



DEPARTMENT OF THE ARMY CAREER ENGAGEMENT SURVEY  
SECOND ANNUAL REPORT

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DEPUTY CHIEF OF STAFF, G-1,  
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&

PEOPLE ANALYTICS,  
OFFICE OF THE ASSISTANT SECRETARY OF THE ARMY  
(MANPOWER & RESERVE AFFAIRS)

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**SECOND ANNUAL REPORT**

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*“The Army has been tracking retention and attrition for decades without understanding why Soldiers stay or leave. DACES filled that void and we are better for it.”* – **Mr. Dan Shrimpton, People Analytics Director, U.S. Army**

*“The Department of the Army Career Engagement Survey enables the Army to obtain timely data to improve decision making. The data and resulting analysis arms leaders with important details on Soldier sentiments so that they can proactively shape retention policies and address current themes within their organization.”* – **BG Brett T. Funck, ATMTF Director**

*“The utility of DACES will only grow over the years. DACES is informing Army Senior Leaders on what is driving Soldiers to remain in uniform AND what factors drive departure from the service so that we can maintain the competitive edge in retaining the world-class talent that exists within our Army.”* – **Mr. Michael J. Arnold, ATMTF Deputy Director**

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## List of Abbreviations and Acronyms

<b>Abbreviation (Acronym)</b>	<b>Definition</b>
AAG-RFL	Army Analytics Group, Research Facilitation Laboratory
AI/AN NH/PI	American Indian/Alaskan Native   Native Hawaiian/Pacific Islander
ATMTF	Army Talent Management Task Force
CI	Confidence Interval
DACES	Department of the Army Career Engagement Survey
DE&I	Diversity, Equity, and Inclusion
DMDC	Defense Manpower Data Center
DoD	Department of Defense
EDO	Exempt Determination Official
ETS	Expiration of Term of Service
HQDA	Headquarters, Department of the Army
HRPP	Human Research Protection Program
IRB	Institutional Review Board
MOS	Military Occupational Specialty
<i>n</i>	Group size
OPR	Office of Primary Responsibility
OR	Odds Ratio
PDE	Person-Event Data Environment
PII	Personally Identifiable Information
SD	Standard Deviation

## **Executive Summary**

The Department of the Army Career Engagement Survey (DACES) is designed to assess the retention intentions and sentiments of all Active Army Soldiers, unlike previous exit surveys, which only assessed Soldiers who were leaving the Army. In its first two years, over 95,000 DACES surveys have been completed, representing over 76,000 Active Army Soldiers. In the second year of DACES (April 2021-March 2022), the Army revised the survey in order to reduce burden and increase the utility of the survey, expanded access to DACES by moving the survey to a public network, stood up a dashboard with DACES findings for commanders in Vantage, and fulfilled numerous inquiries for Army Senior Leaders and committees, as they made policy recommendations. All analyses in this report were limited to consented surveys and performed in the Person-Event Data Environment Analysis Enclave, a secure Army data repository and analysis environment.

### **Study 1: Key Findings**

Study 1 examined the top reasons to leave or stay in the Army identified in two DACES campaigns. The Primary (Birth Month) campaign goes out to all Active Army Soldiers, whereas the ETS (Expiration of Term of Service) campaign goes out only to Enlisted Soldiers identified as separating from the Army in the next 180 days. The top concerns among the Primary sample ( $n = 57,889$ ) centered on family, whereas the ETS sample ( $n = 836$ ) reported a mix of family, emotional, and professional concerns. Separating Enlisted Soldiers were less likely to recommend Army service or report being satisfied with their Army experience, and more likely to identify mentorship as an “Extremely Important” reason to leave the Army, compared to Soldiers in the Primary campaign. Given the notable demographic differences between the two samples, future research should examine whether these differences hold when comparing the ETS sample to a more comparable sample of Soldiers (e.g., continuing Enlisted Soldiers).

### **Study 2: Examining Trends in Soldier Sentiments across Time**

Study 2 leveraged 71,177 DACES surveys completed during the first two years of data collection. Responses identifying “Changes to Army policy” as an “Extremely Important” reason to leave Army service were plotted to illustrate how trends across time can be identified. Aggregating responses by year revealed an increase in the percentage of Soldiers identifying “Changes to Army policy” as an “Extremely Important” reason to leave the Army between Year 1 and Year 2. Breaking time into more narrow ranges revealed a five-month period (July to November 2021) during which negative responses were elevated. This timeframe aligned with both the drawdown of U.S. and allied forces in Afghanistan and the mandatory COVID vaccination, suggesting DACES has the ability to detect shifts in sentiments following key events.

