



The influence of employment program components upon job attainment during a time of identity and career transition

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Abstract

This study assessed the effectiveness of employment programs components, which resulted in the identification of content and process components that increase employability. Employment program use was studied among 1172 United States of America military veterans to determine which content (i.e., interviewing skills) and process (i.e., working with a mentor/coach) components influence job attainment during a time of career and identity transition. Components were distilled utilizing a common components analysis approach (Morgan et al., 2018). Associations with finding employment up to 15 months after the military-to-civilian transition were explored. Veterans who engaged with employment programs were primarily accessing the following components: career planning, resume writing, and interviewing skills. However, only a few content components were significantly related to obtaining employment: interviewing (with mentor/coach), resume writing (online tools), translating military to civilian work (with mentor/coach), entrepreneurship (with mentor/coach), and virtual career fairs. Furthermore, not all processes or modes of instruction for content components were associated with success in the job market. Having a mentor/coach was one of the most effective delivery strategies. For example, veterans using programs delivered by a mentor/coach that translated military skills to civilian work were more likely to find a job at 6–9-months (84%) and 12–15-months (91%) post military separation. In addition, risks that predicted lower use of employment program components by veterans were identified such as junior enlisted rank, combat exposure, combat arms occupation, and physical health problems. With these findings, program developers, implementers, and funders can channel efforts towards the utilization of employment programs with effective components.

Keywords Employment · Veterans · Career transition · Components · Job attainment · Military

Résumé

L'influence des composantes du programme d'emploi sur l'obtention d'un travail au cours d'une période de transition identitaire et professionnelle

L'utilisation des programmes d'emploi a été étudiée parmi 1172 vétérans de l'armée américaine afin de déterminer quelles composantes du contenu et du processus influencent l'obtention d'un emploi. Une approche d'analyse des composantes communes (common component analysis, CCA) a été utilisée. Les associations avec l'obtention d'un emploi jusqu'à 15 mois après la transition de l'armée à la société civile ont identifié des composantes significativement liées à l'obtention d'un emploi: l'entretien (avec un mentor/coach), la rédaction d'un CV (outils en ligne), la transposition du travail militaire au travail civil (avec un mentor/coach), l'esprit entrepreneurial (avec un mentor/coach) et les salons de l'emploi virtuels. Le recours à un mentor/coach était l'une des stratégies de prestation les plus efficaces. Les risques prédisant une utilisation moindre des composantes du programme ont été identifiés: grade d'enrôlé junior, exposition au combat, occupation dans les armes de combat et problèmes de santé physique.

Zusammenfassung

Der Einfluss von Komponenten eines Beschäftigungsprogramms auf das Erhalten eines Arbeitsplatzes in einer Zeit des Identitäts- und Karriereübergangs

Die Nutzung von Beschäftigungsprogrammen wurde unter 1172 US-Militär-veteranen untersucht, um festzustellen, welche Inhalts- und Prozesskomponenten den Erhalt eines Arbeitsplatzes beeinflussen. Es wurde ein Ansatz der gemeinsamen Komponentenanalyse verwendet. Die Assoziationen mit der Arbeitssuche bis zu 15 Monate nach dem Übergang vom Militär zum Zivilleben identifizierten folgende Komponenten, die signifikant mit der Arbeitssuche zusammenhängen: Vorstellungsgespräche (mit Mentor/Coach), Verfassen von Lebensläufen (Online-Tools), Übertragung militärischer Arbeit auf zivile Arbeit (mit Mentor/Coach), Unternehmertum (mit Mentor/Coach) und virtuelle Karrieremessen. Die Betreuung durch einen Mentor/Coach war eine der effektivsten Strategien. Folgende Risiken wurden identifiziert, die eine geringere Inanspruchnahme der Programmkomponenten vorhersagen: tiefer Dienstgrad, Kampfoxposition, bewaffneter Dienst und körperliche Gesundheitsprobleme.

Resumen

La influencia de los componentes del programa de empleo en la consecución del trabajo durante una época de transición de identidad y carrera

Se estudió el uso del programa de empleo entre 1,172 veteranos militares de los Estados Unidos para determinar qué contenido y componentes del proceso influyen en la consecución del empleo. Se utilizó un enfoque de análisis de componentes comunes. Las asociaciones con la búsqueda de empleo hasta 15 meses después de la transición de militar a civil identificaron componentes relacionados significativamente con la obtención de empleo: entrevistas (con mentor / entrenador), redacción de currículos (herramientas en línea), traducción de trabajo militar a civil (con mentor / entrenador), emprendimiento (con mentor / coach) y ferias de carreras virtuales. Tener un

mentor / entrenador fue una de las estrategias de ejecución más efectivas. Se identificaron los riesgos que predecían un menor uso de los componentes del programa: rango de alistados juveniles, exposición al combate, ocupación de armas de combate y problemas de salud física.

Introduction

The purpose of this analysis was to determine if employment program component use was related to the outcome of job attainment. A distinct population known to be in the throes of career transition was studied: transitioning military veterans in the United States of America. Many employment programs and services are available and offer job-seeking supports to military veterans (i.e., career fairs, resume writing resources, career counseling, training and certification programs, and formal networking opportunities). For example, career fairs may assist veterans in obtaining employment by providing opportunities for direct personal interaction with potential employers; veterans can also compare companies or jobs and find the best possible match (Stonebraker et al., 2019). Another option, career counseling services, can help veterans identify career goals and transferable skills through a relationship with a mentor or experienced professional who provides one-on-one, tailored assistance (e.g., American Corporate Partners; Buzzetta et al., 2017; Rausch, 2014). However, despite the intent and promise of career development, career education, and employment services, additional empirical support is needed to validate their usefulness and effectiveness in helping individuals in a state of career transition obtain employment. Moreover, little is known about specific components of employment supports and their roles. This exploratory study determined content components, or topics taught, and process components, or modes of instruction, that influence job attainment during a time of distinct identity transition, a time that propels individuals to redefine their education and career goals.

