

**Technical Report 1435**

**Army-wide Job Analysis for Noncommissioned  
Officers: Identifying Knowledge, Skills, and Behaviors  
requirements from the Army Talent Attribute  
Framework Volume I: Main Report**

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**September 2023**

**United States Army Research Institute  
for the Behavioral and Social Sciences**

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<b>14. ABSTRACT</b> An essential component to modernizing the Army's talent management system is to identify the attributes that are necessary to perform successfully in each position. Using the Army Talent Attribute Framework (ATAF), which surveys Knowledge, Skills, and Behaviors (KSBs), the present study surveyed thousands of noncommissioned officers (NCOs) to identify the essential attributes each MOS requires. Results demonstrated similarities in MOS KSBs across ranks yet highlights subtle differences both between MOSs and ranks. Furthermore, results highlight subtle differences that are present in special assignment positions. Findings highlight the subtle similarities and differences between MOSs and rank that could help streamline the Soldier assignment process to produce better Soldier occupation fit and thus Army retention. This research serves as a baseline for future talent management research, such as investigating new job analytic techniques, tracking Army modernization efforts, and analyzing force restructuring demands for particular attributes. This research also serves as a critical baseline for informing numerous current and future Army talent management efforts outlined in the Army People Strategy (2019) – a) Acquire, b) Develop, c) Employ, and d) Retain.					
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There are individuals not listed as authors who made significant contributions to the research described in this report.

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# ARMY-WIDE JOB ANALYSIS FOR NONCOMMISSIONED OFFICERS: IDENTIFYING KNOWLEDGE, SKILLS, AND BEHAVIOR REQUIREMENTS FROM THE ARMY TALENT ATTRIBUTE FRAMEWORK VOLUME I: MAIN REPORT

## EXECUTIVE SUMMARY

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### Research Requirement:

The Army has focused on developing a talent management system that effectively recognizes and uses an individual's knowledge, skills, and behaviors (KSBs). The Army People Strategy (2019) outlines the Army's approach to a strategic talent management-based personnel system through: 1) Acquiring, 2) Developing, 3) Employing, and 4) Retaining Talent. Implementing a modernized, data-driven talent management system for the Army will enable strategic workforce development, reduce talent gaps, and increase overall Army readiness. An essential component to modernizing the Army's talent management system is to identify the attributes that are necessary for Soldier performance. To meet this critical need of the Army, the purpose of this research was to conduct a large-scale job analysis to identify the attributes critical to success for noncommissioned officers (NCOs) across each Military Occupational Specialty (MOS) using the newly developed Army Talent Attribute Framework (ATAF).

### Procedure:

U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) developed an online job analysis survey (Army-wide Job Analysis for NCOs) in collaboration with the Army's Talent Management Task Force (ATMTF). A total of 123,340 participants were invited via email to participate in the survey. Additionally, an open-internet link to the same survey was approved to increase survey access. Participants responded to position and service questions (e.g., time in position, time in rank, MOS), then were presented with the complete Army Talent Attribute Framework (ATAF) KSB list and asked to rate the importance of each for performance in their position. The survey was open from 23 Mar. 2022 to 31 May 2022. After data cleaning, the dataset consisted of total of 5,721 NCOs across numerous MOSs.

### Findings:

This report summarizes overall NCO KSB importance ratings, along with KSBs that emerge according to one's rank. Observing KSB importance ratings across the Army, regardless of rank or MOS, Sound Judgement, Communication Ability, Dependability, Mental Agility, and Stress Tolerance emerged as some of the most important KSBs for NCOs. The most important KSBs for Sergeants were Stress Tolerance, Detail-focused and Precise, Dependability, Communication Ability, and Sound Judgement. While Sergeants, Staff Sergeants, and Sergeants First Class tended to show a great deal of overlap in which KSBs appeared in their top 30 most important KSBs, the ranks above these (Master Sergeant, First Sergeants, Sergeant Majors, and Command Sergeant Majors) tended to report an increasing number of new KSBs related to leadership and managing teams, as well as KSBs related to developing a greater understanding for organizational operations. We also observed attribute requirements for those in special duty assignments such as recruiters, drill instructors, and victim advocates (VAs). SARC and VAs

demonstrated similar KSBs that highlight the important roles of trust, communication, and decision making within these assignments. Instructors, on the other hand, highlight the skills of leadership, communication, and stress management. Understanding the specific skills needed by rank or special assignment will help further the Army's talent management system by directly identifying the attributes that are necessary to perform successfully in each position and rank.

#### Utilization and Dissemination of Findings:

The results of this job analysis will be used by ARI to guide numerous talent management research efforts. For example, this data will allow researchers to explore new approaches to job analysis (e.g., by extracting job requirements from text responses using natural language processing) and identify where and how assessments may most be needed (and, where necessary, develop such assessments). This job analysis also serves as an important baseline for supporting Army talent management efforts based on the Army People Strategy of acquiring, developing, employing, and retaining critical talent. Results from this job analysis survey will be used to improve the Assignment Interactive Module Version 2 (AIM2) Marketplace process for individuals applying to positions, as well as for Army talent management and strength managers (i.e., individuals responsible for tracking incoming and outgoing Soldiers). For individual NCOs, understanding how KSBs are used in the Marketplace enables them to communicate their strengths to units of interest, and allow them to identify areas in which they need further development in preparation for a desired position. For strength managers, data from this study allows them to better match candidates to available job positions based on alignment between the candidate's strengths and position requirements using effective selection and assessment strategies. Understanding the critical knowledge, skills, and abilities needed for specific positions will allow the identification of reliable and valid assessments for selection, assignment, and evaluating performance. Further, regarding the Army's focus on employing talent, individuals can identify developmental areas to facilitate their career trajectory and engage in relevant trainings or experiences and be matched to positions for which they are good matches. In support of the Army's focus on retaining talent, the position requirements outlined by this study will allow Army talent management to identify individuals with in-demand talents and find opportunities for career counseling and permeability (i.e., moving between different workforce positions for which they may be suited).

ARMY-WIDE JOB ANALYSIS FOR NONCOMMISSIONED OFFICERS: IDENTIFYING  
KNOWLEDGE, SKILLS, AND BEHAVIOR REQUIREMENTS FROM THE ARMY TALENT  
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## **ARMY-WIDE JOB ANALYSIS FOR NONCOMMISSIONED OFFICERS: IDENTIFYING KNOWLEDGE, SKILLS, AND BEHAVIOR REQUIREMENTS FROM THE ARMY TALENT ATTRIBUTE FRAMEWORK VOLUME I: MAIN REPORT**

The Army People Strategy (2019) outlines the Army's goal of moving from talent management processes that heavily rely on filling empty billets to data-driven processes that strategically and actively managing the talents of Army personnel. The Army's approach to a strategic talent management-based personnel system includes four lines of effort: 1) Acquire, 2) Develop, 3) Employ, and 4) Retain Talent. The Army has focused on developing a talent management system that effectively recognizes and uses each individual's knowledge, skills, and behaviors (KSBs) and places individuals in roles that align with their KSBs. Implementing a modernized, data-driven talent management system for the Army also enables strategic workforce development, reduces talent gaps, and increases overall Army readiness. With the recent development of the Army Talent Attribute Framework (ATAF), the Army now has an extensive taxonomy of the various attributes relevant to individual success. An essential component to modernizing the Army's talent management system is to identify the attributes that are necessary to perform successfully in each position.

In order to identify critical attributes to successful performance and position requirements, the purpose of this research was to conduct a large-scale job analysis to support the Army's focus on acquiring, developing, employing, and retaining talent. The results of this study provide a complete summary of attribute importance across the entire Army and identifies the attributes critical to success in positions across each Army Military Occupational Specialty (MOS) and Noncommissioned officer (NCO) rank using the newly developed ATAF. Identifying key attributes necessary for successful performance in a given job is critical to supporting an effective Army talent management system and enhancing overall Army readiness.

Specifically, in support of the Army's focus on acquiring talent, this job analysis provides Army talent management and strength managers (i.e., individuals responsible for tracking incoming and outgoing Soldiers) with an understanding of attribute requirements for NCOs, both in terms of rank and assignment. This understanding allows them to communicate position requirements to the talent pool and better match candidates to available job positions by aligning the candidate's strengths and position requirements using a valid and reliable assessment strategy. In support of the Army's effort to develop talent, the results of this study facilitate the identification of talent gaps and opportunities to develop individuals through appropriate training, education, and credentialing. In support of the Army's emphasis on employing talent, this job analysis supports the Army's emphasis on retaining talent by emphasizing alignment between individual strengths and job requirements, as well as informing talent-based individual career pathing. The Army has recognized the importance of person-job alignment and is actively engaged in modernizing Army talent management by better aligning individuals to jobs and career opportunities based on their attributes. Further, this study supports the Army's focus on retaining talent by providing an understanding of position attribute requirements, as well as workforce positions with similar attribute requirements. This understanding allows Army talent management to identify individuals with in-demand talents and engage these individuals with opportunities for career counseling and permeability (i.e., moving between different workforce positions for which they may be suited). Emphasizing alignment between individual attributes

and position requirements has been shown to increase worker job satisfaction, motivation, and retention (e.g., Barrick & Mount, 2005; Barrick & Parks-Leduc, 2019). This large-scale job analysis was approved by Army senior leadership to support this critically important modernization effort.

Further, the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) researchers can use the results of this job analysis as a critical baseline for informing and guiding a number of talent management research initiatives. For instance, analysis of individual text data collected during job analyses can be time-consuming and cumbersome (Putka et al., 2022); however, new approaches such as natural language processing (NLP) and machine learning (ML) can facilitate more efficient ways of extracting attribute requirements from job incumbents. This data will also help researchers and planners better understand where particular types of assessments may be most needed in the future.

