The Relationship between Veterans' Employment Program Component Use and Career Advancement Over Time

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ABSTRACT

Over the last 5 years or so, as veterans transitioned, they generally fared well in the civilian workforce. There are numerous programs designed to help veterans write a resume, translate their military skills, and practice interviewing. The goal of many of these programs is to aid veterans to find employment. However, many of the program components that are effective for job attainment may also lead to greater job success after initial employment. Participating in employment programs may lead to leaving a job for a better opportunity or receiving a promotion. This study examined the use of employment program components related to content (i.e., what is taught) and process (i.e., how the content is taught). For example, content such as interviewing skills and processes such as mentor/coach may be helpful among this sample of transitioning veterans. This study used an adapted common components approach (Morgan et al., 2018) to examine the degree to which participation in employment program components resulted in opportunities for better employment or promotion over the first 6 to 15 months after veterans transition to civilian life. Employment content components (i.e., resume writing, translating military to civilian work, and career planning) were associated with both leaving a job for a better opportunity and promotion. Mentor/coach was often a significant process component associated with the above content components. These findings can assist program developers, local program implementers, policymakers, and funders to promote the continued use of content and process program components that may further advance veterans' careers after transition.

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Nearly half of transitioning veterans leave their first post-military job in the first year, and over 65% of veterans leave this job within the second year (Institute for Veterans and Military Families & VetAdvisor, 2014). Veterans report numerous obstacles to finding their first post-military job including lack of employment opportunities in their preferred geographic location and difficulty finding employment that aligns with their skills or education (Berglass & Harrell, 2012; Curry Hall et al., 2014; Keeling et al., 2018). Due, at least, in part to these obstacles, veterans may initially pursue jobs that do not support their skills or their career objectives (Kintzle & Castro, 2018; Lepage, 2020).

The number one reason veterans report leaving their first job after transition is to pursue a new opportunity (IVMF & VetAdvisor, 2014). Other top reasons veterans leave their first post-military job include lack of career advancement, low quality and meaningfulness of the work, inadequate pay and benefits, and poor job alignment with veterans' skills or education levels. The biggest predictors of job tenure are: (a) job alignment, which includes how the job matches with career preferences and military training and the extent to which veterans can apply their skills and abilities; and (b) the similarity of the employment organization to the military (IVMF & VetAdvisor, 2014). Similarly, when veterans were asked what would have made them stay in their first post-military job, the top two reasons veterans gave included increased salary or benefits and increased opportunities for career advancement, promotion, and professional development (IVMF & VetAdvisor, 2014). These reasons are consistent with other research that has noted the importance of defining career advancement trajectories for veterans in civilian workplaces concerning retention. Career progression paths are a key element of veterans' work culture as career advancement is well defined in the military (Hunter-Johnson et al., 2020; King, 2012; Lepage, 2020).

THEORY

Career advancement, or the ability to achieve new career goals, has been examined using both objective (e.g., salary attainment, number of promotions) and subjective (e.g., career satisfaction) indicators (Ng et al., 2005). Theoretical constructs of career mobility focus on a combination of two perspectives: contest-mobility and sponsored-mobility. Contest-mobility purports that everyone has an equal opportunity to achieve success and that success comes to those that are most skilled and who put forth the most effort to achieve success. From this perspective, career advancement can be viewed as a contest where

individuals need to continuously innovate and improve to succeed (Ng et al., 2005). Professional development and conducting job searches may be indicative of putting in the work necessary to achieve advancement. Individual factors of career success under this paradigm include human capital such as educational, personal, and professional experiences. Indicators examining individual human capital typically include the number of hours worked, job tenure, organizational tenure, work experience, educational level, career planning, political knowledge and skills, and social capital (e.g., mentor-protege relationships, professional networks). Individual's investment in human capital through continuous learning and skill building is the greatest predictor of greater workplace value and career success (Johnson & Eby, 2011; Ng et al., 2005; Seibert et al., 2001).

Sponsored-mobility theory proposes that not everyone starts on equal footing and not everyone can win (Ng et al., 2005). Elites (i.e., individuals with power due to wealth, privilege, politics, or skills) act as promoters of success, and it is individuals' social connections to these elites rather than individuals' skills and effort that drive the contest. Organizational sponsorship (i.e., the extent to which organizations assist individuals in career advancement) and sociodemographic factors are the most common indicators under this paradigm. Supervisor support, skill development training, and organizational resources are indicators of career advancement potential under the organizational sponsorship perspective.

Commonly examined sociodemographic predictors concerning career advancement include gender, race, marital status, age, and stable individual traits (e.g., neuroticism, conscientiousness, extroversion, agreeableness). Several demographic factors have been positively linked to career advancement including being married or previously married (Cobb-Clark & Dunlop, 1999), being older (Johnson & Eby, 2011; Judge et al., 1995), having a spouse that is not employed (Kirchmeyer, 1998), and upper-class family of origin (Useem & Karabel, 1986). Demographic factors such as being female and non-White are *negatively* linked to career advancement (Johnson & Eby, 2011; Ng et al., 2005).

Another lens from which to view career progression is through Super's (1957, 1980) theory of career development. Super posited that individuals progress through five stages of career development: growth, exploration, establishment, maintenance, and disengagement. This stage-based model is flexible and often individuals cycle through stages rather than progress in a rigid, linear fashion. The growth stage involves the introduction of occupations and the initial development of self-concept.

Exploration involves the establishment of vocational identity through career exploration, apprenticeships, and other work experiences which serve to further individual self-concept. The establishment stage is where individuals are working toward role stability as well as toward career promotion and advancement (Patton & McMahon, 2006). Maintenance involves the preservation of self-concept and job position, which could still include changing positions, organizations, or even occupations as long as position in one's career is retained (Patton & McMahon, 2006). The final stage, disengagement, involves planning to leave the world of work. Super (1980) also contended that career development is unique to individuals and while not age-based, career development is a dynamic process that occurs over an individual's lifetime. Transitioning veterans in the context of this study are most linked to the exploration, establishment, and maintenance stages.