Military veterans in the United States of America: a population in transition

Understanding military service members' employment experiences after they transition from active status to veteran status is a critical area of study. Approximately 2.8 million post-9/11 veterans in the United States of America (U.S.) have reintegrated into civilian communities; this population is projected to grow to more than 5.1 million in 2021 (National Center for Veterans Analysis & Statistics, 2016). Veterans serving in either the active-duty military or the reserve components may leave active status due to retirement (enter retired reserve), separation (unfulfilled military service obligation to be carried out in the Individual Ready Reserve), discharge (no further military service obligation), or deactivation (unit

no longer active). Veterans of color, whose representation among transitioning veterans is predicted to increase from 25 to 35% by 2040, have been found to have a harder time finding employment (National Center for Veterans Analysis & Statistics, 2020). Physical and mental consequences of warfare can also impact employability, a concern given that post-9/11 veterans are more likely than veterans from other wars to have been deployed and to have served in a combat zone. Permanent, severe, post-service disorders, disabling injuries, and illnesses are now more common as medical advancements have increased survival rates for those experiencing catastrophic wounds on the modern battlefield (DiRamio & Spires, 2009; Pew Research Center, 2019). For example, one in three post-9/11 veterans in the U.S. has a service-connected disability, and 73% of these veterans are in the labor force (U.S. Congress, Joint Economic Committee, 2016). Obtaining employment is important to individual veteran well-being and productivity, and also to the prevention of negative consequences for veterans' families and society if civilian reintegration is unsuccessful (Perkins et al., 2019).

The majority of post-9/11, U.S. veterans do not experience ongoing adjustment or reintegration problems, and they do successfully transition into their chosen communities (Tsai et al., 2015; Vogt et al., 2020). However, a significant minority report several commonly occurring challenges in four life domains: vocational (e.g., employment, education), finances (e.g., housing, legal), health (i.e., physical and mental), and social (i.e., interpersonal relationships). Employment is often the top concern cited by post-9/11, U.S. veterans (Perkins et al., 2017); job attainment and employment is fundamentally linked to the veterans' successful reintegration (Bullock et al., 2009; Cohen et al., 2013). For many veterans, military service is more than just a job; it is an identity. Finding employment post-service not only helps with practical aspects of well-being such as finances; it can also provide a post-military sense of purpose (Kintzle & Castro, 2018).

Despite having capabilities that are typically valued by organizations (e.g., leadership, teamwork, a sense of duty and responsibility, discipline), some post-9/11 U.S. veterans face challenges in obtaining employment (Haynie, 2016). Generally, prior to the COVID-19 pandemic, veteran unemployment patterns in the U.S. resembled the civilian unemployment rate. Therefore, in times of high civilian unemployment, there is also high veteran unemployment; however, post-9/11 veteran unemployment has remained the highest of all wars (U.S. Bureau of Labor Statistics, 2018). During this study's 2016 survey administration, the overall veteran unemployment rate in the U.S. was 4.3%, which was slightly lower than the civilian population rate of 4.7% (U.S. Bureau of Labor Statistics, 2017). The veteran unemployment rate further declined in 2019 to 3.2%. Yet, unemployment rates for veterans differ based on age, gender, and disability status; some veteran subgroups experience pronounced employment challenges (U.S. Bureau of Labor Statistics, 2018). As an example, in 2015, post-9/11, U.S. veterans aged 18 to 24 years had an unemployment rate (13%) that was more than double the rate for older post-9/11 veterans and higher than that of similarly aged nonveterans (10.9%; U.S. Congress, Joint Economic Committee, 2016).

Employment challenges commonly encountered by post-9/11 U.S. veterans

A substantial proportion of U.S. veterans do not have a job when they leave the military (Burnett-Zeigler et al., 2011; U.S. Department of Veterans Affairs, 2015). There may be sizeable, deep-seated barriers to veteran employment. Indeed, a growing divide between civilians and those who serve in the all-volunteer military exists (Carter et al., 2017). Veterans comprise only 7% of the U.S. population, a number that will continue to decline as veterans of World War II, the Korean Conflict, and the Vietnam War die. Networking and fraternal connections are diminishing; the proportion of chief executive officers with military experience declined from 60% in 1980 to 6% in 2014 (Benmelech & Frydman, 2015), resulting in the loss of potential employment allies. As a result of the lack of firsthand familiarity with veterans, employers often hold inaccurate views of the capabilities veterans offer to the workforce (Stone & Stone, 2015). Moreover, veterans may not understand the skills or abilities post-military jobs require (Resnik et al., 2012). Furthermore, transitioned veterans' civilian networks of influence are limited; this may mean less assistance and decreased likelihood of obtaining a good-fitting job.