### **The Army Talent Attribute Framework**

The Army Talent Attribute Framework (ATAF) serves as the foundation for this Army-wide job analysis. The ATAF was developed and adopted as the common framework for describing the capabilities of Army personnel and the requirements of positions throughout the Army and was a joint effort between the ARI and Army Talent Management Task Force (ATMTF) (Royston et al., 2022). It consolidates the attributes contained within the “21 Talents” of the Office of Economic and Manpower Analysis (OEMA), ADP 6-22’s Leadership Competency Model, and the Army Talent Alignment Process (ATAP) KSB-P list. It also contains attributes identified as being important to Army personnel from the Department of Labor’s Occupational Information Network (O\*NET) and from an extensive review of academic sources.

The ATAF was agreed upon by the ATMTF, OEMA, TRADOC G-3/5/7, and three organizations from the Combined Arms Center (CAC), including Army University (Army U), Center for Army Professional Leadership (CAPL), and Mission Command Center of Excellence (MCCOE) (Royston et al., 2022). The ATAF also received approval by the Assistant Secretary of the Army (Manpower & Reserve Affairs) to be the standard framework for attributes and attribute data in the Military Implementation Plan (Army People Strategy, 2019). Currently, the ATAF is being implemented within the Integrated Personnel and Pay System-Army (IPPS-A) to assess, report, develop, and track talent attributes of military personnel and is being piloted in Army talent management systems such as Assignment Interactive Module 2.0 (AIM2). The standardized framework provides commonality among talent management initiatives allowing data linkage across different talent applications. Additionally, the ATAF undergoes an annual review cycle to revise and refine the framework to ensure it meets emerging needs of the Army (e.g., Royston & Berger, 2023; Royston & Glerum, in preparation).

The ATAF is structured within three tiers to facilitate Army talent management professionals to visualize and understand how attributes are interrelated. Tier 1 consists of seven Talent Domains representing broad categories of attributes: (1) Cognitive, (2) Communication, (3) Disposition, (4) Interpersonal, (5) Leadership & Management, (6) Expertise & Personal Competence, and (7) Physical. Tier 2 represents 42 sub-categories or Talents, which are defined

as “unique, measurable clusters of highly interrelated knowledge, skills, and behaviors possessed by an individual, which results in effective performance when properly aligned against a particular job” (Royston et al., 2022, p.7). Tier 3 further contains 198 measurable KSBs<sup>1</sup> that are contained within the 42 Talents. In contrast to most traditional talent management systems, which use the terminology of KSAO (Knowledge, Skills, Abilities, and Other Characteristics) to describe attributes required by individuals in a given position, the Army uses the term KSB (Knowledge, Skills, Behaviors), where Behavior is used as a substitute for Ability and Other Characteristics.

KSBs are further defined as follows (Royston et al., 2022):

**Knowledge:** “What I Know”: A topically organized set of facts and information acquired by a person through experience, education, or training, which supports work related performance.

**Skill:** “What I Can Do”: A person’s proficiency and ability to perform a job-related activity that contributes to effective performance or learning.

**Behavior:** “How I Act”: A person’s values, attitudes, and temperament as evidenced through their actions.

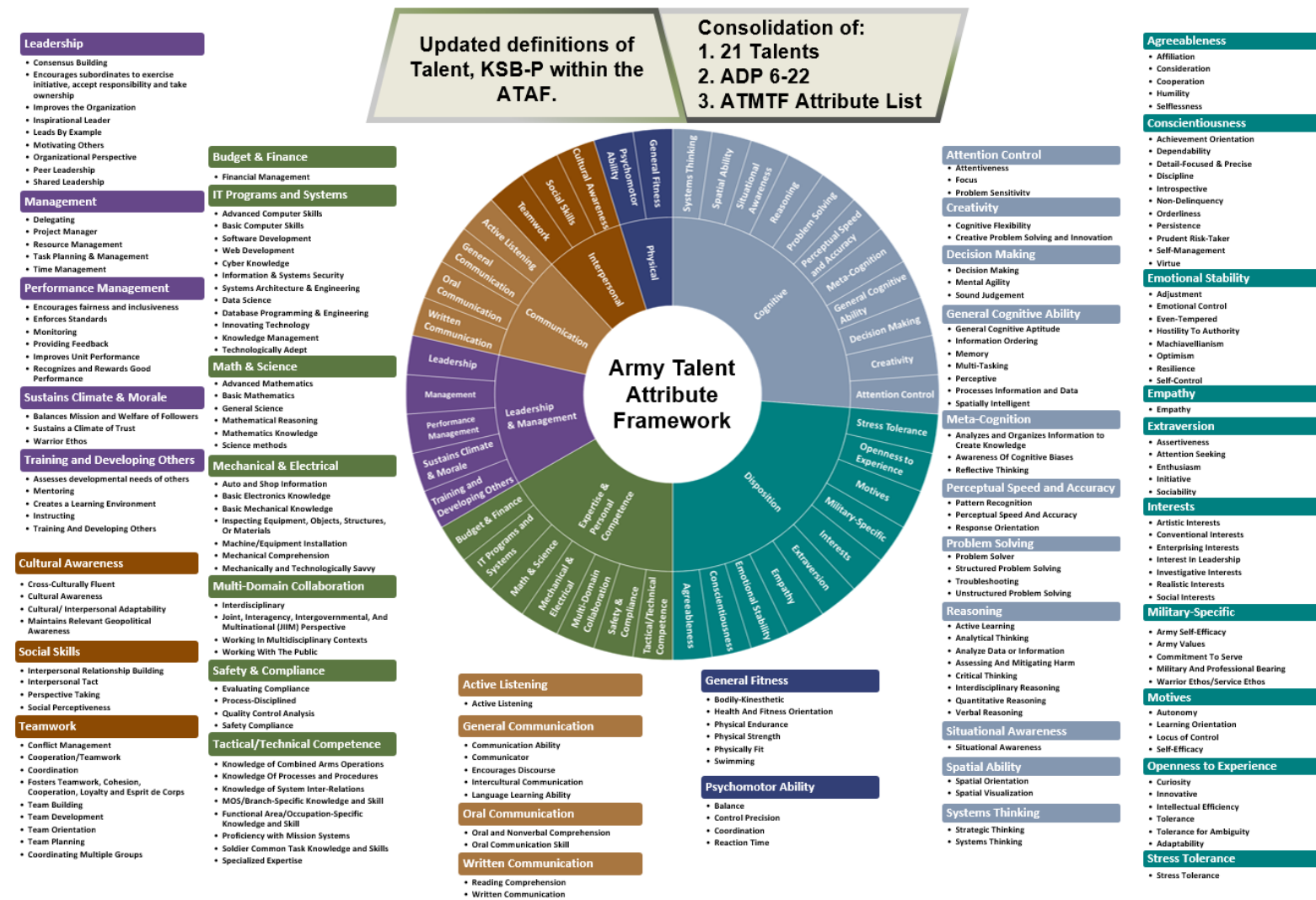
For a complete visual representation of the ATAF, see the following figure.

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<sup>1</sup> While there are 198 KSBs contained within the ATAF, two KSBs (Functional Area-specific Knowledge and Skill and Warrior Ethos) were excluded from this job analysis due to NCOs not being assigned to Functional Areas and due to overlap between Warrior Ethos and several other KSBs.

**Figure 1**

*Complete Army Talent Attribute Framework (ATAF)*



Note: Tier 1 Talent Domains depicted in the inner circle, Tier 2 Talents in the outer circle, and Tier 3 measurable KSBs listed on outside of circle.

## **Job Analysis Purpose**

Job analyses may be conducted for a variety of reasons and are a critical component of effective workforce planning. Job analyses are intended to identify job requirements and usually establish criticality of job duties and tasks. These underlying job requirements define the basic qualifications or talents are needed to successfully perform work duties.

Job analyses also provide information for job descriptions, classification, evaluation, and design. Further, they are the basis for developing performance appraisals, conducting training needs analysis, strategic workforce planning, identifying hazardous behaviors and conditions, compliance with regulations and laws, and identifying the knowledge, skills, and abilities required for a job role, which can then be used to match individuals to jobs (Morgeson et al., 2020). A great deal of research has suggested that person-job alignment is a critical component to improving worker job satisfaction, motivation, and retention (e.g., Barrick & Mount, 2005; Barrick & Parks-Leduc, 2019). The Army has also taken this into consideration and is now taking strides to improve how individuals are matched to positions. The Army's goal of better aligning individuals to jobs based on their attributes was the driving force behind this large-scale job analysis effort. The recently developed ATAF further supports the Army's person-job alignment efforts by providing a common lexicon to describe individual characteristics required of jobs across the Army enterprise.

The goals of this job analysis were to: 1) identify and link critical KSBs to successfully performing in one's job, and 2) determine critical duties for special duty assignments and Senior NCOs ranked E8 or E9. Therefore, each incumbent rated the importance of each ATAF KSB for successful performance in their job position. These KSB importance ratings would be observed for each MOS to outline the most important KSBs for NCOS in that particular MOS. More specifically, this study aimed to provide a critical baseline to support current and future Army talent management, including improving person-job alignment, identifying training needs, increasing job satisfaction, aiding career progression, and facilitating succession planning. Traditionally, the Army assigned individuals to positions based on availability and rank, rather than considering how one's talents and attributes aligned with position requirements. However, as the Army begins modernizing its talent management system, it has recognized the advantages of emphasizing person-job fit and understanding what attributes facilitate success in particular positions. Additionally, it will allow for an improved AIM 2.0 Marketplace process for individuals by enabling them to communicate strengths to units and identify areas to further develop in preparation for a desired position.