PARTICIPATION IN PROGRAMS TO ENHANCE EMPLOYMENT OUTCOMES

Human and social capital are noted contributing factors to career advancement (Eby et al., 2003; McArdle et al., 2007; Ng et al., 2005). To enhance employment outcomes, many programs have been created to build the human and social capital of veterans who are seeking employment or who are seeking to obtain career advancement, such as a promotion (e.g., Onward to Opportunity, Corporate America Supports You/VetJobs). However, there is little evidence as to the degree to which participation in these programs is associated with increased career advancement for veterans (Keeling et al., 2018; Mathematica, 2014). Perhaps, specific components of employment programs enable veterans to assess their situational circumstances and identify appropriate career transition strategies; this includes activities and training to help them achieve greater employment success. For example, veterans who participate in programs that help identify and translate their military-related experiences to civilian career opportunities may find employment that aligns with their military skills more readily, and this can lead to earlier career advancement. Furthermore, when veterans who are initially underemployed use employment programs, they may be promoted at higher rates because they become better able to communicate their skills to potential employers. In addition, teaching veterans how to use or expand their professional networks may also expand their pool of potential job opportunities and enable veterans to be more discerning and competitive in their job selection; thus, allowing veterans to obtain jobs with higher wages,

attain promotion, and achieve greater job satisfaction (Eby et al., 2003; Scandura, 1992; Schulker, 2017; Wayne et al., 1999).

EMPLOYMENT PROGRAM COMPONENTS

The goal of this study was to use an adapted common components analysis (CCA; Morgan et al., 2018) to examine veterans' use of specific employment program components and the degree to which these components were associated with career advancement (i.e., leaving a job for a better opportunity or obtaining a promotion). There are numerous employment programs available to veterans; however, many of these programs lack evidence of effectiveness (Keeling et al., 2018; Mathematica, 2014). This study aimed to identify program components that lead to stronger employment outcomes for veterans.

To help address the lack of evidence for program effectiveness, a qualitative coding approach was developed to identify components in programs used by veterans that were common across a large number of distinct programs that lacked a solid evidence-base and targeted a variety of outcomes (Morgan et al., 2018; Richardson et al., 2019).

CCA was first introduced by Rosenzweig (1936) and has since been referred to as common elements (Chorpita et al., 2007), common components (Kaminski et al., 2008), and common factors (Rotheram-Borus et al., 2009). The goal of CCA is to identify components that programs have in common (i.e., from the empirical literature) and determine if they are associated with impacts on the intended outcomes (Chorpita et al., 2007). The original CCA approach specifically identifies programs that have been evaluated using randomized control trials (RCTs). The primary feature that differentiates this adapted CCA approach from previous research utilizing this method is that it does not use programs empirically supported by an RCT. Given the rapid development of programs to meet an urgent need, in this case specifically for veterans, there are many existing programs without evaluation data, let alone rigorous evaluation and publication of the results. The adapted CCA controls for the predictors of program use within a specific domain (e.g., employment), matches the sample that utilized the program against a group that did not use the program, and finally identifies which common components were related to changes in the participant outcome data (e.g., getting promoted, getting a better job).

Thus, this adapted coding approach allowed for the common components of veteran-used programs not yet empirically supported by rigorous evaluation (e.g., a randomized control trial) to be captured and assessed.

The first phase in this approach identified the common components across programs within a particular domain (e.g., employment). This study focused on two types of common components: (a) content components, the information or skills taught by the program; and (b) process components, the methods by which the program delivered the content (e.g., online, in person, one-on-one instruction, group instruction). In the second phase of the CCA, analyses were conducted to assess the association between exposure to common components and changes in targeted outcomes (e.g., job attainment, job promotion).

The current study examined how exposure to various common components of employment programs by veterans in the labor force, who were either employed or looking for work within the first 3 months of separating from active-duty service, were associated with getting promoted or leaving for a better opportunity within the subsequent 6 to 12 months. We hypothesized that veteran engagement with employment components would positively predict career advancement (i.e., leaving a job for a better opportunity or promotion).

METHODS
PARTICIPANTS
A sample representative of the population of recently transitioned veterans was identified for the study from the US Department of Veterans Affairs and US Department of Defense Identity Repository (VADIR). Eligibility criteria included: (a) military service as an officer, warrant officer, or enlisted personnel who had separated from an active-duty service component (i.e., Army, Navy, Air Force, Marine Corps) within 90 days from the data extraction; or (b) deactivation from active-duty status after serving at least 180 days in the National Guard or Reserves (NGR) within 90 days from the data extraction. All the veterans in the sample were required to have a mailing address within the United States. A total population of 48,965 veterans was identified for data extraction between May and September 2016, and these veterans were invited to participate in the Wave 1 survey. Complete data were provided by 9,566 veterans during Wave 1 of data collection (20% response rate). Detailed demographics for the original sample have been previously published (Rotheram-Borus et al., 2009). The majority of respondents at Wave 1 were male (82%; n = 7,823), White Non-Hispanic (65%; n = 6,185), and from enlisted ranks (76%; n = 7,283). For the current study, a subset of the sample was selected who also met the following inclusion criteria: completed the career advancement outcome questions for the wave analyzed.