The inaccurate perception that many civilian employers have about veterans adds to employment challenges. Civilians often derive their understanding of veterans in a vacuum that exists between firsthand exposure to veterans and prevailing stereotypes. The media is a source for civilians' beliefs about veterans (Zogas, 2017). Often, these accounts offer a slanted view of veterans, portraying veterans as heroes or as damaged victims (Kleykamp & Hipes, 2015). For instance, the media perpetuates the belief that most veterans experience post-traumatic stress disorder (PTSD; Moore, 2018), even though the actual proportion is closer to only 12%. This belief may directly impact veterans' employment prospects. In a study of employers' perspectives, employers raised concerns about hiring veterans, citing stereotypes of widespread mental health challenges as the result of combat. Many employers also have difficulty understanding how military job skills translate into the civilian workplace (Berglass & Harrell, 2012).

Of course, some veterans have physical and/or mental health challenges that make obtaining employment difficult. Generalized anxiety, PTSD, and depression are diagnosed among post-9/11 veterans, and the employment rates in the U.S. for these sub-populations vary widely. Rates of PTSD among post-9/11 veterans typically average between 5 and 15%, and rates for depression range from 2 to 10% (Tanielian & Jaycox, 2008) compared to 2.6% to 5.2% in the general U.S. population (Reynolds et al., 2016). Traumatic brain injury has been diagnosed in approximately 8% of post-9/11 U.S. veterans (Tanielian & Jaycox, 2008). Common physical injuries reported by veterans include chronic pain, back problems, and limb amputations (Geiling et al., 2012), which place them at higher risk for unemployment (Humensky et al., 2013).

Programs to enhance veteran employment

Given the many employment challenges U.S. veterans face when they transition from active military service to veteran status, there have been numerous federal, state, and community-based programs established to assist veterans during reintegration, and some have benefited veterans and their families (Office of the Chairman of the Joint Chiefs of Staff, 2014). Indeed, there are tens of thousands of public and private programs designed to support veterans, and many focus on assisting veterans with securing employment (e.g., Hiring Our Heroes, Veteran Jobs Mission, 100,000 Jobs Mission; Carter, 2013). Approximately 50% of veterans report using at least one program designed to enhance their employment status within three months of separation (Perkins et al., 2019), and employment-related programs are used substantially more than other life domain programs (i.e., health, finance; Perkins et al., 2019).

Some evidence exists that participating in employment-related programs can improve veterans' vocational outcomes, even if many of these programs lack rigorous evidence of effectiveness (Curry Hall et al., 2014, 2015). One investigation found unemployed U.S. veterans using the Transition Assistance Program (TAP), a federal program designed to bolster veterans' capacity to obtain civilian work, secured employment 3 weeks sooner than those veterans who did not use TAP (Faurer et al., 2014). In addition, there is anecdotal evidence that employers look to hire veterans through career fairs and the Veterans Employment Center's website (Curry Hall et al., 2014). However, limitations of prior studies, including selection bias and small sample sizes, restrict their ability to speak to program effectiveness.

The current study

The sheer number of programs available to U.S. veterans makes evaluating the effectiveness of all these programs cost-prohibitive, particularly those provided by non-profit, community-based programs that may not have dedicated evaluation budgets. So, we designed a coding approach to summarize specific program components and efficiently examine the program components without evaluation data (Morgan et al., 2018). This approach built upon a distillation and matching model (Chorpita et al., 2007), a meta-analysis of common components of parenting programs (Wyatt Kaminski et al., 2008), and the theoretical framework of common factors in effective HIV prevention (Rotheram-Borus et al., 2009). The coding approach utilized differed from the approach of Chorpita, Wyatt Kaminski, and Rotheram-Borus and colleagues in that it enabled common components to be identified across a broad range of program domains (e.g., programs designed to enhance employment outcomes and mental health) and from programs not empirically supported by a randomized control trial or in peer-reviewed, empirical journals.

The first phase in the approach identified and gathered information about common components across programs within a particular domain (e.g., employment). Common components were then classified as content components, identifying the

topics taught by the program/service, or as process components, classifying the method by which the program/service was delivered.

The second phase of our approach involved examining the association between exposure to shared components and changes in targeted outcomes. Thus, the current study was designed to examine whether use of different components of employment programs and services by U.S. veterans, who were unemployed within the first 3 months of separating from active-duty service, was associated with finding employment 6 to 9 months or 12 to 15 months after transition. We hypothesized that veterans' use of employment program components would positively predict securing employment at a future timepoint.

Methods

Participants

The United States' Department of Veterans Affairs and Department of Defense Identity Repository [VADIR] was used to identify a sample of transitioning veterans. The population consisted of 48,965 U.S. veterans who served in the active component or were National Guard and Reserve Service members and who were deactivated, discharged, retired, or separated from the military in the 90 days prior to the Wave 1 survey (May–September 2016). National Guard and Reserve service members were required to have served at least 180 days on active-duty status before being deactivated. All veterans had a mailing address within the continental United States. Complete data were provided by 9566 veterans (20% response rate).

A subset of the sample was selected for the current analyses. This subset involved veterans who met the following inclusion criteria: looking for work at Wave 1, not a full-time student, and transitioned from active-duty status. Given the research question, Wave 2 veterans who were working for pay and still looking for work were also included in the sample. Thus, the total sample for the current analyses was 1172 U.S. veterans.

Procedures

Using contact information provided by VADIR, 9566 participants were recruited through mail to participate in a web-based, longitudinal, prospective study examining well-being and program use after their transition from the military (Vogt et al., 2018). A \$5 cash pre-incentive and a \$20 gift code incentive at survey completion were offered to the participants to complete the Wave 1 survey. The incentive was increased by \$5 every wave thereafter. Incentives were used to prevent attrition over time in the longitudinal research study, and although there were no specific validity questions in the survey, the population was not conveniently selected (e.g., invites were targeted to all eligible participants from a Department of Veterans Affairs' repository) and all open-ended responses were reviewed for legitimacy.