## **Method**

### **Survey Development**

The survey contained a Privacy Act Statement and a Project Summary, which provided information about the survey's purpose, voluntary participation, confidentiality of data, and estimated time needed to complete the survey. The first section contained assignment and service questions such as time in assignment, time in rank, and MOS. See Appendix A for complete list of position and service items, along with demographic items. The second section was conditional

based for individuals in special assignments, or ranked E8 or E9, who were then provided with free response textboxes and asked to list their broad duties and up to ten of their most important tasks<sup>2</sup> (please see Appendix B). In the third section, participants were presented with 196 KSBs from the ATAF and asked to rate the importance of each for performance in their assignment. See Appendix C for complete ATAF and rating scale. Following KSB importance ratings, participants responded to several demographic items. Table 1 below provides a description of each section of the NCO Army-wide Job Analysis survey.

**Table 1**

*Overview of NCO Army-wide Job Analysis Sections and Content*

<b>Section I: Service and Assignment Background items (10-11 Items)</b>	
<ul style="list-style-type: none"> <li>• Rank</li> <li>• Time in Rank</li> <li>• Time in Service</li> <li>• Time in Assignment</li> <li>• Army Component (e.g., Active)</li> <li>• Conditional Active Duty Guard item</li> </ul>	<ul style="list-style-type: none"> <li>• Current Assignment Title</li> <li>• Billeted Assignment Title</li> <li>• Leader Training Course Attendance</li> <li>• Special Assignment (e.g., SARC, VA, Recruiter)</li> <li>• MOS</li> </ul>
<b>Section II: Conditional Assignment or Rank Duty Input</b>	
<b>Incumbents serving in Special Assignment or Ranked E8 or E9:</b>	
<ul style="list-style-type: none"> <li>• 1 Broad Position Duty Item</li> <li>• 10 Open-ended Most Critical Duties/Tasks</li> </ul>	
<b>Section III: ATAF KSB Importance Ratings (196 Items)</b>	
<ul style="list-style-type: none"> <li>• Importance Ratings of 196 ATAF KSBs</li> </ul>	
<b>Section IV: Demographics (4 Items)</b>	
<ul style="list-style-type: none"> <li>• Gender</li> <li>• Origin/Ancestry</li> <li>• Race</li> <li>• Age</li> </ul>	

**Identification of Top 10 Most Important Duties for NCO subsets**

Because duties performed are not always representative of one’s typical MOS, some NCOs were asked to summarize their duties. Specifically, individuals in special duty assignments (e.g., SARC, VA, Recruiter), Senior Sergeants (possessing MOS letter designation ‘Z’), or possessing the rank of Master Sergeant, First Sergeant (E-8), Sergeant Major, or

<sup>2</sup> Analysis of duty lists was not a focus of this report and are presented in a subsequent report.

Command Sergeant Major (E-9s) were provided with 10 open-ended items in which they were instructed to list the most critical duties or tasks associated with their position. For these open-ended task items, topic modeling, a method of text mining, was used to extract duties from participant responses where there were sufficient number of responses (see Method and Results sections for more information). Individuals meeting any of the criteria in Table 2 were asked to provide their specific duties.

**Table 2**

*NCO criteria for responding to Top Ten Duty Inputs*

Criteria
Rank: <ul style="list-style-type: none"> <li>• Master Sergeant or First Sergeant (E-8)</li> <li>• Sergeant Major or Command Sergeant Major (E-9)</li> </ul>
MOS Designation <ul style="list-style-type: none"> <li>• Z – Senior Sergeant (E-8)</li> </ul>
Special Assignment <ul style="list-style-type: none"> <li>• Sexual Assault Response Coordinator (SARC)</li> <li>• Victim Advocate (VA)</li> <li>• Recruiter</li> <li>• Professional Military Education (PME) Instructor</li> <li>• Drill Instructor</li> <li>• ROTC Instructor</li> </ul>

**Sample Approach**

The target sample was Active Duty NCOs ranked E5-E9. The initial pool was exported from Army’s Vantage personnel database on 31 January 2022. The initial sample of 178,242 was further reduced using the following process. First, to ensure that the sample included only NCOs in Active Duty status, NCOs who were either students, entering into a position, or transitioning out of the Army were screened out of the sample.<sup>3</sup> This reduced the total sample pool of NCOs from 178,242 to 147,283.

Given that online invitations would be sent to NCOs, an additional 251 individuals were dropped from the pool due to missing a DOD email address, further reducing the sample pool to 147,032 NCOs. Further, 10 NCOs possessed Primary MOS of 09U (Unqualified in Authorized Army MOS) and one NCO possessed a Primary MOS of 09W (Warrant Officer Candidate), all of which were removed reducing the sample pool to 147,021. To reduce overall survey burden, participants were randomly selected by MOS and rank, which reduced the final sample from 147,021 to 123,340. Table 3 below provides a summary of survey invitations according to rank.

<sup>3</sup> Within the Army Vantage database, Active Duty NCOs have Position Numbers indicating their position status.

**Table 3**

*NCO Sample Pool by Rank*

<b>Rank</b>	<b>Email Invitation Sample Pool</b>
E-5	44,063
E-6	40,989
E-7	27,280
E-8	8,308
E-9	2,700
<b>Total</b>	<b>123,340</b>

The 123,340 individuals in the sample pool were then invited to participate in the survey via email. Similar to the officer and warrant officer Army-wide job analysis surveys, an open-link was approved for distribution to increase survey visibility. The survey was open from 23 Mar. 2022 to 31 May 2022, resulting in a total of 6,620 complete responses.

**Data Cleaning**

A multistep process was used to clean the final response dataset. For those who completed the open-link survey, 220 duplicate complete cases were dropped for individuals who had already responded to the initial email invitation survey. After removing these duplicate responses, we used a multiple phases approach for data cleaning, detecting careless responders (Bowling et al., 2023), and ensuring data were of high quality. First, 67 individuals who completed the survey were removed because they did not respond to at least 80% of KSB ratings.

Second, a time analysis was used to remove individuals who completed the survey in an unrealistic amount of time. Previous research suggests that 2-seconds per question tends to be an effective cut-off and converges well with other measures of careless responding (Bowling et al., 2023; DeSimone et al., 2015). Consequently, 230 individuals completing the survey in less than six minutes and 45 seconds were removed from the dataset (as there are roughly 205 items on this questionnaire, depending on whether an individual responded to open-ended duty input items).

The final hurdle entailed a statistical approach to detect individuals who showed little, if any variance across many items, which is often indicative of insufficient effort responding (e.g., selected “Extremely Important” across an unusually high number of consecutive items). This analysis used intra-individual response variability (IRV), which provides an individual-level variance or standard deviation of responses across consecutive item responses. Very low IRV scores indicate individuals who provide straight-line responses (e.g., select ‘Extremely Important’ on most or all items), while individuals with exceptionally high IRV scores may represent highly random responses (Dunn et al., 2018; Marjanovic et al., 2015). This approach has shown to be effective when items in a survey represent several different constructs and

contain both positively and negatively worded items (Schroeders et al., 2021). Because including too many items in calculating an IRV index score reduces the sensitivity of the index, it is advised to calculate an IRV index on between 50 and 150 items (Dunn et al., 2018). Further, it is recommended that IRV indexes be calculated in the latter sections of a survey because insufficient effort responding “is more likely to occur later in questionnaires as participants become bored or frustrated and develop strategies to complete the questionnaire as quickly as possible” (Dunn et al., 2018, p. 118). Further, Dunn et al. (2018) point out that calculating IRV indexes in the latter sections of a survey is a strength over insufficient effort response calculations, such as the even-odd consistency index because these forms are “calculated using responses to items that appear early, where IER is less likely to occur. As such, the ratio of the number of responses for which there was IER to the number of responses to which there was attentive responding may be small, creating a degree of insensitivity in the index” (p. 118). We calculated IRV index scores based on participant responses to the last 100 KSB importance ratings, as this represents roughly half of the ATAF KSBs. Using the last 100 KSB ratings in the IRV index calculation was based on previous research suggesting that insufficient effort responding tends to occur more frequently towards the end of a survey as participants grow bored or frustrated (Dunn et al., 2018). Individuals with IRV index scores further than three standard deviations away from the mean IRV index score ( $M = 1.31$ ,  $SD = 0.44$ ) were removed from analysis. Consequently, 324 participants were removed because they lacked variability; however, no individuals were removed for too much variability in their responses.

Lastly, 13 individuals indicating that they were Corporals (E-4s) and were removed from analyses due to insufficient sample size, along with 45 individuals who passed the initial screening items, but then later responded to an item in the survey indicating they were in the Army Reserves or National Guard.

Following data cleaning procedures, the final sample consisted of 5,721 individuals. The final analytic dataset included NCOs who met the following inclusion criteria: (a) they completed at least 80% of KSB importance ratings, (b) they are currently serving in an Active Duty E-5 - E-9 position, and (c) they met quality control analyses described in the data cleaning procedures.

## **Participants**

Table 4 provides a comparison of the demographic breakdown of the final sample and the NCO population from the 2021 Annual Demographics Profile of the Military Community (Department of Defense, 2022).

**Table 4***Comparison of NCO Sample and 2021 Annual Demographics Profile*

Demographic	Final Survey Sample and Proportions	2021 Annual Demographics Profile and Proportions (E5-E9 individuals)
<i>Gender</i>		
Male	4,747 (83.0%)	154,536 (86.5%)
Female	862 (18.2%)	24,101 (13.5%)
Gender Not Reported	101 (1.8%)	-
<i>Age Range</i>		
<26	205 (3.5%)	29,144 (16.3%)
26-30	727 (12.7%)	53,001 (29.7%)
31-35	1,288 (22.5%)	41,846 (23.4%)
36-40	1,692 (29.6%)	33,276 (18.6%)
41-45	1,038 (18.1%)	21,370 (12.0%)
46+	670 (11.7%)	-
Age Not Reported		-
<i>Ethnicity</i>		
Hispanic, Latino, or Spanish Ethnicity	1,127 (19.7%)	30,706 (17.2%)
Not of Hispanic, Latino, or Spanish Ethnicity	4,464 (78.0%)	147,931 (82.8%)
Ethnicity Not Reported	93 (2.8%)	-
<i>Race</i>		
American Indian or Alaska Native	99 (1.7%)	1,307 (0.7%)
Asian	207 (3.6%)	8,638 (4.8%)
Black or African American	956 (16.7%)	41,410 (23.2%)
Native Hawaiian or Other Pacific Islander	106 (1.9%)	2,760 (1.5%)
White	3,632 (63.5%)	114,679 (64.2%)
More Than One Race	630 (11.0%)	-
Race Not Reported/Unknown	91 (1.6%)	9,843 (5.5%)

*Note:* The Annual Demographics Report does not report multi-racial data, combines all individuals aged 41 and older when reporting age, and includes students in counts and percentages.