PROCEDURES
Data collection methodology was enacted to remove veterans' personally identified information from their survey data. This methodology involved splitting outreach and data collection efforts between Veterans Affairs and ICF International, Inc, a consulting firm. Assessments were administered at approximately 6-month intervals beginning in November 2016 (Wave 1, n = 9,566, 0–3 months since separation; Wave 2, n = 7,200, 6–9 months since service separation; Wave 3, n = 7,201, 12–15 months since service separation). The majority of participants completed the survey using a web-based data collection platform. A paper-and-pencil mail questionnaire (n = 18) and phone (n = 0) version were available upon request. Given that the use of incentives has been shown to increase survey response rates, a pre-incentive of $5 cash was mailed to eligible veterans. Veterans received a $20 electronic gift code for a completed survey in the first wave of data collection, and the incentive increased by $5 during each additional wave. All participants were entered into random drawings for $100 gift codes. Small tokens of appreciation (e.g., magnets) were also provided. Human subjects' protections approval for the study was granted through ICF International, Inc. (Fairfax, Virginia, USA) and study participants gave informed consent before completing the survey (Protocol Number: 151636.0.000.00.000). Additional information about the full study, including participant characteristics and recruitment strategies, can be found in Vogt et al. (2018).

The purpose of this current analysis was to determine if employment program component use was related to leaving for a better job opportunity or receiving a promotion. Veterans were asked to nominate employment programs used during their transition from military to civilian life. Then, the programs were coded for content and process components. To improve this quasi-experimental design, propensity score matching was used to adjust for confounding variables potentially predictive of selection into treatment or control groups (Braitman & Rosenbaum, 2002). Employment program use was conceptualized as "treatment" and contrasted with program non-use as a "control" condition. This study involved four primary analytic steps: (a) estimation of propensity scores, (b) use of propensity scores through one of several techniques to adjust for confounding variables, (c) assessment of balance to determine if there were mean differences in the propensity scores between the treatment and control group, and (e) estimation of the treatment effect in the analytic model (Lanza et al., 2013).

Propensity scores were created to determine the likelihood of veterans participating in any employment programs among this specific sample of veterans.

Covariates to include in the model were identified. The logistic regression model was run, and the predicted probabilities were saved (i.e., propensity scores), which predicted the probability of veterans participating in any employment programs among this specific sample of veterans. The greedy matching method was employed by using SAS proc psmatch set the caliper = 1, and the matching method = greedy. Once the matched sample was selected, then the outcome analysis is conducted. Two matching procedures were conducted for each wave of the outcomes. Before matching, 68% (*n* = 7,000) of the veterans completed the Wave 2 survey and nominated an employment program content component (e.g., resume writing and interviewing). The online job database content component was excluded from this analysis since most jobs require the use of this component to search for and apply for jobs. To calculate propensity scores, 19 potentially

confounding variables that could predict the outcome of job promotion or better opportunity 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), retired from military service, 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, and student status (part-time and full-time). 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

	BEFORE MATCHING (*N* = 7,200)	EMPLOYMENT PROGRAM USE OR [CI]	AFTER MATCHING (*N* = 6,218)
Employment program use	62.5%	Outcome	59.5%
Male	81.7%	0.76 [0.66, 0.88]***	81.9%
Paygrade – E1 to E4	28.6%	Reference group	30.7%
E5 to E6	29.9%	1.48 [1.28, 1.70]***	31.3%
E7 to E9	17.2%	1.40 [1.12, 1.75]**	15.2%
O1 to O3	8.8%	2.21 [1.79, 2.73]***	8.7%
O4 to O7	14.1%	1.52 [1.21, 1.91]***	12.8%
Retired from military service	30.6%	1.88 [1.56, 2.25]***	25.1%
Full-time student	22.2%	1.14 [1.00, 1.29]*	23.9%
Part-time student	6.5%	2.05 [1.64, 2.58]***	5.1%
Marital Status – Single, never married	20.6%	Reference group	21.6%
Married 1st	52.8%	1.37 [1.18, 1.59]***	52.2%
Married 2nd or more	16.1%	1.15 [0.95, 1.40]	15.9%
Separated/Widowed/Divorced	10.6%	1.39 [1.14, 1.70]**	10.2%
Discharge Status - Honorable discharge	86.1%	Reference group	86.4%
General/Other discharge	2.4%	0.62 [0.45, 0.86]**	2.5%
Not discharged	5.7%	0.51 [0.40, 0.66]***	5.4%
Medical discharge	5.8%	1.22 [0.97, 1.54]	5.7%
Race/Ethnicity - White Non-Hispanic	66.1%	Reference group	65.8%
Black Non-Hispanic	10.0%	1.06 [0.89, 1.27]	9.4%
Hispanic	14.0%	1.09 [0.94, 1.26]	14.7%
Asian Hawaiian Pacific Islander/Other race	9.4%	1.09 [0.92, 1.31]	9.5%
High Resilience	27.3%	0.97 [0.86, 1.09]	27.2%
Anxiety	26.3%	1.06 [0.91, 1.24]	25.8%
PTSD	26.3%	1.00 [0.86, 1.16]	25.3%

(Contd.)

	BEFORE MATCHING (*N* = 7,200)	EMPLOYMENT PROGRAM USE OR [CI]	AFTER MATCHING (*N* = 6,218)
Depression	17.8%	1.01 [0.85, 1.21]	17.8%
Suicidal thinking	8.0%	0.98 [0.80, 1.21]	8.0%
Socially isolated	9.6%	0.93 [0.78, 1.11]	9.5%
Combat patrols	36.9%	1.31 [1.12, 1.52]***	34.1%
Corollaries of combat	50.9%	1.17 [1.01, 1.36]*	47.9%
Alcohol misuse	35.5%	1.08 [0.97, 1.21]	35.0%
Financial Status – Secure financial status	41.2%	Reference group	40.3%
Problematic financial status	22.2%	1.03 [0.88, 1.19]	22.2%
At-risk financial status	36.6%	0.99 [0.88, 1.12]	37.5%
Military Occupation Service support	38.6%	Reference group	38.3%
Combat arms	22.8%	0.82 [0.71, 0.95]	22.5%
Combat support	39.1%	1.06 [0.94, 1.19]	38.6%
Number of times deployed (1 or more)	70.7%	1.02 [0.95, 1.09]	68.6%

Table 1 Predictors of Veterans' Use of Employment Programs (Veterans Completed Wave 2).
Note: *n* = 7,200; Service branch was omitted from the table: (Army 32%, Navy 19%, Air Force, 19%, Marine Corps, 17%, National Guard/Reserves (13%); Joined the National Guard/Reserves after discharge (16%). * p < .05; ** p < .01; *** p < .001.

misspecification of either the propensity score or the model itself (D'Agostino, 1998; Kang & Schafer, 2007).