Longitudinal data were collected at 6-month increments after the initial survey. Wave 2 data were collected 6 to 9 months after separation and Wave 3 data were collected 12 to 15 months after separation. Additional information about the study procedures, including participant characteristics and recruitment strategies, has been previously published (Vogt et al., 2018).

The purpose of this current analysis with the sub-sample of 1172 U.S. veterans was to determine if employment program component use was related to the outcome of job attainment. To improve this quasi-experimental design, propensity score matching was utilized to adjust for confounding variables potentially predictive of selection into treatment or control groups (Braitman & Rosenbaum, 2002). We conceptualized employment program use as “treatment” to be contrasted with non-use as a “control” condition.

Before coding for program components, this analyses involved four primary analytic steps: (1) estimation of propensity scores; (2) use of propensity scores through one of several techniques to adjust for confounding variables; (3) assessment of balance to determine if there were mean differences in the propensity scores between the treatment and control group; and (4) estimation of the treatment effect in the analytic model (Lanza et al., 2013).

Matched propensity scoring utilizes analytic techniques to match study subjects who participate in a treatment condition to study subjects with similar risk factors who do not participate in a treatment condition (i.e., control condition). Propensity scores were created to determine the likelihood of U.S. veterans participating in any employment programs. Before matching, 73% ($n = 854$) of the veterans looking for work utilized at least one employment content component (e.g., resume writing and interviewing). See Morgan et al. (2018) for more details on the program characteristics and components. The focus of this analysis was on aggregated program component utilization at the individual level. To calculate propensity scores, 18 potentially confounding variables that could predict the outcome of job attainment and/or employment program component use were entered into a logistic regression modeling of the outcome of any employment program utilization (see Table 1). The covariates included gender, paygrade (rank), race/ethnicity, marital status, discharge status, military occupation, types of combat exposure, deployments, resilience, anxiety, depression symptoms, suicidal thoughts, PTSD symptoms, alcohol misuse, problematic financial status, low social support, part-time student status, and completed education or training. These covariates have previously been found to be predictors of employment program use (Aronson et al., 2019). The unstandardized, predicted probabilities were saved for each veteran and included as a covariate in the outcome analytic model. This type of covariate is considered a “double robust” method and protects against misspecification of either the propensity score or the model itself (D’Agostino, 1998; Kang & Schafer, 2007).

Before matching (see Table 1), U.S. veterans from enlisted (E5 to E6), senior enlisted (E7 to E9), and officer (O1 to O7) ranks were between 2.25 and 6.76 times more likely to use employment programs than veterans from the E1 to E4 junior enlisted ranks. Veterans who were part-time students at baseline were two times more likely to utilize employment programs. Veterans who received a general discharge (i.e., a discharge other than honorable) were less likely to utilize employment

Table 1 Predictors of veterans' use of employment programs (veterans looking for work at wave 1)

	Before matching (<i>n</i> = 1,172)	Employment program use β [CI]	After matching (<i>n</i> = 739)
Male	79.1%	0.84 [0.60, 1.17]	79.6%
E1 to E4	33.6%	Reference group	46.1%
E5 to E6	28.2%	2.25 [1.59, 3.19]***	30.2%
E7 to E9	17.7%	4.62 [2.75, 7.76]***	10.0%
O1 to O3	7.4%	2.91 [1.65, 5.14]***	6.5%
O4 to O7	11.8%	6.76 [3.55, 12.87]***	6.9%
Part-time student	8.4%	2.13 [1.25, 3.63]**	5.5%
Single, never married	24.0%	Reference group	28.8%
Married 1st	48.1%	1.33 [0.97, 1.82]	44.9%
Married 2nd or more	13.4%	1.12 [0.71, 1.78]	11.2%
Separated/widowed/divorced	14.5%	1.17 [0.75, 1.83]	15.0%
Honorable discharge	87.4%	Reference group	87.0%
General/other discharge	3.8%	0.52 [0.28, 0.99]*	4.2%
Medical discharge	7.7%	1.13 [0.69, 1.86]	7.3%
White Non-Hispanic	53.8%	Reference group	50.0%
Black Non-Hispanic	16.1%	1.03 [0.83, 1.29]	15.7%
Hispanic	18.1%	0.97 [0.77, 1.21]	20.6%
Asian Hawaiian Pacific Islander/other race	11.5%	0.80 [0.54, 1.18]	13.0%
High resilience	18.2%	1.14 [0.80, 1.61]	17.9%
Anxiety	36.3%	1.15 [0.81, 1.65]	34.5%
PTSD	34.5%	1.04 [0.73, 1.47]	32.1%
Depression	28.7%	1.54 [1.04, 2.30]*	26.4%
Suicidal thinking	10.9%	0.87 [0.55, 1.36]	10.7%
Socially isolated	14.6%	0.92 [0.63, 1.34]	14.9%
Combat patrols	37.7%	1.54 [1.02, 2.31]*	30.6%
Corollaries of combat	49.8%	0.98 [0.64, 1.50]	42.2%
Alcohol misuse	37.8%	0.98 [0.75, 1.28]	38.4%
Secure financial status	31.0%	Reference group	24.8%
Problematic financial status	36.5%	0.79 [0.55, 1.13]	38.6%
At-risk financial status	32.5%	0.78 [0.56, 1.11]	36.7%
Service support occupation	41.4%	Reference group	41.9%
Combat arms	20.6%	0.75 [0.52, 1.08]	21.5%
Combat support	38.0%	1.14 [0.85, 1.53]	36.5%
Number of times deployed (0)	31.9%	0.91 [0.76, 1.09]	39.0%

n = 1,172; population size = 48,800; Service branch was not significant and was omitted from the table: Army 38%, Navy 24%, Air Force 19%, Marine Corps 20%, Joined the National Guard/Reserves after discharge 15%); **p* < .05; ***p* < .01; ****p* < .001

programs. Veterans who were rated for probable depression were 54% more likely to use employment programs. Finally, veterans exposed to combat patrols were 54% more likely to use employment programs at Wave 1 than veterans who were not exposed.