Overall, 83.0% of NCOs were male ( $n = 4,747$ ), while 15.1% reported being female ( $n = 862$ ). A total of 112 NCOs did not report their gender. The proportion of individuals is similar to those reported in the 2021 Annual Demographics Profile of the Military Community, in which 86.5% of enlisted personnel ranked E-5 through E-9 were male and 13.5% were female (Department of Defense, 2022).

For age, less than 0.1% of NCOs reported being 17-20 years old ( $n = 2$ ), 3.5% reported being 21-25 years old ( $n = 203$ ), 12.7% were 26-30 years old ( $n = 727$ ), 22.5% were 31-35 years old ( $n = 1,288$ ), 29.6% were 36-40 years old ( $n = 1,692$ ), 18.1% were 41-45 years old ( $n = 1,038$ ), and 11.7% were 46 or older ( $n = 670$ ). A total of 101 NCOs did not report their age.

In terms of ethnicity and race, 19.7% ( $n = 1,127$ ) of NCOs reported being of Hispanic, Latino, or Spanish ancestry, while 78% ( $n = 4,464$ ) reported not being of Hispanic, Latino, or Spanish ancestry. 5.7% ( $n = 326$ ) of NCOs reported their race as American Indian/Alaska Native (227 of which also selected another race). 6.3% ( $n = 360$ ) reported their race as Asian/Asian-American (153 of which also selected another race). 20.5% ( $n = 1,171$ ) reported their race as Black/African American (215 of which also selected another race). 3.9% ( $n = 223$ ) reported their race as Native Hawaiian or other Pacific Islander (117 of which also selected another race) while 69.7% of NCOs ( $n = 3,989$ ) reported their race as White (357 of which also selected another race). A total of 91 NCOs did not report their race.

### Overall NCOs

Army NCOs varied by rank, number of years in their current rank, and number of years in their current position, as shown in Tables 3, 4, and 5. Sergeants (E-5) made up 13.8% of the sample ( $n = 791$ ), while Staff Sergeants (E-6) represented 30% of the sample ( $n = 1,714$ ). Sergeant First Class (E-7) were the largest group, comprising 36.4% of the sample ( $n = 2,080$ ). Master Sergeants and First Sergeants, both of which are E-8 ranks, represented 6.9% ( $n = 393$ ) and 4.6% ( $n = 266$ ) of the sample respectively. Sergeant Majors and Command Sergeant Majors, both E-9 ranks, made up the remaining sample at 4.3% ( $n = 245$ ) and 4.1% ( $n = 232$ ), respectively. See Table 5 below.

**Table 5**

*Overall NCO Responses by Rank (Frequencies)*

Rank	$n$	%	N Sample Pool	Response Rate
Sergeant	791	13.8	44,063	1.8%
Staff Sergeant	1714	30.0	40,989	4.2%
Sergeant First Class	2080	36.4	27,280	7.6%
Master Sergeant	393	6.9	8,308	7.9%
First Sergeant	266	4.6		
Sergeant Major	245	4.3	2,700	17.7%
Command Sergeant Major	232	4.1		
Total	5721	100	123,340	4.6%

In terms of NCOs' time in current assignment, 10.9% ( $n = 624$ ) reported that they had been in their current assignment for less than 6 months, while 23.1% had been in their current assignment for more than 6 months, but less than one year ( $n = 1,324$ ). Further, 31.6% were in their current assignment for more than one year but less than two years ( $n = 1,809$ ) and 22.8% were in their current assignment for at least two years but less than three years ( $n = 1,302$ ). Finally, 11.3% were in their current assignment for more than three years ( $n = 647$ ). See Table 6.

**Table 6***Overall NCOs' Total Time in Current Assignment by Rank (Frequencies)*

Rank	Time in Current Assignment				
	<6 months <i>n</i> (row%)	6 months to <1 year <i>n</i> (row%)	1 to <2 <i>n</i> (row%)	2 to <3 <i>n</i> (row%)	3 or more <i>n</i> (row%)
Sergeant	89 (11.3%)	157 (19.9%)	245 (31.1%)	181 (22.9%)	117 (14.8%)
Staff Sergeant	200 (11.7%)	336 (19.6%)	516 (30.2%)	418 (24.4%)	241 (14.1%)
Sergeant First Class	234 (11.3%)	480 (23.1%)	641 (30.9%)	503 (24.3%)	216 (10.4%)
Master Sergeant	40 (10.2%)	116 (29.5%)	129 (32.8%)	69 (17.6%)	39 (9.9%)
First Sergeant	19 (7.2%)	79 (30.0%)	92 (35.0%)	55 (20.9%)	18 (6.8%)
Sergeant Major	15 (6.1%)	98 (40.0%)	86 (35.1%)	33 (13.5%)	13 (5.3%)
Command Sergeant Major	27 (11.7%)	58 (25.1%)	100 (43.3%)	43 (18.6%)	3 (1.3%)
Total <i>n</i> (%)	624 (10.9%)	1,324 (23.2%)	1,809 (31.7%)	1,302 (22.8%)	647 (11.3%)

*Note.* *N* = 5,796. Fifteen individuals did not respond to this item

In terms of NCOs' time in current rank, 8.9% (*n* = 507) of the sample indicated that they had held their current rank for less than 6 months, while 10.9% indicated they had been in their current rank for more than 6 months, but less than one year (*n* = 624). 16.6% were in their current rank for more than one year but less than two years (*n* = 947), 19.8% were in their current rank for at least two years but less than three years (*n* = 1,132), and 43.5% indicated that they were in their current rank for more than three years (*n* = 2,488). See Table 7

In terms of NCOs' years of service, only 7.1% of the sample had five or fewer years of service, while 10.5% of the sample had 6-8 years of service and 14.7% had 9-11 years of service. The three largest groups were those individuals with 12-14 years of service (16.4%), 15-17 years of service (19.3%), and 18-20 years of service (18.0%). Together, these three largest groups represented over half of the sample (53.7%). Approximately 14% of the sample had more than 20 years of service. Table 8 below further breaks down participants' years of service by rank.

**Table 7***Overall NCOs' Time in Current Rank (Frequencies)*

Rank	Time in Current Rank				
	<6 months <i>n</i> (row%)	6 months to <1 year <i>n</i> (row%)	1 to <2 <i>n</i> (row%)	2 to <3 <i>n</i> (row%)	3 or more <i>n</i> (row%)
Sergeant	85 (10.8%)	122 (15.5%)	209 (26.6%)	141 (17.9%)	229 (29.1%)
Staff Sergeant	153 (9.0%)	336 (19.6%)	516 (30.2%)	418 (24.4%)	241 (14.1%)
Sergeant First Class	188 (9.1%)	480 (23.1%)	641 (30.9%)	503 (24.3%)	216 (10.4%)
Master Sergeant	54 (13.8%)	116 (29.5%)	129 (32.8%)	69 (17.6%)	39 (9.9%)
First Sergeant	14 (5.3%)	79 (30.0%)	92 (35.0%)	55 (20.9%)	18 (6.8%)
Sergeant Major	11 (4.5%)	98 (40.0%)	86 (35.1%)	33 (13.5%)	13 (5.3%)
Command Sergeant Major	2 (0.9%)	58 (25.1%)	100 (43.3%)	43 (18.6%)	3 (1.3%)
Total <i>n</i> (%)	507 (8.9%)	624 (11.0%)	947 (16.6%)	1,132 (19.9%)	2,488 (43.7%)

*Note.* *N* = 5,698. Twenty-three individuals did not respond to this item.

**Table 8***Overall NCOs' Years in Service by Rank (Frequencies)*

Rank	Years in Service										
	0-2 <i>n</i> (row%)	3-5 <i>n</i> (row%)	6-8 <i>n</i> (row%)	9-11 <i>n</i> (row%)	12-14 <i>n</i> (row%)	15-17 <i>n</i> (row%)	18-20 <i>n</i> (row%)	21-23 <i>n</i> (row%)	24-26 <i>n</i> (row%)	27-29 <i>n</i> (row%)	30+ <i>n</i> (row%)
Sergeant	14 (1.8%)	325 (41.1%)	266 (33.6%)	146 (18.5%)	37 (4.7%)	2 (0.3%)	1 (0.1%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Staff Sergeant	0 (0%)	61 (3.6%)	326 (19.0%)	562 (32.8%)	407 (23.8%)	244 (14.3%)	90 (5.3%)	14 (1.0%)	3 (0.2%)	2 (0.1%)	3 (0.2%)
Sergeant First Class	0 (0%)	2 (0.1%)	6 (0.3%)	135 (6.5%)	452 (21.8%)	687 (33.1%)	607 (29.2%)	144 (6.9%)	28 (1.3%)	11 (0.5%)	5 (0.2%)
Master Sergeant	0 (0%)	1 (0.3%)	0 (0%)	0 (0%)	29 (7.4%)	88 (22.4%)	161 (41.0%)	89 (22.6%)	18 (4.6%)	4 (1.0%)	3 (0.8%)
First Sergeant	0 (0%)	0 (0%)	0 (0%)	0 (0%)	11 (4.1%)	78 (29.3%)	106 (39.8%)	59 (22.2%)	10 (3.8%)	0 (0%)	2 (0.8%)
Sergeant Major	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	6 (2.4%)	51 (20.8%)	60 (24.5%)	72 (29.4%)	48 (19.6%)	8 (3.3%)
Command Sergeant Major	1 (0.4%)	1 (0.4%)	0 (0%)	0 (0%)	1 (0.4%)	1 (0.4%)	14 (6.0%)	66 (28.4%)	83 (35.8%)	56 (24.1%)	9 (3.9%)
Total	15 (0.3%)	390 (6.8%)	598 (10.5%)	843 (14.7%)	937 (16.4%)	1,106 (19.3%)	1,030 (18.0%)	432 (7.6%)	214 (3.7%)	121 (2.1%)	30 (0.5%)

*Note.* *N* = 5,716. Five individuals did not respond to this item.