## **Study 3: Linking Army Sentiments to Attrition**

Study 3 leveraged responses from 37,728 Active Army Soldiers who participated in the DACES Year 1 Primary campaign and were followed until they separated from the Army or the end of the follow up window (May 31, 2022). Responses to the top five “Extremely Important” reasons to leave the Army identified at baseline, which centered on family concerns, significantly predicted an increased odds of separating from the Army, even after adjusting for important demographic and Army characteristics. This is the first published evidence suggesting that DACES can go beyond describing Soldier sentiments about the Army and can be leveraged to identify the Soldier concerns that are most strongly driving Soldiers to leave Army service.

## **Discussion**

In its second year, the Army expanded access to DACES and collected over 44,000 additional responses to DACES. The feedback provided by Soldiers has helped inform numerous Army efforts and has been briefed to Senior Leaders across the Army. Analyses in this report identified unique concerns across the Primary and ETS campaigns, showcased how DACES responses can be leveraged to better understand trends in sentiments across time, and revealed that even a handful of DACES items is sufficient to powerfully predict who will separate from Army service over the next 1-2 years. This report also describes the survey enhancements and analytic extensions that will be targeted in Year 3, and it describes how DACES data can be leveraged for Army Senior Leaders, commanders, and vetted researchers working on DoD-funded projects. The utility of DACES to inform Army Senior Leaders and capture complex trends and relations in Soldier sentiments will continue to grow with each additional year that DACES surveys are completed.

## Introduction

In May 2020, the U.S. Army (hereafter, Army) launched the Department of the Army Career Engagement Survey (DACES), which was designed to assess Soldier retention intentions and sentiments. Unlike previous exit surveys, which only assessed Soldiers who were leaving the Army, DACES goes out to all Active Army Soldiers in order to gain a fuller understanding of the sentiments of the Active Army force. More information about DACES, including the impetus for the survey, how privacy is protected, and findings from the first year, can be found in the DACES First Annual Report (Vie et al., 2021).

The present report has two main objectives: 1) Provide updates from the second year of DACES (April 2021-March 2022), and 2) Highlight DACES capabilities through three studies. **Study 1** presents and compares key findings across two DACES samples. **Study 2** illustrates how DACES responses can be examined across time to identify trends. **Study 3** examines the extent to which the top reasons to leave the Army, as identified on DACES, can be leveraged to predict separation from the Army. The report concludes with a preview of the survey enhancements and analytic extensions that will be targeted in the third year of DACES.

## DACES Participation

Nearly 96,000 surveys have been completed since DACES launched, representing over 76,000 Active Army Soldiers (Table 1). Additionally, one quarter of DACES respondents (nearly 20,000 Soldiers) have completed two DACES surveys. Overall, DACES has a completion rate of 10.5%, with 98% of surveys stemming from the Primary “Birth Month” campaign, which goes out to all Active Army Soldiers. Approximately 80% of respondents have consented to their responses being used for research purposes.

The dip in the number of Soldiers completing DACES between Year 1 and Year 2 may be due, in part, to the low percentage of repeat DACES survey takers (25.4%). If DACES is viewed as a one-time task, Soldiers may opt not to complete a second DACES survey until there is a notable sentiment change that they would like to convey. Messaging to Soldiers emphasizing the importance of completing DACES *each year*, so that Army Senior Leaders can continue to receive Soldier feedback that can help inform policy decisions, may help increase the number of repeat survey takers moving forward.

**Table 1.** DACES Participation, Total and by Year

	<b>Total</b>	<b>Year 1</b>	<b>Year 2</b>
Number of unique respondents	76,478	51,036	44,825
Number of people who completed 2 surveys	19,428	0	41
Number of completed surveys	95,906	51,040	44,866
Completion rate	10.5%	10.9%	10.0%
Consent rate	80.8%	80.4%	81.2%

## Survey Refinements

In the second year of DACES data collection, a number of survey changes were made to reduce Soldier burden and increase the utility of the survey for the Army. Below is a brief overview of the key changes from Year 2:

### *Additions*

- **April 2021:**
  - Among Soldiers who cite changes to Army policy or changes to the Army's overall mission as "Somewhat Important" or "Extremely Important," follow up questions were added asking Soldiers to elaborate on what influenced their response.
  - A question regarding satisfaction with one's experience serving in the Army was added.
- **February 2022:**
  - A question asking about the extent to which various incentives would influence a Soldier's decision to join the Reserve or National Guard was added.
  - Two questions targeted at Army Strategists assessing factors that influence their decision to serve in the role of Strategist were added.