Before matching Wave 2 (see *Table 1*), male veterans were less likely to use employment programs and veterans from higher ranks including E5 to E6, senior enlisted (E7 to E9), and officers (O1 to O7) were 48% to 2.21 times more likely to use employment programs than veterans from the E1 to E4 junior enlisted ranks. Veterans who retired from military service were 88% more likely to use employment programs. Veterans who were full-time and part-time students at baseline were 14% and 2 times respectively more likely to use employment programs compared to non-full-time or part-time students, respectively. Veterans who were married for the first time were 37% more likely to use employment programs; separated, widowed, and divorced veterans were approximately 39% more likely to use employment programs in comparison to single veterans. Veterans who received a general discharge (i.e., a discharge other than honorable) were 38% less likely to use employment programs, and veterans not discharged yet (i.e., currently serving NGR) were 49% less likely to use employment programs than those who were honorably discharged. Veterans who were engaged in combat support military occupations were 31% more likely to use employment programs compared to those veterans in service support military occupations.

To create the matched sample, Greedy Nearest Neighbor Matching was used. Greedy Nearest Neighbor matching selects a treatment participant and then a matched control participant, whose propensity score (i.e., the probability of using an employment program) is closest to the treatment participant. A two-to-one matching with a 0.1 caliper was used, and matches were within 0.10 of a standard deviation of one another. The two-to-one matching allows more of the sample to remain in the analysis. Note, Rosenbaum and Rubin (1985) suggested 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 difference of the predicted probability estimates between the two groups. Before matching, the initial difference of the probability estimates was 0.09, which is slightly more than half a standard deviation (*SD* = 0.14). After matching, the difference between the mean propensity scores dropped to 0.04. Moreover, the balance of each predictor was assessed by replicating the logistic regression model predicting employment program utilization. The final matched sample consisted of 6,218 veterans that completed Wave 2. After matching, 60% of the veterans (*n* = 3,699) used at least one employment content component. Similar procedures were utilized for the Wave 3 matched sample (*Table 2*). The final matched sample consisted of 5,908 veterans that completed Wave 3.

MEASURES
Employment Program Use and Components
Veterans were asked to nominate employment programs they had used since discharge to help them transition from military to civilian life. Programs were defined as any activity designed to meet the veteran's specific needs and

	BEFORE MATCHING (N = 7,201)	EMPLOYMENT PROGRAM USE OR [CI]	AFTER MATCHING (N = 5,908)
Employment program use	62.5%	Outcome	57.8%
Male	81.9%	0.87 [0.73, 1.03]	81.5%
Paygrade - E1 to E4	29.0%	Reference group	32.8%
E5 to E6	30.2%	1.35 [1.14, 1.61]**	32.1%
E7 to E9	17.0%	1.41 [1.08, 1.83]*	13.7%
O1 to O3	8.6%	2.23 [1.70, 2.93]***	8.1%
O4 to O7	13.7%	1.75 [1.32, 2.31]***	12.3%
Retired from military service	32.6%	1.70 [1.39, 2.08]***	25.5%
Full-time student	22.6%	1.12 [0.96, 1.30]	24.2%
Part-time student	6.5%	1.98 [1.49, 2.63]***	5.1%
Marital Status - Single, never married	20.3%	Reference group	22.4%
Married 1st	52.9%	1.38 [1.16, 1.65]***	52.1%
Married 2nd or more	16.0%	1.16 [0.93, 1.44]	15.0%
Separated/Widowed/Divorced	10.8%	1.34 [1.06, 1.70]*	10.5%
Discharge Status - Honorable discharge	85.8%	Reference group	85.9%
General/Other discharge	2.5%	0.52 [0.36, 0.76]**	2.4%
Not discharged	5.8%	0.52 [0.37, 0.72]***	5.7%
Medical discharge	5.8%	1.12 [0.87, 1.46]	5.9%
Race/Ethnicity - White Non-Hispanic	66.8%	Reference group	67.2%
Black Non-Hispanic	9.7%	1.08 [0.87, 1.34]	9.2%
Hispanic	13.9%	1.18 [0.98, 1.41]	14.0%
Asian Hawaiian Pacific Islander/Other race	9.5%	1.25 [1.01, 1.55]*	9.5%
High Resilience	27.2%	0.89 [0.76, 1.03]	27.7%
Anxiety	26.3%	1.02 [0.85, 1.21]	25.3%
PTSD	26.5%	0.94 [0.80, 1.10]	24.8%
Depression	17.9%	1.01 [0.83, 1.23]	17.0%
Suicidal thinking	8.0%	0.94 [0.74, 1.18]	7.8%
Socially isolated	9.5%	0.99 [0.81, 1.22]	9.4%
Combat patrols	37.3%	1.34 [1.13, 1.60]**	32.8%
Corollaries of combat	51.0%	1.00 [0.83, 1.21]	46.5%
Alcohol misuse	35.3%	1.02 [0.90, 1.16]	34.5%
Financial Status - Secure financial status	40.8%	Reference group	39.9%
Problematic financial status	22.1%	0.94 [0.79, 1.13]	22.3%
At-risk financial status	37.0%	0.88 [0.76, 1.03]	37.8%
Military Occupation - Service support	41.4%	Reference group	38.3%
Combat arms	23.0%	0.87 [0.73, 1.03]	22.8%
Combat support	39.1%	1.11 [0.96, 1.28]	38.9%
Number of times deployed (1 or more)	70.6%	1.02 [0.94, 1.11]	66.9%

Table 2 Predictors of Veterans' Use of Employment Programs (Veterans Completed Wave 3).
Note: *n* = 7,201; Service branch was omitted from the table: (Army 32%, Navy 19%, Air Force, 19%, Marine Corps, 18%, National Guard/ Reserves (13%); Joined the National Guard/Reserves after discharge (17%); * p < .05; ** p < .01; *** p < .001.