## ***Career Management Field and Special Duty Assignment Totals***

MOS codes for enlisted personnel represents one’s career management field upon entering military service. These codes consist of two numbers, which designates the branch to which an individual belongs, followed by a letter, which represents the specific job the service member is assigned. Each MOS requires specialized training and oftentimes individuals have the option to move to a different MOS and gain additional training and develop occupational skills. Table 9 summarizes frequencies for Career Management Fields (CMF) for individuals in this sample. Certain MOS that do not align with an existing CMF are either listed as their own (e.g., 27D, 36B) or combined (i.e., 00Z, 09L). A list of MOS within each CMF can be found in Appendix E.

**Table 9**

### *Career Management Field (Frequencies)*

Career Management Field	<i>N</i>
CMF 11 - Infantry	356
CMF 12 - Engineer	293
CMF 13 - Field Artillery	289
CMF 14 - Air Defense Artillery	139
CMF 15 - Aviation	407
CMF 17 - Cyber	74
CMF 18 - Special Forces	57
CMF 19 - Armor	203
CMF 25 - Signal	528
MOS 27D - Paralegal	55
CMF 31 - Military Police	212
CMF 35 - Military Intelligence	550
MOS 36B - Finance	50
CMF 37 - Psychological Operations	31
CMF 38 - Civil Affairs	24
MOS 42A - Human Resources	212
MOS 42R & 42S - Music	36
CMF 46 - Public Affairs	28
CMF 51 - Quartermaster	35
MOS 56M - Religious Affairs	43
CMF 68 - Health Services	707
CMF 74 - CBRN	138
MOS 79R - Recruiter	108
MOS 79S - Career Counselor	61
CMF 88 - Transportation	202
CMF 89 - Ordnance	86
CMF 91 - Ordnance	285
CMF 92 - Quartermaster	434
CMF 94 - Ordnance	41
Other*	37
<b>Total</b>	<b>5,721</b>

*Note:* \*37 individuals listed an MOS that does not align with a typical CMF. See Table E1 in Appendix E for list of MOS in this category.

In addition to collecting information on each participant’s MOS, we asked individuals whether they currently were assigned to special duties including Sexual Assault Response Coordinator (SARC), Victim Advocate (VA), Recruiter, PME Instructor, Drill Instructor, and ROTC Instructor. Overall, a total of 606 participants reported being assigned to one of these special duties. Table 10 below provides a full summary of these duty assignments by rank.

**Table 10**

*Special Duty Assignments (Frequencies)*

<i>Special Duty Assignment</i>	<i>N</i>
Sexual Assault Response Coordinator (SARC)	40
Victim Advocate (VA)	82
Recruiter	190
PME Instructor	166
Drill Instructor	93
ROTC Instructor	35
None	5,082
<b>Total</b>	<b>5,688</b>

Note: Thirty-three individuals did not respond to this item.

**Procedure**

The Army-wide Job Analysis was administered online and contained a Privacy Act Statement and a Project Summary to provide information about the survey’s purpose, voluntary participation, confidentiality of data, and an estimate of the time needed to complete the survey. If participants granted consent, they then responded to assignment and service questions (e.g., time in position, time in rank, MOS). If they met the criteria mentioned in Table 1, they were also asked to list up to ten of their most important duties or tasks associated with their assignment. All participants were then presented with the complete Army Talent Attribute Framework (ATAF) KSB list and asked to rate the importance of each for performance in their assignment.

## **Results**

NCOs rated the importance of all ATAF KSBs for successful performance in their current job position. We examined NCO ratings of KSB importance to identify which were considered most relevant to successful job performance by overall rank, and by each Career Management Field (CMF). Because of the high number of KSBs within the ATAF, we report the top 30 KSBs per NCO rank in the main body of this report. Reporting the top 30 KSBs also aligns with guidance given to branch proponents when developing storyboards, in which proponents were instructed to identify up to 30 KSBs that they observed to be the most important for success in a given position. Complete KSB ratings by NCO rank can be found in Appendix D. For complete KSB ratings by CMF, please see Appendix E.

Furthermore, to increase the precision of importance ratings, KSB mean importance ratings were weighted by variance. This entailed a statistical technique of inverting the variance of KSB mean ratings, such that lower variance ratings were assigned greater weight as this reflects a greater degree of agreement among raters regarding the importance of a given KSB.

### **Army-wide NCO KSB Importance Ratings**

Observing KSB importance ratings across the Army, regardless of rank or MOS, Sound Judgement, Communication Ability, Dependability, Mental Agility, and Stress Tolerance emerged as some of the most important KSBs for NCOs. While Army-wide ratings do not provide a very nuanced examination of Soldier critical attributes, this overview does provide an idea of common KSBs that emerge as important, regardless of one's rank or MOS. See Table 11 below for complete results.

**Table 11***Army-wide Top 30 KSBs for NCOs (variance-weighted means)*

Rank	KSB	<i>N</i>	<i>M*</i>	<i>SD</i>
1	Sound Judgement	5,673	4.22	0.77
2	Communication Ability	5,704	4.2	0.77
3	Dependability	5,693	4.04	0.81
4	Mental Agility	5,686	3.97	0.81
5	Stress Tolerance	5,632	3.95	0.83
6	Communicator	5,699	3.93	0.82
7	Active Listening	5,690	3.92	0.83
8	Processes Information and Data	5,666	3.92	0.81
9	Attentiveness	5,703	3.9	0.81
10	Oral Communication Skill	5,680	3.85	0.84
11	Time Management	5,613	3.83	0.86
12	Focus	5,698	3.82	0.81
13	Self-Management	5,681	3.79	0.86
14	Adaptability	5,644	3.77	0.86
15	Detail-Focused and Precise	5,686	3.75	0.85
16	Cooperation/Teamwork	5,688	3.74	0.86
17	Decision Making	5,682	3.72	0.87
18	Critical Thinking	5,680	3.72	0.86
19	Problem Solver	5,672	3.69	0.87
20	General Cognitive Aptitude	5,683	3.69	0.83
21	Situational Awareness	5,654	3.67	0.9
22	Reading Comprehension	5,692	3.66	0.88
23	Problem Sensitivity	5,671	3.65	0.87
24	Discipline	5,690	3.64	0.89
25	Resilience	5,654	3.64	0.89
26	Self-Control	5,651	3.59	0.9
27	Sustains a Climate of Trust	5,559	3.58	0.93
28	Creative Problem Solving and Innovation	5,669	3.55	0.9
29	Analytical Thinking	5,683	3.54	0.89
30	Leads By Example	5,595	3.54	0.93

*Note:* KSB Importance rated on scale of 0 = “Not Important”, 1 = “Somewhat Important”, 2 = “Important”, 3 = “Very Important”, 4 = “Extremely Important”. Means have been weighted by inverting variance and then multiplying by original mean value, which provides greater weight to KSBs where there is less variance, and therefore a higher level of agreement on the importance rating. Note that in some cases, this weighting produces weighted mean ratings above the scale minimum and maximum scale anchors.

### Rank-specific Army-wide KSBs

Having observed overall Army-wide NCO KSB importance ratings, the following tables present top-rated KSBs by NCO rank regardless of MOS. These findings will be briefly summarized before moving into rank-specific KSB ratings.

### *Army-wide Top KSB Ratings for Sergeants*

As seen in Table 12, the most important KSBs for SGTs were Stress Tolerance, Detail-focused and Precise, Dependability, Communication Ability, and Sound Judgement.

**Table 12**

*Top KSBs for Sergeants, regardless of MOS*

KSB Importance Rank	KSB	<i>N</i>	<i>M*</i>	<i>SD</i>
1	Stress Tolerance	778	4.01	0.83
2	Detail-Focused and Precise	786	3.87	0.85
3	Dependability	787	3.79	0.87
4	Communication Ability	789	3.78	0.88
5	Sound Judgement	782	3.72	0.88
6	Processes Information and Data	783	3.70	0.88
7	Active Listening	786	3.67	0.89
8	Focus	791	3.66	0.87
9	Attentiveness	791	3.64	0.88
10	Mental Agility	786	3.59	0.90
11	Time Management	776	3.59	0.92
12	Adaptability	781	3.58	0.91
13	General Cognitive Aptitude	786	3.52	0.89
14	Critical Thinking	785	3.46	0.94
15	Self-Management	786	3.46	0.94
16	Analytical Thinking	784	3.44	0.93
17	Resilience	780	3.42	0.95
18	Problem Sensitivity	787	3.41	0.93
19	Active Learning	787	3.41	0.92
20	Reading Comprehension	783	3.40	0.95
21	Communicator	787	3.40	0.96
22	Situational Awareness	778	3.38	0.97
23	Cooperation/Teamwork	779	3.38	0.94
24	Decision Making	787	3.38	0.95
25	Oral Communication Skill	786	3.37	0.96
26	Information Ordering	787	3.35	0.93
27	Problem Solver	786	3.34	0.95
28	Perceptive	784	3.30	0.94
29	Self-Control	785	3.29	0.97
30	Analyzes and Organizes Information to Create Knowledge	784	3.28	0.95

*Note:* KSB Importance rated on scale of 0 = “Not Important”, 1 = “Somewhat Important”, 2 = “Important”, 3 = “Very Important”, 4 = “Extremely Important”. Means have been weighted by inverting variance and then multiplying by original mean value, which provides greater weight to KSBs where there is less variance, and therefore a higher level of agreement on the importance rating. Note that in some cases, this weighting produces weighted mean ratings above the scale minimum and maximum scale anchors.