To create the matched sample, Greedy Nearest Neighbor Matching was used. The goal of using matched propensity scoring was to identify study subjects' likelihood of utilizing employment programs. Study subjects using employment programs were matched to other study subjects who did not use employment programs but who were very similar for utilizing employment programs based on the robust number of covariates that related to the outcome and/or program use. Any individuals without a match were excluded from the analyses. Due to the large sample size, two-to-one matching with a 0.1 caliper was used, and matches were within 0.10 of a standard deviation of one another. Note, Rosenbaum and Rubin (1985) suggest a caliper of 0.10 removes 98% of the bias in covariates with a normal distribution. Propensity scores were evaluated for their quality before and after matching by examining the overlap of box plots and the mean differences of the predicted probability estimates between the two groups. Before matching, the initial difference of the probability estimates was 0.15, which is close to a full standard deviation ($SD=0.17$). After matching, the difference between the mean propensity scores dropped to 0.02 ($SD=0.16$). Moreover, the balance of each predictor was assessed by replicating the logistic regression model predicting employment program utilization. Testing the probability estimates after matching helped to ensure any selection bias that could have been related to program participation between groups (non-employment program users and employment program users) was removed. The final matched sample consisted of 739 U.S. veterans from the overall sample of 1172. After matching, 62% of veterans ($n=460$) used at least one employment content component.

Measures

Employment program use and components

The survey asked the U.S. veterans to nominate employment programs or services they used since discharge that were intended to help them transition from military to civilian life. Programs were defined as any activity designed to meet the veteran's specific needs and could be offered by any organization, including community, government, private, or faith-based providers. For example, programs could be self-paced; presented online; or delivered synchronously in a group setting by a qualified program leader, such as a facilitator, counselor, or social worker. The program use questions were adapted from another study, The Philanthropy Roundtable (Meyer, 2013), which developed a list of veteran-serving organizations and programs focused on positively influencing veteran functioning across well-being domains.

Veterans were asked to name up to two programs for seven types of programs within the employment domain for a total of 14 possible program nominations per veteran. Specifically, veterans were asked to name programs used that offered an online job database, a career fair, resume writing or military skills translation, job

Table 2 Content and process component descriptive statistics for matched sample

Content component	Definition	Reading online	Direct instruction	Interactive online tool	Mentor/coach
Interviewing skills	Developing interviewing skills, preparing for an interview, or providing interview best practices, tips, or tools	25.2%	20.8%	n/a	11.9%
Resume writing	Providing templates or assistance for different job categories	55.9%	48.4%	46.8%	16.4%
Translating military experience to civilian work	Translating military experience to civilian work; helping the veteran understand the similarities between their military job and possible civilian jobs; may use Military Occupational Specialty (MOS) code or Air Force Specialty Codes (AFSC)	14.7%	13.3%	17.1%	12.9%
Networking conference	A recurring meeting, often annually or bi-annually, with the goal of sharing ideas with people who have a common interest in obtaining employment or professional development, or learning about other ways to enhance employment opportunities	n/a	n/a	n/a	n/a
Career planning and exploration	Matching a veteran's interests to available jobs; devising a plan for attaining long-term career goals; providing industry overviews; identifying similar occupations across diverse industries	56.2%	25.8%	38.6%	29.4%
Entrepreneurship	Helping veterans start or run their own business, including training on how to be an entrepreneur and how to budget for starting a business	13.9%	10.3%	n/a	4.5%
Job accommodations	Assisting veterans with a disability or condition that prevents standard employment	2.7%	n/a	n/a	n/a
Job training and certification	Providing training or certification in a specific field with a path to employment, such as fellowships, job placements, IT training, or project management certification	3.8%	19.4%	n/a	8.3%

Process components ($n = 739$) were defined as (1) Reading online: text with no interactive parts, read at own pace; (2) Direct instruction: curriculum taught by an instructor—lecture, manual, or video; (3) Rehearsal, role playing (14% only in interviewing): practicing/rehearsing skills in vivo, or reenacting a hypothetical situation with feedback; (4) Interactive online tool: web-based tools, some interaction with participant, provide tailored information; (5) Mentor/Coach: one-on-one program delivery by a trained/experienced implementer; and (6) Peer learning: (12.2% in job training and certification)

placement assistance, career counseling, job training or help obtaining certification, and any other employment-related programs. At Wave 1, there were 914 programs nominated in the employment domain. The research team coded the program nominations that had a verified website URL and were nominated by three or more veterans. There were 184 programs that met these criteria.