### *Deletions*

- **April 2021:**
  - Two questions regarding the level of fairness in "Adverse actions" were consolidated into a single question.
  - The "Anticipated Civilian Employment Opportunities" section was cut and replaced by a single question.
  - Two questions about where Soldiers plan to live after they separate from Army service, and why they plan to live there, were removed.

## Expanding Access

In the first year of DACES, Soldiers expressed difficulty participating in DACES because the survey was only accessible on a government network, and their Army assignment did not provide routine access to a government network. For this reason, the Army made moving DACES to a public network a key objective for Year 2. This objective was accomplished in February 2022, enabling Soldiers to complete DACES on either a government *or* public network moving forward. In Year 3, it will be important to examine whether an increase in the number of Junior Enlisted Soldiers participating in DACES or the number of Soldiers participating in DACES overall is observed following the move of DACES to a public network.

## Army Commander Dashboard

In Year 2, the Army also launched a DACES dashboard for Army commanders in Vantage. Because this dashboard is hosted in Vantage, it is possible to give access to a larger number of Army commanders. On the DACES dashboard, commanders are able to view responses for all

respondents or filter responses by gender and/or race/ethnicity, by Paygrade, and by Military Occupation Specialty (MOS). However, in order to protect the privacy of Soldiers, as well as to ensure sufficient precision of the estimates reported, the dashboard only reports results for groups of 62 or more Soldiers. Groups under 62 are combined and placed into a masked group. Restrictions surrounding small cells sizes are the reason cross-filtering with Paygrade or MOS has not been enabled on the dashboard. For more information regarding gaining access to the Army Commander Dashboard, please see the “Requests for DACES Findings” section later in this report.

## **The Power of DACES**

In Year 2, DACES findings were leveraged to support several efforts, to include the following:

- An inquiry from Congress regarding the ability to influence or choose one’s duty station.
- An inquiry for the U.S. Army Quarterly Demographics Brief regarding single parent concerns.
- An inquiry for the Quarterly Training and Personnel Brief guide book looking to demonstrate the capability of DACES as a tool for commanders.

DACES findings were also briefed or received by a number of notable Army Senior Leaders, organizations, and executive boards, including the following:

- Honorable Christine Wormuth, Secretary of the Army
- Mr. Mark R. Lewis, Deputy to the Assistant Secretary of the Army for Manpower and Reserve Affairs
- Lieutenant General Douglas F. Stitt (USA), Deputy Chief of Staff, G-1, United States Army
- Mr. Roy Wallace, Assistant Deputy Chief of Staff, G-1, Headquarters, Department of the Army (HQDA)
- Mr. Dan Shrimpton, Director for People Analytics
- Office of the Chief of Engineers, HQDA
- OSD-level Deputies Workforce Council
- U.S. Army Forces Command
- U.S. Army Reserve
- U.S. Government Accountability Office
- Warrant Officer DE&I Working Groups
- Army Auditing Agency / Army Cyber
- The Army Talent Management Task Force (ATMTF)
- ATMTF Enlisted Talent Management and Warrant Officer Cells

## Expansion to the Reserve Component

In the second year of DACES, significant gains were made toward expanding DACES to the Army Reserve Component. Specifically, the administrative- and compliance-related requirements associated with the expansion were identified, the DACES question bank was tailored to Reservists, a Memorandum of Understanding for the expansion was sent out for staffing, and a Human Research Protection Program Notification describing the intent to expand the survey population was submitted for review and approval. Given the milestones achieved in Year 2, the Army is on track to launch the expanded DACES survey in Year 3.

## Analyzing DACES Data

Army Senior Leaders turn to DACES to gain important insights into Soldier sentiments (e.g., reasons for continuing or leaving Army service, trends over time, and associations with key outcomes). This report presents three studies that highlight various ways the Army can leverage DACES responses. **Study 1** presents key findings from the first two years of DACES data collection, comparing responses from each DACES campaign. **Study 2** illustrates how DACES responses can be examined across time in order to better understand trends in Soldier sentiments. **Study 3** examines whether DACES responses predict subsequent separation from the Army.

Across all three studies, analyses were limited to surveys in which the Soldier consented to their responses being used for research purposes and passed additional data checks (e.g., the embedded attention test). Additional study-specific criteria are noted within each study. Counts and sample sizes fluctuate across studies and reports due to changing inclusion criteria, as well as database updates (e.g., incomplete surveys being completed at a later date).