### *Army-wide Top KSB Ratings for Staff Sergeants*

Top KSBs for SSGs included Sound Judgement, Communication Ability, Stress Tolerance, Attentiveness, and Dependability. SSGs also shared 26 of their 30 highest rated KSBs with SGTs. However, four new top 30 KSBs for SSGs included Discipline, Initiative, Emotional Control, and Creative Problem Solving and Innovation (see Table 13).

**Table 13**

*Top KSBs for Staff Sergeants, regardless of MOS*

KSB Importance Rank	KSB	N	M*	SD
1	Sound Judgement	1,699	4.07	0.80
2	Communication Ability	1,707	4.03	0.81
3	Stress Tolerance	1,685	3.91	0.85
4	Attentiveness	1,710	3.82	0.82
5	Dependability	1,704	3.82	0.85
6	Communicator	1,706	3.80	0.84
7	Focus	1,706	3.77	0.83
8	Processes Information and Data	1,692	3.76	0.86
9	Mental Agility	1,703	3.75	0.86
10	Active Listening	1,701	3.74	0.86
11	Oral Communication Skill	1,703	3.70	0.87
12	Detail-Focused and Precise	1,704	3.68	0.87
13	Self-Management	1,705	3.67	0.88
14	Resilience	1,692	3.63	0.90
15	Adaptability	1,692	3.61	0.90
16	Time Management	1,687	3.59	0.91
17	Problem Solver	1,696	3.59	0.89
18	General Cognitive Aptitude	1,701	3.59	0.86
19	Situational Awareness	1,695	3.58	0.92
20	<b>Discipline</b>	<b>1,710</b>	<b>3.58</b>	<b>0.89</b>
21	Decision Making	1,700	3.57	0.90
22	Self-Control	1,682	3.56	0.90
23	Problem Sensitivity	1,697	3.55	0.89
24	Critical Thinking	1,701	3.50	0.91
25	Reading Comprehension	1,708	3.44	0.92
26	Cooperation/Teamwork	1,708	3.41	0.93
27	<b>Initiative</b>	<b>1,688</b>	<b>3.38</b>	<b>0.93</b>
28	Analytical Thinking	1,700	3.38	0.93
29	<b>Emotional Control</b>	<b>1,697</b>	<b>3.37</b>	<b>0.93</b>
30	<b>Creative Problem Solving and Innovation</b>	<b>1,695</b>	<b>3.36</b>	<b>0.94</b>

*Note:* KSB Importance rated on scale of 0 = “Not Important”, 1 = “Somewhat Important”, 2 = “Important”, 3 = “Very Important”, 4 = “Extremely Important”. Means have been weighted by inverting variance and then multiplying by original mean value, which provides greater weight to KSBs where there is less variance, and therefore a higher level of agreement on the importance rating. Note that in some cases, this weighting produces weighted mean ratings above the scale minimum and maximum scale anchors. Bolded KSBs represent new attributes emerging at this rank.

### *Army-wide Top KSB Ratings for Sergeant First Class*

Top KSBs for SFCs included Sound Judgement, Communication Ability, Dependability, Mental Agility, and Processes Information and Data. SFCs shared 25 of their 30 highest rated KSBs with SGTs and SSGs, while five new top KSBs emerged pertaining to leadership behaviors, such as Sustains a Climate of Trust, Coordination, Army Values, Military and Professional Bearing, and Leads by Example (see Table 14).

**Table 14**

*Top KSBs for Sergeant First Class, regardless of MOS*

KSB Importance Rank	KSB	N	M*	SD
1	Sound Judgement	2,062	4.26	0.77
2	Communication Ability	2,073	4.24	0.75
3	Dependability	2,072	4.11	0.79
4	Mental Agility	2,064	4.06	0.79
5	Processes Information and Data	2,065	4.00	0.79
6	Communicator	2,073	3.94	0.81
7	Stress Tolerance	2,049	3.91	0.83
8	Oral Communication Skill	2,062	3.89	0.82
9	Attentiveness	2,067	3.89	0.80
10	Time Management	2,037	3.89	0.84
11	Active Listening	2,071	3.88	0.83
12	Self-Management	2,062	3.85	0.84
13	Cooperation/Teamwork	2,067	3.82	0.84
14	Focus	2,069	3.80	0.81
15	Decision Making	2,065	3.79	0.85
16	Adaptability	2,044	3.78	0.86
17	General Cognitive Aptitude	2,067	3.72	0.81
18	Detail-Focused and Precise	2,067	3.72	0.85
19	<b>Sustains a Climate of Trust</b>	<b>2,019</b>	<b>3.71</b>	<b>0.89</b>
20	Problem Solver	2,060	3.71	0.86
21	Reading Comprehension	2,068	3.69	0.86
22	Critical Thinking	2,066	3.69	0.86
23	Discipline	2,071	3.67	0.87
24	<b>Coordination</b>	<b>2,066</b>	<b>3.66</b>	<b>0.86</b>
25	Situational Awareness	2,053	3.64	0.91
26	Resilience	2,057	3.62	0.89
27	<b>Army Values</b>	<b>2,057</b>	<b>3.62</b>	<b>0.92</b>
28	Self-Control	2,056	3.61	0.89
29	<b>Military And Professional Bearing</b>	<b>2,063</b>	<b>3.61</b>	<b>0.92</b>
30	<b>Leads By Example</b>	<b>2,033</b>	<b>3.61</b>	<b>0.90</b>

*Note:* KSB Importance rated on scale of 0 = “Not Important”, 1 = “Somewhat Important”, 2 = “Important”, 3 = “Very Important”, 4 = “Extremely Important”. Means have been weighted by inverting variance and then multiplying by original mean value, which provides greater weight to KSBs where there is less variance, and therefore a higher level of agreement on the importance rating. Note that in some cases, this weighting produces weighted mean ratings above the scale minimum and maximum scale anchors. Bolded KSBs represent new attributes emerging at this rank.

### *Army-wide Top KSB Ratings for Master Sergeants*

Top KSBs for MSGs included Communication Ability, Sound Judgement, Communicator, Processes Information and Data, and Dependability. MSGs also shared 28 of their 30 highest rated KSBs with lower ranks. However, two new top KSBs emerged for MSGs including Written Communication and Oral and Nonverbal Comprehension (see Table 15).

**Table 15**

*Top KSBs for Master Sergeants, regardless of MOS*

KSB Importance Rank	KSB	<i>N</i>	<i>M*</i>	<i>SD</i>
1	Communication Ability	393	4.67	0.67
2	Sound Judgement	390	4.53	0.71
3	Communicator	393	4.52	0.70
4	Processes Information and Data	388	4.47	0.68
5	Dependability	390	4.44	0.73
6	Oral Communication Skill	391	4.44	0.70
7	Critical Thinking	390	4.28	0.72
8	Reading Comprehension	393	4.27	0.75
9	Cooperation/Teamwork	392	4.26	0.75
10	Military And Professional Bearing	388	4.25	0.78
11	Creative Problem Solving and Innovation	390	4.24	0.75
12	Attentiveness	392	4.23	0.74
13	Mental Agility	392	4.14	0.76
14	Self-Management	389	4.11	0.80
15	Army Values	389	4.07	0.82
16	<b>Written Communication</b>	<b>393</b>	<b>4.06</b>	<b>0.80</b>
17	Active Listening	392	4.05	0.80
18	Detail-Focused and Precise	390	4.04	0.78
19	Problem Sensitivity	389	4.04	0.79
20	Time Management	380	4.03	0.82
21	Focus	391	4.02	0.75
22	Analytical Thinking	391	3.96	0.80
23	Leads By Example	382	3.96	0.82
24	Adaptability	389	3.95	0.82
25	Initiative	388	3.93	0.81
26	Discipline	390	3.93	0.82
27	<b>Oral and Nonverbal Comprehension</b>	<b>390</b>	<b>3.91</b>	<b>0.80</b>
28	Coordination	392	3.91	0.82
29	Analyzes and Organizes Information to Create Knowledge	390	3.89	0.82
30	General Cognitive Aptitude	390	3.88	0.79

*Note:* KSB Importance rated on scale of 0 = “Not Important”, 1 = “Somewhat Important”, 2 = “Important”, 3 = “Very Important”, 4 = “Extremely Important”. Means have been weighted by inverting variance and then multiplying by original mean value, which provides greater weight to KSBs where there is less variance, and therefore a higher level of agreement on the importance rating. Note that in some cases, this weighting produces weighted mean ratings above the scale minimum and maximum scale anchors. Bolded KSBs represent new attributes emerging at this rank.

### *Army-wide Top KSB Ratings for First Sergeants*

Top KSBs for 1SGs included Sound Judgement, Sustains a Climate of Trust, Enforces Standards, Communication Ability, and Army Values. 1SGs also shared 19 of their 30 highest rated KSBs with lower ranks. Eleven new top KSBs emerged for 1SGs pertaining to leadership attributes such as Enforces Standards, Mentoring, and Training and Developing Others (see Table 16).