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 prior work conducted by 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 placement assistance, career counseling, job training or help to obtain a certification, as well as any other employment-related program. At Wave 1, 914 employment programs were nominated. The research team coded the programs which had a verified website URL and were nominated by three or more veterans (n = 184). At baseline, there were well over 2,781 unique program nominations. The feasibility to conduct full coding was not possible within the constraints of time and funding of the study. Thus, a cut-off to determine eligibility was conducted. The three or more nomination criteria included the majority of all program nominations and allowed for 95.5% of all participants from Wave 1 to have at least one program coded, and 57% of veterans to have all of their program nominations coded. For programs that did not have a full URL for website coding, a content-only code was derived from the question that prompted the nomination. For example, a program nominated for resume writing was coded as offering a resume writing content component.

Each of the nominated programs was then coded for content and process components. Common content components included 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. See **Appendix A** for definitions of the content and process components.

Left Job for a Better Opportunity and Work Promotion

Veterans were also asked about changes related to specific employment outcomes from the time of their participation in the previous survey (6-month time intervals). Specifically, the question asked, "Since you completed the last survey, have you experienced any of the following changes related to your work or education/training activities?" (Check all that apply). Response options included fired or laid off from job, left your job for a better job opportunity, received a promotion at work, completed school or training, left school or training to pursue other activities, left school or training because of difficulties with grades/performance, and other major changes at work/school (please specify). This study focused on the responses related to positive work changes experienced by the veterans: leaving a job for a better opportunity or receiving a promotion.

QUALITATIVE CODING AND DATA ANALYTIC APPROACH

To determine the common components of employment programs nominated by veterans, program website pages were gathered using BeamUsUp SEO web crawler software (Gomes, n.d.), and subsequent screenshots were captured to ensure comprehensive and consistent coding over time. Trained pairs of coders used NVivo 11 (QSR International, Melbourne, Australia) 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. See Morgan et al. (2018) for additional details on the development of and theoretical justification for this coding technique. In summary, very few employment programs are evaluated utilizing an RCT. Thus, an adapted common components analysis was utilized. The coding technique is based on a comprehensive literature review of programs and services within the employment domain. Components were first identified by reviewing the program evaluation literature, organizing themes in other common component approaches (Rotheram-Borus et al., 2009), incorporating content and process codes from other common components empirical literature (Chorpita et al., 2013; Kaminski et al., 2008), and supplementing specific employment content mentioned in other supplemental material (Meyer, 2013).

Logistic regression was used to determine the components associated with leaving a job for a better opportunity or receiving a promotion. A robust covariate was included in the model. The covariate included the probability of employment program use for each content component. Each content component was analyzed separately with the same covariate; the propensity score was included in the model. All statistical models were analyzed using Stata 15.1.

RESULTS

The demographics for the study sample are provided in **Table 1** (above). The content and process components were examined for each outcome at Waves 2 and 3: leaving a job for a better opportunity or receiving a promotion. Wave 2 was approximately 6 to 9 months post-separation/deactivation from military service and Wave 3 was 12 to 15 months post-separation/deactivation from military service. **Tables 3** and **4** demonstrate the results of both outcomes.

	PREDICTOR (PROGRAM COMPONENT)	WAVE 2 BETTER OPPORTUNITY OR [95% CI]	WAVE 3 BETTER OPPORTUNITY OR [95% CI]
Model 1	Predicted probability of program use	0.08 [0.05, 0.13]***	0.07 [0.04, 0.13]***
	Interviewing, reading online	0.96 [0.77, 1.18]	0.86 [0.69, 1.08]
	Interviewing, direct instruction	1.63 [1.24, 2.16]**	2.00 [1.49, 2.68]***
	Interviewing, rehearsal/role-play	0.67 [0.48, 0.94]*	1.41 [1.13, 1.75]**ᵃ
	Interviewing, mentor/coach	0.95 [0.72, 1.26]	1.38 [1.09, 1.74]**ᵃ
Model 2	Predicted probability of program use	0.08 [0.05, 0.13]***	0.08 [0.05, 0.14]***
	Resume writing, reading online	1.74 [1.38, 2.21]***	1.64 [1.28, 2.10]***
	Resume writing, direct instruction	1.18 [1.02, 1.35]*ᵃ	1.30 [1.12, 1.51]***
	Resume writing, interactive online ᵃ	0.81 [0.64, 1.02]	0.76 [0.60, 0.97]* ᵃ
	Resume writing, mentor/coach	1.01 [0.82, 1.25]	1.30 [1.05, 1.60]* ᵃ
Model 3	Predicted probability of program use	0.08 [0.05, 0.14]***	0.08 [0.05, 0.14]***
	Translating military to civilian work, reading online	0.98 [0.77, 1.23]	0.93 [0.72, 1.19]
	Translating military to civilian work, direct instruction	1.19 [0.92, 1.55]	1.58 [1.27, 1.96]***ᵃ
	Translating military to civilian work, interactive online	0.94 [0.79, 1.12]	0.88 [0.73, 1.06]
	Translating military to civilian work, mentor/coach	1.08 [0.83, 1.39]	1.67 [1.35, 2.06]***ᵃ
Model 4	Predicted probability of program use	0.08 [0.05, 0.14]	0.09 [0.05, 0.15]***
	Networking conference, networking group	1.05 [0.80, 1.37]	1.29 [0.98, 1.70]
Model 5	Predicted probability of program use	0.08 [0.05, 0.13]***	0.08 [0.04, 0.14]***
	Career planning exploration, reading online	0.98 [0.81, 1.18]	1.02 [0.84, 1.24]
	Career planning exploration, direct instruction	1.19 [1.01, 1.41]*ᵃ	1.53 [1.24, 1.89]***
	Career planning exploration, interactive online	1.32 [1.14, 1.51]*** ᵃ	1.31 [1.13, 1.52]***
	Career planning exploration, mentor/coach	0.99 [0.85, 1.15] ᵃ	0.92 [0.71, 1.20]
	Career planning exploration, networking group	0.95 [0.74, 1.22]	0.77 [0.59, 0.99]*
Model 6	Predicted probability of program use	0.08 [0.05, 0.14]***	0.09 [0.05, 0.16]***
	Entrepreneurship, reading online	0.90 [0.68, 1.20]	0.92 [0.67, 1.25]
	Entrepreneurship, direct instruction	1.19 [0.88, 1.62]	1.30 [0.93, 1.82]
	Entrepreneurship, mentor/coach	0.87 [0.58, 1.30]	0.69 [0.43, 1.10]
Model 7	Job accommodations	0.86 [0.44, 1.68]	1.66 [0.89, 3.08]
Model 8	Job training and certification	0.98 [0.81, 1.19]	1.01 [0.82, 1.24]