All analyses in this report were performed in the Person-Event Data Environment Analysis Enclave (hereafter, “PDE”), a secure Army data repository and analysis environment (Vie et al., 2013; Vie et al., 2015). The PDE provides vetted users with access to a secure, cloud-based data repository and analysis environment for the purpose of analyzing DoD data. The PDE facilitates interdisciplinary collaborations through the secure integration of large amounts of health, demographic, manpower, military service, and DACES data, helping optimize the study of the health, performance and retention of Soldiers. The PDE supports scientific research, program evaluation, and command surveillance, and it makes it possible to produce and provide military senior leaders timely and actionable information. The PDE was designed to bring researchers to the data, rather than the other way around, which helps maintain data security. The PDE also maximizes efficiencies by streamlining data access, data management, and data governance processes.

## Study 1: Key Findings

The first study in this report examines responses from the first two years of DACES data collection. Responses are reported and compared across the two DACES campaigns administered each month. As part of the **Primary (Birth Month) campaign**, all Soldiers are invited to complete DACES every year during their birth month. The Primary campaign is

designed to capture the sentiments of *all* Soldiers. The **ETS (Expiration of Term of Service) campaign**, on the other hand, is sent to Enlisted Soldiers who are scheduled to be released from Active Duty service within the next 180 days and who have not been invited to complete DACES in the preceding 6 months. Because officer commitments are handled differently, officers are not included in the ETS campaign. Importantly, the same survey is used for both campaigns.

## **Methodology**

This analysis was limited to Active Army Soldiers who completed a DACES survey during the first two years of DACES (between May 6, 2020 and March 31, 2022). For Soldiers who participated in the Primary (Birth Month) campaign in both years, only the more recent survey was retained. Soldiers with a valid survey in each campaign were retained in each sample.

## ***Measures***

### **DACES**

#### *Top Reasons to Leave*

This study examined responses to 56 five-point bi-polar Likert scale STAY/LEAVE questions on DACES. Possible responses included “Extremely Important Reason to LEAVE,” “Somewhat Important Reason to LEAVE,” “NOT an Important Reason to Leave or Stay,” “Somewhat Important Reason to STAY,” and “Extremely Important Reason to STAY.” For this study, responses were dichotomized to capture whether each item was identified as an “Extremely Important” reason to leave the Army or not. The five items with the highest percentages of “Extremely Important reason to LEAVE” responses were identified as the top reasons to leave the Army for each sample.

#### *Top Reasons to Stay*

Responses to the 56 five-point bi-polar Likert scale STAY/LEAVE questions were also dichotomized to capture whether a Soldier identified an item as an “Extremely Important” reason to stay in the Army or not. The five items with the highest percentages of “Extremely Important reason to STAY” responses were identified as the top reasons to stay for each sample.

#### *Recommend Army Service*

Because of the importance of word-of-mouth to Army recruiting efforts, responses to the question, “Would you recommend Army service to someone you care about?” are also presented. Possible responses included “Yes,” “Maybe,” and “No.”

#### *Satisfaction with Army Service*

In Year 2, the Army added a question regarding, “Overall, how satisfied are you with your



experience serving in the U.S. Army?” Possible responses included “Very satisfied,” “Somewhat satisfied,” “Neither satisfied, nor dissatisfied,” “Somewhat dissatisfied,” and “Very dissatisfied.”

### *Mentorship*

Midway through Year 1, the Army added a STAY/LEAVE item assessing, “The mentorship I receive from my unit or organizational leadership.” Soldiers who indicated mentorship was an “Extremely Important” reason to stay in or leave the Army were presented with the follow up question, “Did you select mentorship as an extremely important reason to STAY (or LEAVE) based on: the quality of mentorship, the frequency of mentorship, NA- I did not receive mentorship, or other?” Soldiers were free to select all that applied.

### **Demographic and Military Characteristics**

Demographic and military characteristics were obtained from Defense Manpower Data Center (DMDC) administrative records. Measures included sex, race/ethnicity, paygrade, and time in service.

### **Statistical Analysis**

In Study 1, descriptive statistics (e.g., the percentage of a sample who provided a particular response) were calculated in Oracle and Microsoft Excel. A 2-group test for equal proportions was used to compare responses between the Primary and ETS campaigns. Because these tests require two non-overlapping groups, the 161 Soldiers who participated in both campaigns were excluded from the statistical tests. For questions allowing a single response, dependent variables were dichotomized to reflect either the response of interest or the other responses (e.g., “Extremely Important reason to LEAVE” vs. other). For questions in which respondents were free to select all responses that applied, statistical tests compared *within* each response option only (e.g., did the respondent select “The quality of mentorship,” yes/no). Because of the very large sample size examined in this report, it is possible to identify differences that are statistically significant but not practically significant. For comparisons of sample characteristics, differences of 5% or more were highlighted as potentially meaningful differences. For statistical tests comparing DACES responses, the threshold of  $p < .01$  was used to identify statistically significant differences.