**Table 16**

*Top KSBs for First Sergeants, regardless of MOS*

KSB Importance Rank	KSB	<i>N</i>	<i>M*</i>	<i>SD</i>
1	Sound Judgement	264	5.43	0.54
2	Sustains a Climate of Trust	261	5.43	0.55
3	<b>Enforces Standards</b>	<b>261</b>	<b>5.24</b>	<b>0.59</b>
4	Communication Ability	266	5.17	0.57
5	Army Values	266	5.14	0.62
6	Mental Agility	265	5.06	0.59
7	Active Listening	265	5.03	0.61
8	Communicator	264	4.96	0.61
9	<b>Mentoring</b>	<b>254</b>	<b>4.95</b>	<b>0.63</b>
10	Leads By Example	263	4.94	0.65
11	<b>Training and Developing Others</b>	<b>260</b>	<b>4.93</b>	<b>0.64</b>
12	Situational Awareness	264	4.88	0.65
13	Time Management	259	4.84	0.66
14	Military And Professional Bearing	266	4.83	0.67
15	<b>Team Building</b>	<b>266</b>	<b>4.80</b>	<b>0.66</b>
16	<b>Fosters Teamwork, Cohesion, Cooperation, Loyalty and Esprit de Corps</b>	<b>266</b>	<b>4.80</b>	<b>0.66</b>
17	<b>Balances Mission and Welfare of Followers</b>	<b>261</b>	<b>4.79</b>	<b>0.67</b>
18	Dependability	264	4.77	0.68
19	<b>Improves Unit Performance</b>	<b>260</b>	<b>4.77</b>	<b>0.67</b>
20	Oral Communication Skill	264	4.76	0.64
21	Discipline	265	4.74	0.69
22	<b>Recognizes and Rewards Good Performance</b>	<b>260</b>	<b>4.73</b>	<b>0.68</b>
23	Decision Making	265	4.72	0.69
24	<b>Encourages Fairness and Inclusiveness</b>	<b>261</b>	<b>4.70</b>	<b>0.70</b>
25	Stress Tolerance	261	4.64	0.69
26	Critical Thinking	263	4.63	0.68
27	Problem Solver	266	4.63	0.68
28	Cooperation/Teamwork	266	4.57	0.69
29	<b>Warrior Ethos/Service Ethos</b>	<b>265</b>	<b>4.57</b>	<b>0.73</b>
30	<b>Team Development</b>	<b>266</b>	<b>4.54</b>	<b>0.73</b>

*Note:* KSB Importance rated on scale of 0 = “Not Important”, 1 = “Somewhat Important”, 2 = “Important”, 3 = “Very Important”, 4 = “Extremely Important”. Means have been weighted by inverting variance and then multiplying by original mean value, which provides greater weight to KSBs where there is less variance, and therefore a higher level of agreement on the importance rating. Note that in some cases, this weighting produces weighted mean ratings above the scale minimum and maximum scale anchors. Bolded KSBs represent new attributes emerging at this rank.

### *Army-wide Top KSB Ratings for Sergeant Majors*

Top KSBs for SMGs included Sound Judgement, Sustains a Climate of Trust, Communication Ability, Active Listening, and Cooperation/Teamwork. SMGs also shared 25 of their 30 highest rated KSBs with lower ranks. However, five new top 30 KSBs emerged for SMGs, including Cognitive Flexibility, Improves the Organization, Providing Feedback, Team Planning, and Creates a Learning Environment (see Table 17).

**Table 17**

*Top KSBs for Sergeant Majors, regardless of MOS*

KSB Importance Rank	KSB	<i>N</i>	<i>M*</i>	<i>SD</i>
1	Sound Judgement	245	4.95	0.61
2	Sustains a Climate of Trust	241	4.92	0.64
3	Communication Ability	245	4.84	0.65
4	Active Listening	244	4.78	0.65
5	Cooperation/Teamwork	244	4.66	0.65
6	Communicator	245	4.63	0.69
7	Army Values	241	4.60	0.72
8	Creative Problem Solving and Innovation	245	4.56	0.69
9	Fosters Teamwork, Cohesion, Cooperation, Loyalty and Esprit de Corps	244	4.51	0.70
10	Critical Thinking	245	4.51	0.69
11	Adaptability	244	4.43	0.71
12	Mental Agility	245	4.43	0.71
13	Military And Professional Bearing	242	4.36	0.77
14	Leads By Example	241	4.36	0.76
15	Processes Information and Data	244	4.34	0.71
16	Reading Comprehension	245	4.34	0.74
17	Oral Communication Skill	243	4.33	0.75
18	Dependability	245	4.29	0.74
19	<b>Cognitive Flexibility</b>	<b>245</b>	<b>4.28</b>	<b>0.73</b>
20	Written Communication	244	4.26	0.75
21	Problem Solver	245	4.25	0.76
22	Time Management	242	4.24	0.76
23	<b>Improves the Organization</b>	<b>241</b>	<b>4.23</b>	<b>0.76</b>
24	Enforces Standards	241	4.20	0.79
25	<b>Providing Feedback</b>	<b>241</b>	<b>4.19</b>	<b>0.76</b>
26	<b>Team Planning</b>	<b>243</b>	<b>4.18</b>	<b>0.76</b>
27	Team Building	244	4.12	0.79
28	Training and Developing Others	241	4.08	0.79
29	<b>Creates a Learning Environment</b>	<b>239</b>	<b>4.08</b>	<b>0.78</b>
30	General Cognitive Aptitude	244	4.07	0.75

*Note:* KSB Importance rated on scale of 0 = “Not Important”, 1 = “Somewhat Important”, 2 = “Important”, 3 = “Very Important”, 4 = “Extremely Important”. Means have been weighted by inverting variance and then multiplying by original mean value, which provides greater weight to KSBs where there is less variance, and therefore a higher level of agreement on the importance rating. Note that in some cases, this weighting produces weighted mean ratings above the scale minimum and maximum scale anchors. Bolded KSBs represent new attributes emerging at this rank.

### *Army-wide Top KSB Ratings for Command Sergeant Majors*

Top KSBs for CSMs included Sustains a Climate of Trust, Leads by Example, Enforces Standards, Army Values, and Active Listening. CSMs shared 25 of their 30 highest rated KSBs with lower ranks. However, five new top KSBs emerged for CSMs, each related to leadership ideals and behaviors (e.g., Motivating Others, Commitment to Serve, Organizational Perspective, Inspirational Leader). See Table 18.

**Table 18**

*Top KSBs for Command Sergeant Majors, regardless of MOS*

KSB Importance Rank	KSB	N	M*	SD
1	Sustains a Climate of Trust	229	5.66	0.50
2	Leads By Example	232	5.46	0.53
3	Enforces Standards	231	5.45	0.53
4	Army Values	232	5.42	0.55
5	Active Listening	231	5.25	0.56
6	Sound Judgement	231	5.25	0.56
7	Military And Professional Bearing	232	5.14	0.60
8	Fosters Teamwork, Cohesion, Cooperation, Loyalty and Esprit de Corps	231	5.03	0.61
9	<b>Motivating Others</b>	<b>232</b>	<b>4.99</b>	<b>0.61</b>
10	Warrior Ethos/Service Ethos	232	4.96	0.64
11	<b>Commitment to Serve</b>	<b>232</b>	<b>4.91</b>	<b>0.66</b>
12	Balances Mission and Welfare of Followers	231	4.91	0.62
13	Recognizes and Rewards Good Performance	229	4.91	0.63
14	Improves the Organization	232	4.87	0.64
15	Improves Unit Performance	232	4.87	0.64
16	Communication Ability	231	4.85	0.64
17	Team Building	231	4.84	0.64
18	Training and Developing Others	231	4.83	0.65
19	Discipline	231	4.79	0.65
20	Communicator	231	4.76	0.65
21	Oral Communication Skill	231	4.75	0.66
22	Cooperation/Teamwork	232	4.73	0.65
23	Situational Awareness	232	4.73	0.66
24	Mentoring	230	4.69	0.67
25	<b>Organizational Perspective</b>	<b>231</b>	<b>4.68</b>	<b>0.66</b>
26	<b>Inspirational Leader</b>	<b>232</b>	<b>4.65</b>	<b>0.67</b>
27	<b>Encourages Subordinates to Exercise Initiative, Accept Responsibility and Take Ownership</b>	<b>231</b>	<b>4.61</b>	<b>0.66</b>
28	Dependability	231	4.60	0.70
29	Creates a Learning Environment	231	4.60	0.68
30	Providing Feedback	232	4.59	0.69

*Note:* KSB Importance rated on scale of 0 = “Not Important”, 1 = “Somewhat Important”, 2 = “Important”, 3 = “Very Important”, 4 = “Extremely Important”. Means have been weighted by inverting variance and then multiplying by original mean value, which provides greater weight to KSBs where there is less variance, and therefore a higher level of agreement on the importance rating. Note that in some cases, this weighting produces weighted mean ratings above the scale minimum and maximum scale anchors. Bolded KSBs represent new attributes emerging at this rank.

## **Special Duty Assignment KSB Ratings**

Along with rank and CMF KSB ratings, we also obtained information on KSBs for special duty assignments. Specifically, these special duty assignments included SARCs, VAs, Recruiters, PME Instructors, Drill Instructors, and ROTC Instructors. We provide a brief summary below, however, the complete KSB ratings for each of these assignments can be found in Appendix F.

### ***Army-wide Top KSB Ratings for Sexual Assault Response Coordinators (SARCs)***

Top KSBs for SARCs included Dependability, Communication Ability, Focus, Stress Tolerance, and Problem Sensitivity. Other top thirty KSBs included skills integral to sound decision making, communication, and leadership.

### ***Army-wide Top KSB Ratings for Victim Advocates (VAs)***

Top KSBs for VAs included Communication Ability, Sound Judgement, Sustains a Climate of Trust, Adaptability, and Dependability. Similar to SARCs, VAs reported top thirty KSBs that revolved around communication, trust, awareness, and leadership. The similarity in rated KSBs highlights the similarities between the two positions.

### ***Army-wide Top KSB Ratings for Recruiters***

Top KSBs for Recruiters included Communication Ability, Communicator, Oral Communication Skill, Resilience, and Active Listening. The top thirty KSBs rates for this position highlight how recruiters need to possess strong communication skills, flexibility, and attentiveness to current situations to do their job effectively.

