (SES). Past research has found associations between childhood adversity and low socioeconomic backgrounds (Schilling, Aseltine, & Gore, 2007), with low SES also linked to a higher risk of major depression in adults; social inequalities are also likely to emerge in early life (Gilman, Kawachi, Fitzmaurice, & Buka, 2002). It has been argued that those from low-SES backgrounds are overrepresented in the military and in some cases are actively targeted in Army recruitment campaigns (Elder, 1986, 1987; Johnstone, 1978; Lutz, 2008; Morris, 2018; Sampson & Laub, 1996), although some have not found this to be the case (Watkins & Sher, 2008) and findings may vary between different countries.

Limitations

The focus of this study was on childhood adversity and mental health in military populations. However, no comparison has been made here or in previous comparative studies between military samples and the general public. Therefore, it is not known whether

military populations experience childhood adversity over and above those in the general public. The fact that this data was taken from a previous study of help seekers may bias the findings somewhat.

It was also beyond the scope of this study to investigate whether some adversity events were more likely to lead to mental health difficulties in adulthood than others. It is possible that those reporting a high number of events were not necessarily more likely to develop problems if it depends on which adversities they had experienced. This warrants further investigation. The findings were reliant upon self-report of adverse experiences in childhood. This was true of both populations under investigation, but nevertheless, the accuracy of participant recall may have affected the validity of the childhood adversity measure.

In terms of analysis, it is possible that further confounding variables that were not explored could have influenced the associations between childhood adversity and mental health. For example, certain physical health factors may have mediated some relationships. Protective factors such as compensation or satisfac-

Table 5
Associations Between Externalizing Behaviors and Family Relationships Vulnerabilities Factors and Health Outcomes

Health outcome	Family relationships factor			Externalizing behaviors factor		
	Lower two tertiles, OR ^a	Highest tertile, OR ^a	95% CI	Lower two tertiles, OR ^a	Highest tertile, OR ^a	95% CI
PCL-5 case (PTSD)	1.00	3.74	[1.72, 8.15]*	1.00	2.57	[1.25, 5.29]*
GHQ case (CMD)	1.00	1.48	[.86, 2.52]	1.00	1.95	[1.13, 3.37]*
DAR-5 case (anger problems)	1.00	2.30	[1.28, 4.13]*	1.00	2.17	[1.21, 3.90]*
WSAS case (functional impairment)	1.00	1.53	[.93, 2.52]	1.00	1.69	[1.03, 2.79]*
BISI case (brain injury)	1.00	1.52	[.97, 2.40]	1.00	1.46	[.93, 2.29]
Audit case (alcohol problems)	1.00	1.22	[.78, 1.93]	1.00	1.63	[1.04, 2.55]*
Hazardous drinking case	1.00	.91	[.57, 1.43]	1.00	1.25	[.80, 1.95]
Dependent drinking case	1.00	1.34	[.73, 2.44]	1.00	1.28	[.70, 2.34]
Harm-related drinking case	1.00	1.13	[.71, 1.80]	1.00	2.06	[1.31, 3.24]*

Note. PCL-5 = PTSD Checklist; GHQ = General Health Questionnaire; CMD = common mental health difficulties; DAR-5 = Dimensions of Anger Reactions; WSAS = Work and Social Adjustment Scale.

^a Odds ratios adjusted for early service leaver status.

* $p < .05$.

tion from serving in the military also may have mitigated against the development of problems.

Implications

Routine assessments are not necessarily good at predicting whether Armed Forces recruits will go on to develop mental health problems such as PTSD (Rona et al., 2006). Given this argument, it is not advised that findings such as those presented here be used to justify excluding people from vulnerable backgrounds from being recruited (Iversen et al., 2007).

It is important to use findings such as these to raise awareness among helping professionals about the possible links between presenting health difficulties and past experiences. For example, it may be that exploration of childhood adversity forms an important part of a therapeutic intervention. At an organizational level, nothing can be done about past adversities experienced by military personnel, but opportunities should be taken to implement ways of improving access to methods of preventative or protective factors, such as social support, mastery, and promoting the ability to manage stressors (Lee et al., 2016).

High levels of childhood adversity have been linked with the development of more complex mental health difficulties including complex PTSD (Cloitre et al., 2009; Putnam, Harris, & Putnam, 2013). The fact that such a high proportion of help-seeking veterans report high levels of childhood adversity suggests that military veterans could be more susceptible to developing complex PTSD that should be screened for by mental health services. Appropriate treatments need to be developed and used where required.

Conclusion

This study has highlighted a high amount of childhood adversity in veterans seeking help for mental health difficulties. This may mean that this group is more likely to present with complex mental health profiles. Clinicians working with veterans would benefit from assessing for childhood adversity in formulating mental health difficulties in this population. For patients where the presence of childhood adversity is part of a complex mental health presentation, suitable care pathways such as multidisciplinary services should be available. The fact that those experiencing childhood adversity are perhaps more likely to develop mental health difficulties should by no means exclude them from being recruited into the Armed Forces. However, the Armed Forces and those involved in postdeployment health care have a duty to provide effective mental health assessments and interventions to ensure veterans have access to appropriate support and treatments.

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