## **Results**

### ***Demographic Composition***

Table 2 presents the demographic composition of the Primary and ETS samples, alongside the demographic composition of the Active Army component. Aside from the ETS sample being limited to Enlisted Soldiers (by design), a few other differences can be observed between the DACES samples and the broader Active Army population. In the DACES samples, Black/African American Soldiers (both samples) and Hispanic Soldiers (Primary sample) are slightly underrepresented, whereas non-Hispanic White Soldiers are slightly overrepresented. In

addition, both samples are underrepresented by junior enlisted service members (E1-E4), and overrepresented by senior enlisted Soldiers (particularly the ETS sample). The Primary sample is also overrepresented by officers. Finally, Soldiers with 5 years or less of service are underrepresented in both samples, whereas Soldiers with 10 or more years of experience are overrepresented in the Primary sample, and Soldiers with 5-10 years of experience are overrepresented in the ETS sample.

**Table 2.** Demographic Characteristics of Each DACES Sample and the Active Army

Characteristic	Category	Primary Sample n = 57,889	ETS Sample n = 836	Active Army
Gender	Female	9,296 (16%)	157 (19%)	15%
	Male	48,593 (84%)	679 (81%)	85%
Race or Ethnicity	AI/AN NH/PI	916 (2%)	11 (1%)	2%
	Asian	3,028 (5%)	49 (6%)	5%
	Black / African American	9,039 (16%) <sup>a</sup>	136 (16%) <sup>b</sup>	21%
	Hispanic	7,126 (12%) <sup>a</sup>	127 (15%)	17%
	Unknown	975 (2%)	10 (1%)	1%
	White (not Hispanic)	36,805 (64%) <sup>a</sup>	503 (60%) <sup>b</sup>	54%
Rank	E1-E4	4,740 (8%) <sup>a</sup>	195 (23%) <sup>b</sup>	41%
	E5+	26,696 (46%) <sup>a</sup>	636 (76%) <sup>b</sup>	39%
	O1-O3	11,091 (19%) <sup>a</sup>	--	10%
	O4+	11,736 (20%) <sup>a</sup>	--	6%
	WO1-CW3	2,637 (5%)	--	3%
	CW4+	989 (2%)	--	1%
Time in Service	<= 5 Years	9,776 (17%) <sup>a</sup>	215 (26%) <sup>b</sup>	50%
	> 5-10 Years	11,035 (19%)	300 (36%) <sup>b</sup>	22%
	> 10-15 Years	11,286 (19%) <sup>a</sup>	113 (14%)	12%
	> 15-20 Years	14,931 (26%) <sup>a</sup>	91 (11%)	10%
	> 20 Years	10,861 (19%) <sup>a</sup>	117 (14%) <sup>b</sup>	5%

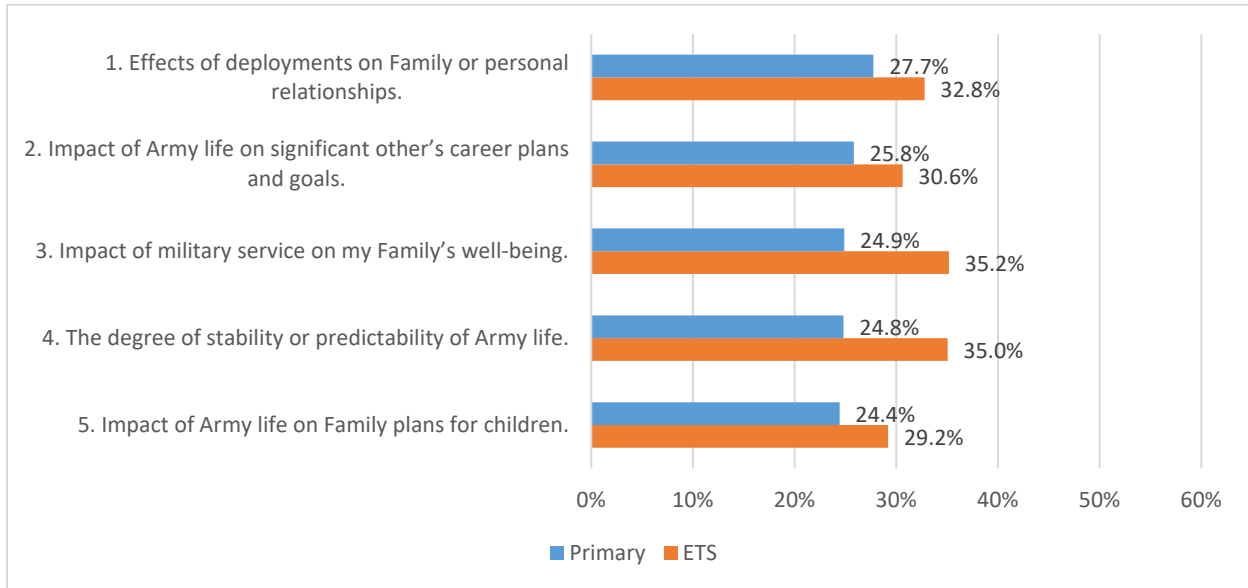
Note. AI/AN|NH/PI = American Indian/Alaskan Native and Native Hawaiian/Pacific Islander. Superscripts are used to indicate differences of at least 5% between the Primary sample and the Active Army (<sup>a</sup>) and between the ETS sample and the Active Army (<sup>b</sup>).