Table 3 Employment Program Use and the Odds Ratio of Leaving for a Better Opportunity.
Note: Leaving for a better opportunity at Wave 2 (6 to 9 months) post separation matched sample (*n* = 6,218); Leaving for a better opportunity at Wave 3 (12 to 15 months) post separation matched sample (*n* = 5,908). ᵃ These models were analyzed with all processes within one model; however, due to multicollinearity, follow-up analysis with the probability of employment use and individual process/content were added. * p < .05; ** p < .01; *** p < .001.

	PREDICTOR (PROGRAM COMPONENT)	WAVE 2 PROMOTION OR [95% CI]	WAVE 3 PROMOTION OR [95% CI]
Model 1	Predicted probability of program use	0.20 [0.12, 0.35]***	0.23 [0.11, 0.46]***
	Interviewing, reading online	0.97 [0.78, 1.21]	1.19 [0.90, 1.57]
	Interviewing, direct instruction	0.89 [0.64, 1.24]	1.04 [0.71, 1.50]
	Interviewing, rehearsal/role-play	0.91 [0.62, 1.34]	0.78 [0.50, 1.21]
	Interviewing, mentor/coach	1.06 [0.78, 1.43]	1.06 [0.74, 1.51]
Model 2	Predicted probability of program use	0.20 [0.12, 0.34]***	0.24 [0.13, 0.46]***
	Resume writing, reading online	1.02 [0.80, 1.30]	1.35 [1.01, 1.79]*
	Resume writing, direct instruction	0.81 [0.61, 1.07]	0.79 [0.57, 1.10]
	Resume writing, interactive online [a]	0.87 [0.73, 1.05]	1.22 [1.04, 1.43]*[a]
	Resume writing, mentor/coach	1.23 [0.95, 1.61]	1.03 [0.80, 1.33]
Model 3	Predicted probability of program use	0.21 [0.12, 0.36]***	0.23 [0.12, 0.43]***
	Translating military to civilian work, reading online	0.91 [0.75, 1.10]	1.10 [0.85, 1.44]
	Translating military to civilian work, direct instruction	0.86 [0.69, 1.07]	1.37 [1.07, 1.75]*
	Translating military to civilian work, interactive online	1.03 [0.84, 1.25]	1.14 [0.93, 1.39]
	Translating military to civilian work, mentor/coach	1.04 [0.83, 1.29]	1.02 [0.76, 1.37]
Model 4	Predicted probability of program use	0.20 [0.12, 0.34]***	0.25 [0.13, 0.47]***
	Networking conference, networking group	0.80 [0.59, 1.07]	1.38 [1.03, 1.85]*
Model 5	Predicted probability of program use	0.21 [0.12, 0.35]***	0.22 [0.11, 0.42]***
	Career planning exploration, reading online	0.91 [0.75, 1.10]	1.09 [0.87, 1.36]
	Career planning exploration, direct instruction	0.85 [0.69, 1.06]	1.28 [1.05, 1.56]*
	Career planning exploration, interactive online	1.00 [0.81, 1.23]	0.92 [0.73, 1.17]
	Career planning exploration, mentor/coach	0.96 [0.74, 1.25]	1.27 [1.07, 1.50]**
	Career planning exploration, networking group	1.15 [0.88, 1.50]	1.23 [1.02, 1.47]*
Model 6	Predicted probability of program use	0.21 [0.12, 0.35]***	0.24 [0.12, 0.45]***
	Entrepreneurship, reading online	0.83 [0.61, 1.13]	1.42 [1.10, 1.82]**
	Entrepreneurship, direct instruction	0.75 [0.53, 1.05]	0.98 [0.69, 1.39]
	Entrepreneurship, mentor/coach	1.23 [0.81, 1.85]	1.24 [0.81, 1.91]
Model 7	Job accommodations	0.81 [0.40, 1.63]	0.73 [0.29, 1.84]
Model 8	Job training and certification	0.90 [0.73, 1.09]	1.22 [0.97, 1.52]

Table 4 Employment Program Use and the Odds Ratio of Promotion.
Note: Getting a promotion at Wave 2 (6 to 9 months) post separation matched sample (*n* = 6,218); Getting a promotion at Wave 3 (12 to 15) months post separation matched sample (*n* = 5,908); [a] These models were analyzed with all processes within one model; however, due to multicollinearity, follow-up analysis with the probability of employment use and individual process/content were added. * p < .05; ** p < .01; *** p < .001.