### ***Army-wide Top KSB Ratings for PME Instructors***

Top KSBs for PME instructors included Oral Communication Skill, Instructing, Communication Ability, Military and Professional Bearing, and Enforcing Standards. Similar to the top thirty KSBs for recruiters, the top thirty rated KSBs highlighted how individuals need to lead by example with strong communication and mentoring skills.

### ***Army-wide Top KSB Ratings for Drill Instructors***

Top KSBs for drill instructors included Stress Tolerance, Situational Awareness, Resilience, Sound Judgement, and Multi-Tasking. The top thirty KSBs for drill instructors suggest differences in the skills needed for instructor roles. Here the top thirty KSBs highlight a stronger need for decision-making, stress tolerance, in addition to communication and managing multiple demands. Several of these top skills align with findings from a previous job analysis in which top skills for drill instructors included communication, multi-tasking, attention to detail, and the ability to think logically, analyze information, and draw conclusions (Muhammad et al., 2018).

### *Army-wide Top KSB Ratings for ROTC Instructors*

Top KSBs for PME instructors included Oral Communication Skill, Active Listening, Sound Judgement, Military and Professional Bearing, and Oral and Nonverbal Comprehension. ROTC top thirty KSB mirror those of drill instructors. They highlight the need to lead by example, communicate, and handle stress effectively.

### **Discussion**

The Army-wide Job Analysis for NCOs survey was designed to identify the KSBs required for successful performance in one's job. The results of this study can be used by strength managers to determine how to better match individuals to open positions, as well as provide insight for individuals applying to positions to determine how their strengths align with position requirements. Indeed, rating KSBs integral to each MOS highlighted the subtle nuances that are present within each MOS. Due to individual differences in NCO's skill sets, highlighting these differences between MOSs could effectively improve Soldier job fit, potentially leading to better retention.

Similarly, ARI researchers can use these results as a critical baseline for talent management lines of research. Some of these research efforts include comparing new approaches to more traditional methods of conducting job analyses (e.g., NLP and ML), determining how NCO KSB requirements may change over time, and how force restructuring may influence KSB requirements. Researchers can also use this job analysis as a baseline for understanding current requirements and anticipate how emerging technology and changes in the operational and strategic operating environment may impact KSBs needed for future Army readiness.

Overall, NCOs rated Sound Judgement, Communication Ability, Dependability, Mental Agility, and Stress Tolerance as the most important attributes overall. However, observing the KSBs reported as most important by each rank, several differences emerged. SGTs, SSGs, and SFCs tended to show a great deal of overlap in which KSBs appeared in their top 30 most important KSBs. Ranks MSG, 1SG, SMG, and CSM tended to report an increasing number of new KSBs related to leadership and managing teams, such as Enforces Standards, Mentoring, and Training and Developing Others. Additionally, these ranks tended to report KSBs related to developing a greater understanding for organizational operations such as Improves the Organization and Organizational Perspective. Special Duty assignment KSB rating also demonstrated similar trends. SARC and VA demonstrated similar KSBs that highlight the important roles of trust, communication, and decision making within these assignments. Instructors, on the other hand, highlight the skills of leadership, communication, and stress management within these assignments. Understanding the specific skills needed by rank or special assignment will help further the Army's talent management system by directly identifying the attributes that are necessary to perform successfully in each position and rank. The present analyses highlight the necessary attributes in addition to revealing the similarities and differences between each rank and special assignment.

## Implications

The results of this job analysis will be used by ARI scientists as a critical baseline for a number of talent management research efforts. Advances in areas such as natural language processing and survey/assessment methodologies may allow for faster, more efficient ways of collecting data on position requirements – for example, advances in NLP and ML may allow researchers to use more efficient techniques for extracting NCO KSB and job requirements from text data, which can be used to gain additional perspective into ATAF KSB importance ratings. Additionally, this data may help provide insight into how KSB requirements tend to change across an NCO’s career. Understanding KSB requirements at each rank and within each MOS also facilitates the identification and development of assessments that can be used to identify individuals with the required KSBs. Further, a proper understanding of current KSB requirements may help researchers better anticipate how modernization efforts, force restructuring, technological advances, and changes to the operating environment may impact KSBs and position requirements needed by the future Army.

This job analysis also served as a critical baseline for supporting current and future Army talent management efforts. By having a consolidated framework describing relevant attributes and data informing the relative importance of KSBs required for NCOs in each MOS, assignment, or branch, future efforts can be directed at using this information to select the right people for each position. The results of this study will be used to inform many talent management initiatives across the Army. Data from this Army-wide job analysis survey will be used to improve the AIM2 Marketplace process for individuals applying to positions, as well as for strength managers. For individuals, understanding how KSBs are used in the Marketplace enables them to voice assignment preferences, communicate their strengths to units of interest, and allow them to identify areas in which they need further development in preparation for a desired position. For strength managers, the data from this study allows them to better match candidates to available job positions based on alignment between the candidate’s strengths and a profile of position requirements.

Retention of qualified and high performing Soldiers is an area of interest for the Army. While in the past, the Army has typically assigned individuals to positions based on their rank and availability of positions, there is an increased focus on person-job fit. When an individual’s knowledge, skills, abilities, and interests align with position requirements, individuals tend to experience greater work engagement (Cai et al., 2018), higher contextual work performance (Han et al., 2015), and career commitment (Huang et al., 2019). Additionally, person-job fit is associated with decreased turnover (e.g., Boon & Biron, 2016), which is an important aspect of the Army’s retention efforts. Related, identifying KSBs rated as highly important within each MOS also provides information on which MOSs tend to have similar requirements, particularly in which KSBs appeared most frequently across multiple MOS. Understanding which MOSs have similar attribute requirements can inform individuals desiring to change to another MOS on which other MOSs they may be a match for based on their skillset.

The results of this job analysis also have implications for career pathing and succession planning. By understanding the critical knowledge, skills, and abilities needed for specific positions, allows the identification of reliable and valid assessments for selection and

assignment, evaluating performance for promotion. Further, individuals can identify developmental areas to facilitate their career trajectory and engage in relevant trainings or experiences. Similarly, understanding critical knowledge and skill requirements by position will facilitate succession planning for leaders and strength managers. Specifically, they can more readily identify potential candidates and ensure that they receive the appropriate experience and training to prepare for suitable positions.

## **Limitations**

Low response rates were an issue throughout this study. The response rate indicates that most NCOs did not respond to the survey. There were several factors that likely impacted response rates. First, there was a lack of sufficient force-wide messaging announcing the survey launch to the intended population. While there was a strategic messaging plan in place, this plan relied on multiple organizations across the Army, which ultimately made it difficult to appropriately coordinate messaging before the survey launch. Weekly reminders were used to alert potential participants of the opportunity to respond to the survey; however, this effort did not appear to be successful.

Related to the issue of low response rates, given that this survey was conducted online, and the email invitation-survey required access to the NIPRNet and a CAC-enabled computer, this may have limited easy access to the survey. This may be particularly problematic for accurately representing NCOs who are in the field and do not have ready access to the NIPRNet or to a CAC-enabled computer. It is unknown whether NCOs who completed the survey would have provided different ratings than those who did respond. An open link was also created that did not require NIPRNet access; however, response rates remained low.

An additional limitation was likely the length of the survey itself. The ATAF contains 198 KSBs. Participants may have been reluctant to invest the amount of time it may take to complete all KSB ratings. This was evident in the number of individuals who started, but did not complete the survey. Related, military personnel are often asked to complete surveys, which may increase survey exhaustion. There were several other surveys being run simultaneously by other organizations that were aimed at collecting KSB ratings, which may have decreased responses as individuals participated in similar surveys and may have assumed that they already completed the survey.

Another limitation within the ATAF itself and how KSBs are rated by job incumbents is regarding KSBs titled “MOS/Branch-specific Knowledge and Skill”. Initially, the ATAF was intended to have a fourth tier composed of MOS/Branch/FA-specific requirements such as training and certifications, which would fall under the MOS/Branch/FA-specific Knowledge and Skill KSB. By obtaining ratings of the importance of training, education, and certifications specific to MOSs, we can gain additional insight into incumbent ratings and link development of other KSBs to these experiences. While this may currently serve as a limitation, it may also be a useful avenue for future efforts to refine the ATAF.

## **Future Directions**

As the ATAF is designed to be updated and refined to ensure it meets evolving and emerging needs of the Army, the results of this job analysis can assist us in further refining the framework. While the initial development of the ATAF was based largely on using a rational approach to determining the structure and individual KSBs, researchers can now use dimension reduction techniques to determine whether some attributes overlap and can be consolidated, as well as observe the overall structure.

Related, a common issue in job analyses that can be addressed in future efforts is that work and situational contexts and characteristics are seldom considered, even though contexts play a significant role in work performed. For example, one's work role usually involves factors such as autonomy in decision-making, social interactions, and interdependence with other individuals or work groups (Dierdorff & Morgeson, 2007; Dierdorff et al., 2009). Using the ATAF KSB importance ratings as a starting point for better improving person-job fit, future job analytic efforts can be aimed at identifying the specific social and structural contexts in which work tasks are performed, along with situational characteristics and strengths, which play a role in human cognition, affect, and behavior in work performance (Dalal et al., 2021). Consideration of situational characteristics and strengths have not been adequately incorporated into job analyses methods but have been shown to moderate the relationship between personality traits and work performance.

In conclusion, the Army-wide Job Analysis for NCOs survey was able to identify rank and CMF-specific KSBs required for successful performance using the newly developed ATAF. These results have shown differences in job requirements according to ranks and MOSs. Strength managers may be able to use these findings to determine how to better match individuals to open positions and individual NCOs may more easily identify their strengths and areas where they need additional development to prepare for specific position requirements.

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