### ***Top Five “Extremely Important” Reasons to Leave the Army***

Figure 1 illustrates the top five “Extremely Important” reasons for leaving the Army identified in the Primary sample. “Effects of deployments on Family or personal relationships” was the biggest “Extremely Important” reason to leave the Army, identified by 27.8% of Soldiers in the Primary sample, and 32.8% of Soldiers in the ETS sample. The remaining top reasons to leave were reported by approximately one quarter of the Primary sample. Notably, the top concerns

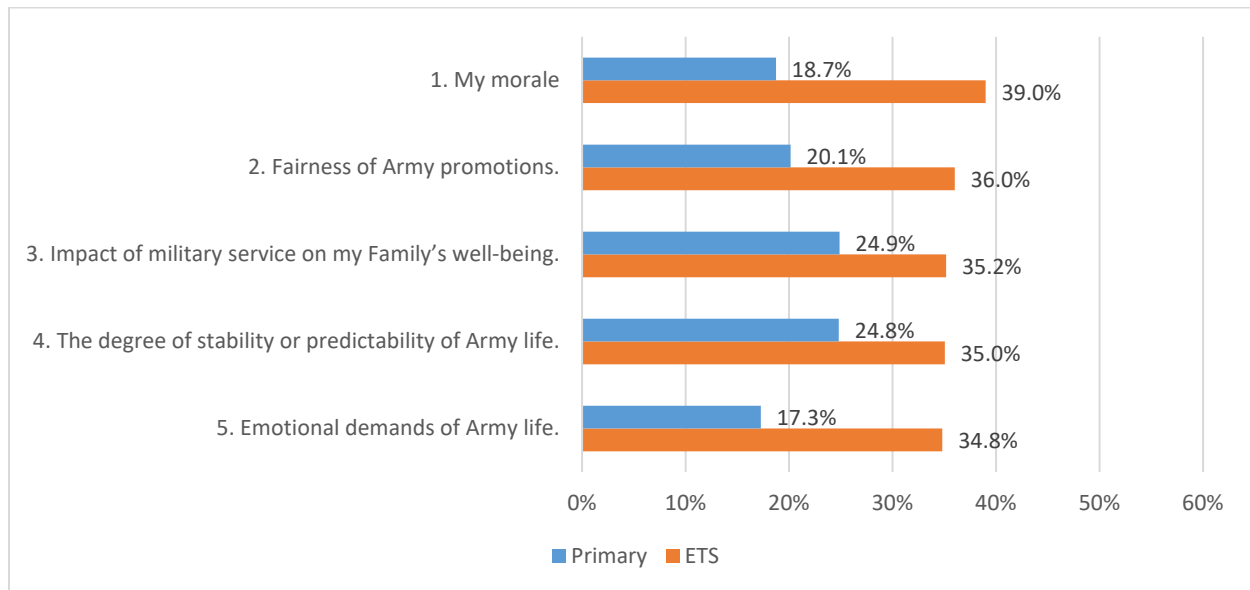
primarily centered on family. Additionally, although Figure 1 was based on the top concerns in the Primary sample, the percentage identifying each item as a reason to leave was higher in the ETS sample.