Each of the nominated programs was then coded for their content and process components (Morgan et al., 2018). Common content components include career planning, entrepreneurship, interviewing skills, job accommodations, job training and certification, networking conference, resume writing, and translating military experience to civilian work. Process components (i.e., how the content is taught) for each of the program content areas included self-paced online reading, direct instruction, rehearsal/role playing, interactive tool, mentor/coach, social support and peer learning, and networking group. Definitions of the content and process components are included in Table 2. Coding was conducted using the qualitative software NVivo 12 (QSR International, 2016). Two independent raters coded programs by indicating whether each component was either present or absent for each program. Coders applied all relevant codes to a program; therefore, codes were not mutually exclusive. Reliability among coders was established by having a third *expert* coder check coding consistency, discussing discrepancies, and coming to agreement on the final codes and definitions of each component.

Work status

Veterans were also given a series of questions related to employment outcomes, including their current work status. Response options included working for pay, not working for pay but looking for work, or not working and not looking for work. Veterans were also asked about the number of hours worked per week. Using these two pieces of information, a full-time work status variable was created to include in the analysis.

Qualitative coding and data analytic approach

To determine the common components of employment programs nominated by the U.S. veterans, program website pages were gathered using BeamUsUp SEO Web-crawler software (Gomes, n.d.), and subsequent screen shots were captured to ensure comprehensive and consistent coding over time. Trained pairs of coders used NVivo 11 (QSR International, n.d.) to capture the common content components (i.e., skills or information taught) and common process components (i.e., mode of delivery and teaching methods) used by the programs. Details on the development of and theoretical justification of this coding technique has been previously published (Morgan et al., 2018).

Logistic regression was used to determine which groups of veterans were more or less likely to obtain a job. Job status was dichotomized as obtaining full-time employment in comparison to remaining part-time or being unemployed. Survey participants were first asked about their current work status in Wave 1. Then,

veterans who were looking for work at Wave 1 and either still looking for work or working full-time in Waves 2 and 3 were included in the analyses. Those who indicated not working and not looking for paid work were excluded from the analyses. Follow-up questions were asked to identify veterans' reasons for not looking for employment and responses included retired, an illness, a homemaker, or in school/training. Logistic regression was chosen as the analytical technique given its ability to include more than one predictor, which is advantageous for this sample of veterans representing different branches of the U.S. military service, genders, and paygrades. Moreover, logistic regression produces odds ratios, which provide the probability of a group experiencing the outcome of interest. An odds ratio of 1 indicates that there is equal probability (i.e., no significant differences) for experiencing the outcome with the veteran characteristic versus without the veteran characteristic. Each content component was analyzed separately with the same predicted probability of a program use covariate, that is, the propensity score was included in the model. All statistical models used SPSS 15 and Stata 15.

Results

Employment process and content components among veterans looking for work

First, common components (i.e., content and process) were identified among the employment programs veterans nominated (see Table 2). The most common content components used by the U.S. veterans looking for work included career planning and exploration (61%), resume writing (59%), interviewing skills (35%), and translating military experience to civilian work (34%). Other content components, not as commonly used, included job training and certification (22%), entrepreneurship (18%), career fairs (17%), and virtual career fairs (10%) or a networking conference (9%). Few veterans reported using job accommodations (2%).

The most common process components included an interactive online tool, information read online, direct instruction, or one-on-one program delivery with a mentor or coach. Rehearsing, role playing, practicing interviewing or other employment-related skills, and being part of a networking group were not commonly used process components.

Content and process components predicting employment after separation

The models of getting a job at 6 to 9 months post-separation and at 12 to 15 months post-separation contrasted those using specific employment content components with component non-users (presented in Table 3). At Wave 1, 739 U.S. veterans were not working but were looking for a job. Of those, 42% ($n = 313$) found a job by Wave 2, and 55% ($n = 326$) found a job by Wave 3. Those who were looking for a job at Wave 1 and found a job in the next 6 to 9 months were 71% more likely to be male; 87% more likely to be in E5 to E6 paygrades (vs. E1 to E4); 4 times more likely to be officers (O1 to O3); 51% more likely to be married (1st marriage vs. single,

Table 3 Employment program use and the odds of getting a job

Predictor (program component)		Getting a job 6 to 9 months post-separation: odds ratio [95% CI]	Getting a job 12 to 15 months post-separation: odds ratio [95% CI]
Model 1	Predicted probability of program use	2.50 [0.93, 6.68]	2.07 [0.70, 6.08]
	Interviewing, reading online	1.20 [0.79, 1.82]	1.03 [0.64, 1.65]
	Interviewing, direct instruction	1.74 [0.96, 3.15]	1.55 [0.80, 3.00]
	Interviewing, rehearsal/role-play	0.32 [0.15, 0.66]**	0.61 [0.26, 1.40]
	Interviewing, mentor/coach	2.20 [1.23, 3.92]**	2.24 [1.14, 4.43]*
Model 2	Predicted probability of program use	2.34 [0.87, 6.31]	1.67 [0.56, 5.01]
	Resume writing, reading online	2.20 [1.07, 4.52]*	1.68 [0.78, 3.64]
	Resume writing, direct instruction	0.78 [0.40, 1.52]	0.68 [0.31, 1.50]
	Resume writing, interactive online ^a	0.99 [0.53, 1.85]	1.46 [0.68, 3.12]
	Resume writing, mentor/coach	1.44 [0.93, 2.21]	2.51 [1.48, 4.25]**
Model 3	Predicted probability of program use	2.63 [0.99, 7.00]	2.11 [0.72, 6.18]
	Translating military to civilian work, reading online	0.92 [0.58, 1.46]	1.26 [0.74, 2.16]
	Translating military to civilian work, direct instruction	1.28 [0.76, 2.14]	0.88 [0.48, 1.64]
	Translating military to civilian work, interactive online	0.77 [0.50, 1.20]	1.23 [0.75, 2.03]
	Translating military to civilian work, mentor/coach	1.84 [1.09, 3.10]**	1.91 [1.01, 3.60]*
Model 4	Predicted probability of program use	2.95 [1.12, 7.74]*	2.68 [0.92, 7.78]
	Networking conference, networking group	1.06 [0.62, 1.80]	1.25 [0.69, 2.29]
	Predicted probability of program use	2.50 [0.95, 6.60]	2.25 [0.77, 6.59]
	Career planning exploration, reading online	1.38 [0.71, 2.69]	1.08 [0.53, 2.22]
	Career planning exploration, direct instruction	1.47 [0.92, 2.34]	1.61 [0.94, 2.76]
Model 5	Career planning exploration, interactive online	1.10 [0.73, 1.65]	0.93 [0.53, 1.63]
	Career planning exploration, mentor/coach	1.00 [0.60, 1.64]	1.15 [0.65, 2.03]
	Career planning exploration, networking group	0.79 [0.47, 1.33]	1.08 [0.53, 2.22]