CONTENT AND PROCESS COMPONENTS PREDICTING LEAVING A JOB FOR A BETTER OPPORTUNITY

Sixteen percent of veterans left their job for a better opportunity between Wave 1 and Wave 2 (the same percentage before and after matching), 6 to 9 months after transition. In terms of leaving their job for a better opportunity, 14.8% of veterans before matching and 15.3% of veterans after matching (*n* = 5,908) did so

between Wave 2 and Wave 3, 12 to 15 months after transition. Several content components were significant for leaving a job for a better opportunity at Wave 2 and Wave 3: interviewing, resume writing, translating military to civilian work, and career planning and exploration. The associated process components for each of the significant content components are detailed below for Waves 2 and 3.

Interviewing

Specifically, veterans who used a program with the interviewing-content component delivered through direct instruction were 63% more likely to report leaving their job for a better opportunity at Wave 2, and two times more likely to report leaving their job for a better opportunity at Wave 3. Those who used rehearsal/role-playing or a mentor or coach to build interviewing skills were 41% and 38% respectively more likely to report leaving their job for a better opportunity at Wave 3.

Resume Writing

Veterans who nominated programs with resume-writing content read online were 74% more likely at Wave 2 and 64% more likely at Wave 3 to report leaving their job for a better opportunity. Veterans who used a program with the resume-writing content component delivered through direct instruction were 18% and 30% more likely to report leaving their job for a better opportunity at Wave 2 and 3, respectively. Veterans using a program with a mentor or coach to assist with resume writing were 30% more likely to report leaving their job for a better opportunity by Wave 3. In contrast, veterans who nominated resume-writing components delivered through an interactive online tool were 24% less likely to leave their job for a better opportunity by Wave 3.

Translating Military to Civilian Work

Veterans who nominated a program that assisted in translating their military to civilian work via direct instruction were 58% more likely to report leaving their job for a better opportunity at Wave 3. If translation assistance was provided by a mentor or coach, veterans were 67% more likely to report leaving their job for a better opportunity at Wave 3.

Career Planning and Exploration

Veterans who nominated programs with career planning and exploration through direct instruction were 19% more likely to report leaving their job for a better opportunity at Wave 2, and 53% more likely to report leaving for a better opportunity by Wave 3. However, if veterans nominated programs with career planning and exploration provided through an interactive online tool, they were 32% and 31% more likely to report leaving their job for a better opportunity at Wave 2 and 3, respectively. In contrast, veterans who used a networking group for career planning and exploration were 23% less likely to report leaving their job for a better opportunity at Wave 3.

CONTENT AND PROCESS COMPONENTS PREDICTING WORK PROMOTION

A small percentage of veterans, 14.5% before matching (n = 7,248) and 14.8% after matching (n = 6,218), received a promotion at work between Wave 1 and Wave 2, 6 to 9 months after transition. A smaller percentage of veterans, 11.6% before matching (n = 7,274) and 11.6% after matching (n = 5,908), received a promotion between Wave 2 and Wave 3, 12 to 15 months after transition. There were no significant relationships between program content and process components and receiving a promotion at Wave 2. However, several content components were significant to receiving a promotion by Wave 3: resume writing, translating military to civilian work, career planning and exploration, and entrepreneurship. The associated process components for each of the significant content components are detailed below for Wave 3.

Resume Writing

Veterans who read online to learn about resume writing were 35% more likely to receive a promotion at Wave 3. Veterans participating in a resume writing program delivered through an online interactive tool were 22% more likely to receive a promotion by Wave 3.

Translating Military to Civilian Work

Veterans who nominated a program that had helped translate their military skills to civilian work through direct instruction were 37% more likely to receive a promotion by Wave 3. Veterans who nominated programs that offered them involvement in networking conferences (with a networking group) were 38% more likely to receive a promotion.

Career Planning and Exploration

Veterans who nominated programs that provided career planning and exploration through direct instruction were 28% more likely to receive a promotion by Wave 3. When career planning and exploration was offered by a mentor or coach, veterans were 27% more likely to receive a promotion by Wave 3, and if career planning

and exploration was offered through a networking group, veterans were 23% more likely to receive a promotion by Wave 3.

Entrepreneurship

Veterans who read online to learn about entrepreneurship were 42% more likely to report receiving a promotion by Wave 3.

DISCUSSION

This study examined the specific use of content and process components of employment programs that impact the career advancement of Post-9/11 veterans over the first year of their separation or deactivation from active-duty service. This study advanced prior research on military to civilian transitioning by applying an innovative approach to identify common components of employment programs; program elements predicting career advancement for veterans were identified for both leaving a job for a better opportunity and receiving a promotion within an organization.

Many veterans have indicated the use of employment programs (Perkins et al., 2019). Indeed, more than 60% of veterans in the study's matched sample used at least one employment program content component. The matched propensity identified several demographic groups that need additional supports to gain access to services or would benefit from efforts to reduce the stigma associated with program use: males, single (never married), E1 to E4 paygrade, and general/other discharge.

This study identified components of employment programs veterans reported using that appear to be effective for career advancement. The results suggest that the effect on employment depends upon the career advancement outcome (i.e., leaving for a better opportunity or job promotion), the combination of the content and process component used, and the time since transition (i.e., some components are only significant at certain waves). Specifically, the following content components were significantly related to leaving a job for a better opportunity: (a) interviewing (direct instruction, rehearsal/role play, mentor/coach); (b) resume writing (reading online, direct instruction, online tools, mentor/coach); (c) translating military to civilian work (direct instruction, mentor/coach); and (d) career planning (direct instruction, online tools). In addition, the following content components were associated with obtaining a promotion: (a) resume writing (reading online, online tools); (b) translating military to civilian work (direct instruction); (c) networking conference; (d) career planning and exploration (direct instruction, mentor/coach, networking group); and (e) entrepreneurship (reading online).