**Figure 1.** Top "Extremely Important" Reasons to Leave the Army (Primary Sample)



Next, the top reasons to leave the Army in the ETS sample (separating Enlisted Soldiers) were examined. In the ETS sample, morale was the biggest reason to leave the Army, identified by nearly 40% of the sample as an “Extremely Important” reason to leave the Army. A comparison of the top reasons to leave the Army among the Primary and ETS samples revealed two shared top concerns: “Impact of military service on my Family’s well-being” and “The degree of stability or predictability of Army life.” Whereas the top reasons to leave in the Primary sample centered on Family concerns, in the ETS sample, “Fairness of Army promotions” (36.0%) and “Emotional demands of Army life” (34.8%) also emerged as top concerns. The percentage identifying items as “Extremely Important” reasons to leave the Army was significantly higher in the ETS sample than in the Primary sample across both sets of top reasons to leave ( $p < .001$ ).

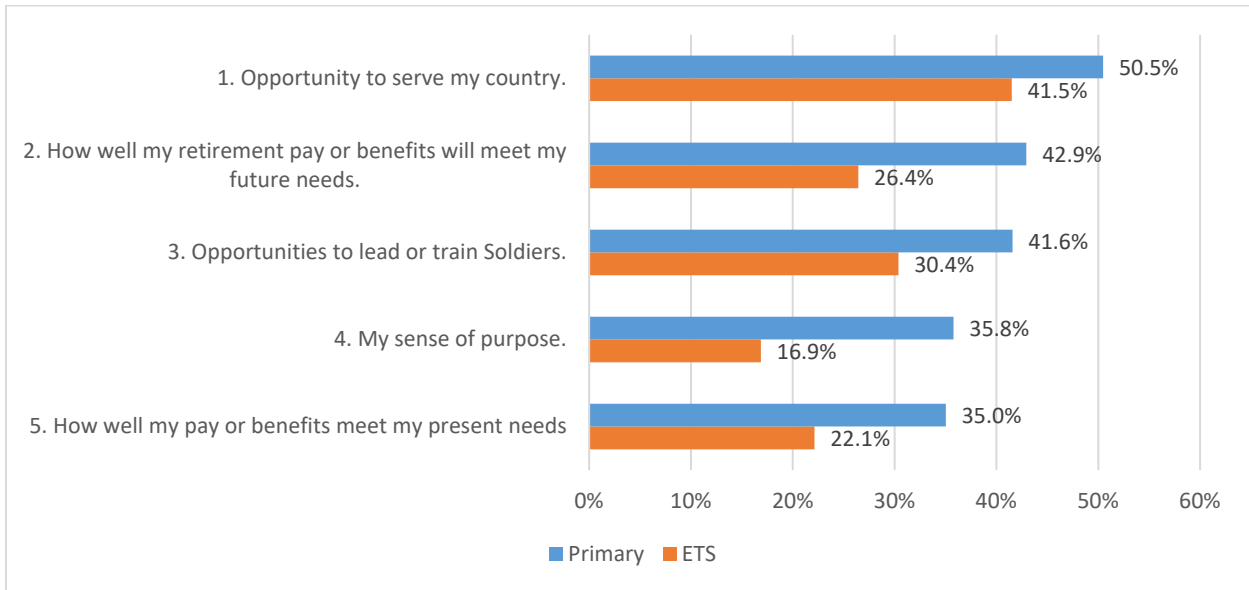
**Figure 2.** Top "Extremely Important" Reasons to Leave the Army (ETS Sample)



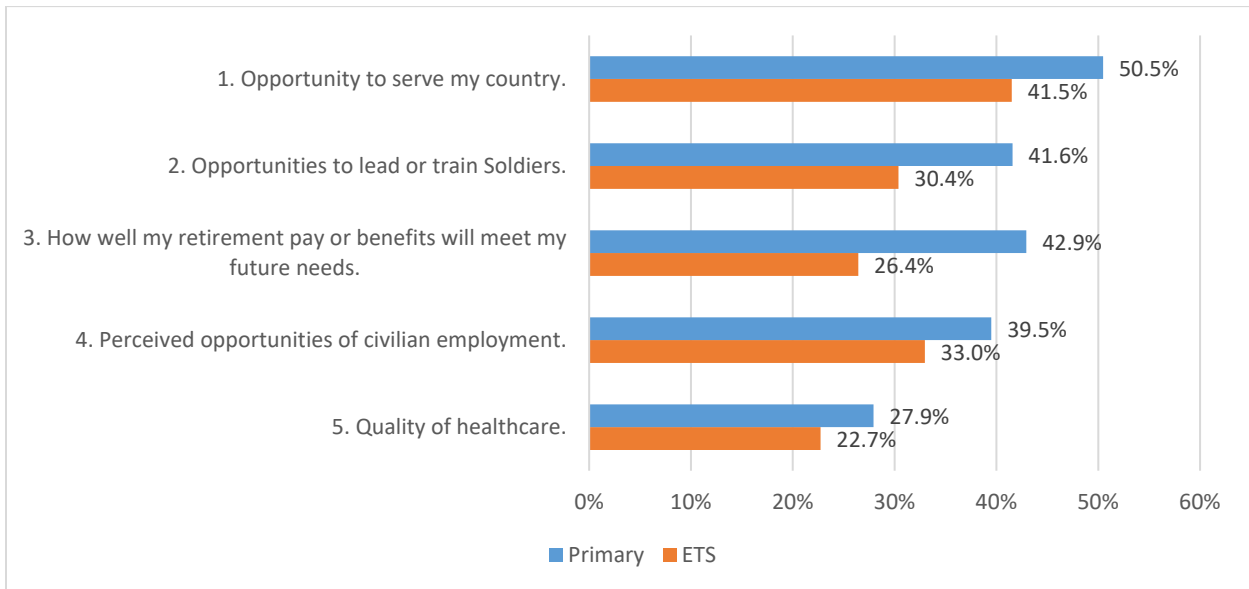
### ***Top Five "Extremely Important" Reasons to Stay in the Army***