Table 3 (continued)

	Predictor (program component)	Getting a job 6 to 9 months post-separation: odds ratio [95% CI]	Getting a job 12 to 15 months post-separation: odds ratio [95% CI]
Model 6	Predicted probability of program use	2.63 [1.00, 6.89]	2.49 [0.85, 7.26]
	Entrepreneurship, reading online	0.96 [0.58, 1.58]	0.85 [0.48, 1.51]
	Entrepreneurship, direct instruction	0.69 [0.36, 1.29]	0.67 [0.34, 1.35]
	Entrepreneurship, mentor/coach	2.35 [1.03, 5.35]*	2.73 [1.03, 7.25]*
Model 7	Job accommodations	1.91 [0.77, 4.76]	1.63 [0.56, 4.78]
Model 8	Job training and certification	0.97 [0.66, 1.43]	1.52 [0.97, 2.38]
Model 9	Career fair	1.06 [0.72, 1.58]	1.18 [0.77, 1.79]
Model 10	Virtual career fair	1.29 [0.78, 2.14]	1.99 [1.10, 3.60]*

Getting a job 6 to 9 months post-separation ($n=739$); Getting a job 12 to 15 months post-separation ($n=588$). An additional covariate if any other employment component for each model was omitted from the table

If resume writing, interactive tool is the only covariate (in addition to the predicted probability) 1.40 [1.00, 1.96]

never married); and 41% less likely to be Asian or Other Race compared to White Non-Hispanic. Veterans who found a job were also 41% less likely to have PTSD symptoms.

Veterans who used a program with the interviewing content component delivered through a mentor or coach were 2.20 times more likely to find a job at 6- to 9-months post-separation and 2.24 times more likely to find a job at 12- to 15-months post-separation than those not using that program component. Those who used rehearsal/role playing to build interviewing skills, however, were 68% less likely to have a job at 6- to 9-months post-separation. Veterans who nominated programs with resume writing content read online were 2.20 times more likely to find a job at 6- to 9-months post-separation. Veterans who used resume writing programs with a mentor or coach were 2.51 times more likely to find a job 12- to 15-months post-separation. Veterans who used programs that helped translate military experience/skills to civilian work delivered by a mentor or coach were 84% more likely to find a job at 6- to 9-months post-separation, and these veterans were 91% more likely to find a job 12- to 15-months post-separation. Programs that offered the content component of entrepreneurship using a mentor or coach were 2.35 times more likely to find a job at 6- to 9- months post-separation, and 2.73 times more likely to find a job 12- to 15-months post-separation. Finally, veterans who utilized career fairs delivered virtually were nearly 2 times more likely to find a job 12- to 15-months post-separation.

Discussion

This study examined the use, predictors of use, and impact of employment programs designed to improve employment prospects. In particular, this study advanced prior research on populations facing career transitions by applying an innovative approach to identify the common components of employment programs that predict U.S. veteran employment over the first 15 months of their separation from active military service.

Several themes emerged and were confirmed through the results of this study. First, many U.S. veterans indicate use of employment programs (Perkins et al., 2019). Certainly, more than 60% of job-seeking veterans in the matched sample (70% before matching) used at least one employment content component. However, there were several factors that predicted lower use of employment programs, including junior enlisted rank, combat exposure, combat arms occupation, and physical health problems. Unfortunately, these same predictors are also indicative of unemployment risk (Cohen et al., 2013; MacLean et al., 2019; Zivin et al., 2016; Zogas, 2017). Thus, potential program participants of a young age or with mental and physical conditions (i.e., post-traumatic stress disorder, moral injury, adverse childhood experiences, and disabilities) beg the attention of career counselors and educators to increase reach and appropriately modify program content and delivery. Second, compared to veterans from the lowest enlisted ranks, veterans from higher ranks were significantly more likely to use a variety of employment programs. This was particularly true for the use of career fairs, resume writing, and job-training and

certification programs—a list that includes some of the most successful tools for obtaining a job. Furthermore, veterans with physical health issues were substantially more likely than those without issues to use each type of employment program content component (e.g., online job database, career fairs, resume writing assistance). Race, ethnicity, and mental health conditions (with the exception of depressive symptoms) were not significant factors related to program use and use of specific employment components.

The U.S. veterans who engaged with employment programs were primarily accessing the following components: career planning, resume writing, and interviewing skills. However, only a few content components were significantly related to obtaining employment: interviewing (with mentor/coach), resume writing (online tools), translating military to civilian work (with mentor/coach), entrepreneurship (with mentor/coach), and virtual career fairs. Not all modes of instruction of these components were associated with success in the job market; the importance of having a mentor/coach cannot be overlooked.