Previous research using the same sample of transitioning veterans examined employment content and process components associated with job attainment (Perkins et al., 2022). This research demonstrated that veterans who engaged with employment programs were primarily accessing the following components: career planning, resume writing, and interviewing skills. The majority of components associated with obtaining employment were also significant components in career advancement outcomes except for entrepreneurship (i.e., with mentor/coach), and virtual career fairs.

Similar to job attainment, not all modes of program delivery were associated with career advancement. Using content components delivered by a mentor/coach continues to be a significant process component across many of the employment content components (i.e., interviewing, resume writing, translating military to civilian work). Yet, based on previous analyses (Perkins et al., 2022), we know veterans often are not using program components delivered by mentors and coaches; however, why this process component is not widely used is unclear. Perhaps, mentors and coaches may not be available in many veteran-serving employment programs due to higher implementation costs, or veterans are uncomfortable with using mentors/coaches and this delivery method is unappealing due to the intensity associated with one-on-one delivery.

CONCLUSIONS

This research has implications for a range of stakeholders including program developers, researchers, program implementers, and policymakers. This study provides information about program use, the specific components used, and the effectiveness of those components on specific job outcomes such as leaving a job for a better opportunity and job promotion. Program developers, implementers, and other decisionmakers can use this information to segment and provide targeted programming to their target audience to address the "right" outcome or challenge, understand who may not be served currently by their programming, and what components are effective for the groups they serve based on the sought-after outcome. Individuals delivering or making decisions about

programs should consider implementing the content and process components most likely to lead to impactful job outcomes for transitioning veterans (e.g., job attainment and job promotion). Doing so will enable veteran-serving organizations to have the most impact on the populations they serve and also allow these organizations to distribute their scarce resources to the components most likely to make a difference. Program developers and implementers should also consider veteran transition timing and how these components may be more or less useful based on time since transition. For example, no employment content components were significant to obtain a promotion at Wave 2; yet veterans should be encouraged to continue to use programs after transition noting that several employment components were significant to promotion at Wave 3 and there were significant employment components predicting veterans leaving a job for a better opportunity at both Waves 2 and Wave 3. Also, consistent with other research we should continue to encourage and provide additional supports to veterans who may be at higher risk of poor employment outcomes (e.g., unemployment or underemployment) and are less likely to use employment programs including male, lower enlisted, and veterans with a general or other discharge (Aronson et al., 2019; Perkins et al., 2022).

LIMITATIONS

The strength of this research methodology is that the veterans were recruited from a population of recently discharged veterans and they were followed longitudinally. This allowed for the assessment of program use in applied, real-world settings across time. Unlike previous investigations, every model in this study included a robust covariate that accounted for the likelihood of using employment programs. This innovative statistical methodology allows for some quasi-experimental designs to examine a variety of outcomes and increases confidence in the results. These types of research methods will ensure selection biases are not inadvertently leading policymakers and philanthropic groups to invest in programs that are not generalizable.

Nevertheless, this study did have a few limitations. First, the quality of content and process components was not investigated in this study. Thus, for components that were not significant, insufficient quality may be the reason for no impact, but we cannot determine this potential link in the current research study. Second, the current study only examines employment component use and subsequent career advancement outcomes over

the first year after transition from military service. Further waves of data will need to be examined to determine if the cumulative impact of components or components used at later periods in transition are significant to career advancement outcomes. The current study provides a glimpse of components impacting career advancement; however, these outcomes (i.e., leaving a job for a better opportunity and promotion) may require a longer duration of study for a comprehensive understanding of how using these components impact veterans' career trajectories.

IMPLICATIONS FOR FUTURE RESEARCH

Future research should examine the quality of veteran-serving employment program components. Perhaps some components were not delivered with sufficient quality to impact veterans' career advancement. For example, the category of career planning and exploration programs is broad, and the quality of their content may be highly variable. High and low-quality content within components may lead to null findings and deserves further exploration. Also, the fluidity of the job market or the rate at which individuals move into and out of jobs needs to be considered as career advancement opportunities may be an artifact of the performance of the US economy. US labor markets have had limited fluidity in recent years due to an aging workforce and smaller employers which has subsequently resulted in increased mobility among workers in certain industries (e.g., retail), among secondary earners, and among younger and less educated individuals to find better opportunities (Davis & Haltiwanger, 2014). Lastly, the impact of veterans' continued use of programs over time to help them achieve their personal or professional goals could be further explored for identifying the ideal timing of interventions. Future directions should also examine the continued use of programs throughout the transition process to explore impacts on factors such as increased salary and job retention.

This study represents progress toward demonstrating how specific program components can be linked to successful outcomes among transitioning veterans. With data representing some of the first findings on the effectiveness of employment program components, new links have been established between program content and delivery processes on leaving a job for a better opportunity and job promotion. These findings can support program decision-makers toward evidence-based programming, and ultimately, support effective career advancement services for transitioning veterans.

SUPPLEMENTARY APPENDIX A

CONTENT AND PROCESS COMPONENT	DEFINITION
Interviewing skills	Developing interview skills, preparing for an interview, or providing interview best practices, tips, or tools
Resume writing	Providing templates or assistance for resumes for different job categories
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 the military occupational specialty code (MOS) translation or Air Force Specialty Codes (AFSC)
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
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
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
Job accommodations	Assisting veterans with a disability or condition that prevents standard employment
Job training and certification	Providing training or certification in a specific field with a path to employment, such as fellowships, job placements, IT training, project management certification

Note: Process components 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: 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.

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COMPETING INTERESTS

The authors have no competing interests to declare.

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