In most cases, the U.S. veterans were exposed to program content components by information read online (i.e., career planning, resume writing, learning about job accommodations), direct instruction for resume writing, and interactive online tools for career planning and resume writing. Veterans rarely utilized (i.e., used by less than 25% of all veterans) job training or certification, networking conferences, entrepreneurship, and career fairs whether in-person or virtual. Mentors/coaches and rehearsal and role playing, which are often highly effective in assisting people obtain jobs and progress in careers (Smith et al., 2015; Solari et al., 2016), were also rarely used, except in the case of career planning. However, our findings indicate that mentors/coaches were a significant process component across many of the employment content components (i.e., interviewing, resume writing, translating military to civilian work, and entrepreneurship). Yet, why veterans are not using program components delivered by mentors and coaches is unclear. Mentors and coaches may not be available in many veteran-serving, employment programs, or, perhaps, veterans and other populations are uncomfortable with this process modality.

There are a few limitations to note in the current study. First, while the overall sample was fairly representative of the larger population of transitioning U.S. veterans, how well the sub-sample of those looking for work represents the larger veteran population is not clear. Note, this sample was drawn from the census of veterans transitioning from U.S. military service in summer/fall 2016. However, unlike previous investigations, this study employed a robust, analytical design, which increases confidence in the results. Second, the quality of content and process components experienced by the veterans was not analyzed; thus, for components that were not significant, insufficient quality may negate any potential impact.

The study results suggest that some employment program components may work better than others, and that what works is contingent upon the employment outcome (i.e., in this case obtaining employment), and, potentially, time since transition (i.e., some components may be significant at later waves of the survey) and mode of learning. Thus, these findings may be of value for program developers and stakeholders, including departments of defense or veterans affairs, as they make decisions about designing, funding, and operating employment programming for transitioning

veterans. Organizations that provide employment programming for transitioning populations should focus on the components that are predictive of employment. These results may also be useful to veterans and other populations in transition as they determine the type of employment program components likely to be most successful in helping them obtain a job.

Limitations and implications for future research

Although a wealth of data were collected on the programs nominated by the studied veterans, this reported analysis assessed program component use as an aggregate. Future analyses and research can explore the influence of program factors (e.g., staffing, funding) on the content and processes of program components and employment outcomes. Future research should also examine the quality of employment program components. Perhaps, some components were not delivered with sufficient quality to impact U.S. veterans' odds of getting a job. For example, the category of career planning and exploration programs is broad, and the quality of content may be highly variable. High- and low-quality content within components may lead to null findings and deserves further exploration. In addition, it may take time for the impact of components to be realized; some may be more beneficial at later points during a career transition or after military separation. For example, there may be a delayed effect if a person chooses to attend school or participate in additional training before joining the workforce. Findings for career planning with direct instruction and job training and certification may also be significant at future waves because more time may need to pass to complete these components before they can impact an outcome.

As noted in previous research on predictors of who is using employment programs (Aronson et al., 2019), more effort should be expended to understand why individuals are not using programs or to identify specific components that are likely to lead to successful outcomes, especially for those with the highest risk for unemployment. In this study, many of the studied U.S. veterans did not use components delivered by mentors and coaches, although mentors and coaches figured in several of the significant associations. The explanation for why veterans are not using program components delivered by mentors and coaches is unclear. Future research should examine the availability of mentor/coach delivery in employment programs and assess comfort and receptibility toward this process modality.

More broadly, this study represents a significant step forward in illustrating how specific program components can be linked to more or less successful outcomes among individuals embracing career and identity transitions. The data collected from U.S. veterans represents some of the first findings on the effectiveness of employment program components for job attainment in this population, which is known to be encountering the stressors of many transitions simultaneously (e.g., identity, career, geographic location, financial stability). Strategic evaluations like those reported here pave the way for greater reliance on evidence-based programming, and ultimately, delivery of more effective services for military veterans and others facing employment transitions.

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Availability of data and material The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable requests. The study data became publicly available in summer of 2021 through the Inter-university Consortium for Political and Social Research (ICPSR) at the University of Michigan, Ann Arbor, MI, USA. The website address is <https://www.icpsr.umich.edu/web/ICPSR/studies/38051/versions/V2>.

Code availability Not applicable as this analysis is not based on custom code for computer science or related fields.

Declarations

Blind review Two publications were removed from the reference list to ensure a blind review of the manuscript. The full citations are listed in the cover letter.

Conflict of interest The authors have no relevant financial or non-financial interests to disclose. The authors have no conflicts of interest to declare that are relevant to the content of this article. All authors certify that they have no affiliations with or involvement in any organization or entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript. The authors have no financial or proprietary interests in any material discussed in this article.

Consent to participate Study participants provided informed consent before survey completion. Consent documentation was collected and is maintained by ICF International, Inc.

Consent for Publication All contributing authors confirm that this manuscript has not been previously published and is not under consideration by any other journal. In addition, all the authors have agreed to your journal's submission policies.

Ethics approval Compliance was maintained with ethical standards. Institutional Review Board approval was secured by ICF International, Inc.

Previous publications Other publications have resulted from the longitudinal study, but the research questions and studied variables in this manuscript submission are distinct. The focus of this current manuscript submission is on employment program components and job attainment. A listing of previously published manuscripts can be submitted upon request.

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