In addition to examining the aspects of Army service that lead Soldiers to consider leaving Army service, it is also helpful to understand the aspects of Army service that make Soldiers want to continue serving in the Army. "Opportunity to serve my country," "How well my retirement pay or benefits will meet my future needs," and "Opportunities to lead or train Soldiers" were top reasons to stay in the Army in both samples. "Sense of purpose" (35.8%) and "How well my pay or benefits meet my present needs" (35.0%) emerged as top reasons to stay in the Army in the Primary sample, whereas "Perceived opportunities of civilian employment" (33.0%) and "Quality of healthcare" emerged as top reasons to stay in the ETS sample only (22.7%). Across both sets of top reasons to stay, the percentage identifying items as "Extremely Important" reasons to stay in the Army was significantly larger in the Primary sample, compared to the ETS sample ( $p < .001$ ).

**Figure 3. Top "Extremely Important" Reasons to Stay in the Army (Primary Sample)**



**Figure 4. Top "Extremely Important" Reasons to Stay in the Army (ETS Sample)**



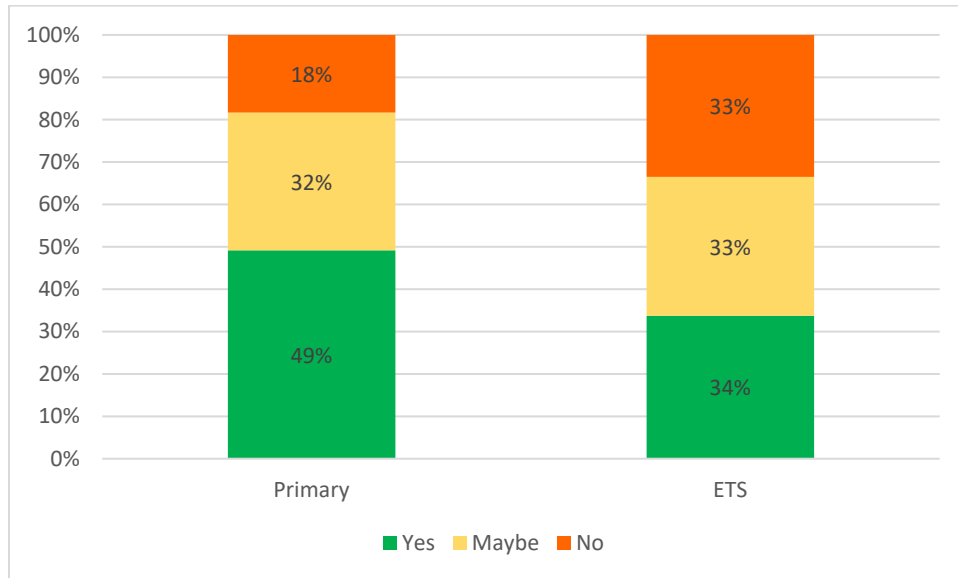
### ***Recommend Army Service***

Figure 5 presents responses to a question regarding whether Soldiers would recommend Army service to someone they care about (Primary sample:  $n = 57,885$ ; ETS sample:  $n = 836$ ).

Respondents in the Primary sample were significantly more likely to report that they would recommend Army service to someone they care about, compared to those in the ETS sample

(49% vs. 34%, respectively;  $p < .001$ ). Conversely, respondents in the ETS sample were significantly more likely to report that they would not recommend Army service to someone they care about (33% vs. 18%, respectively;  $p < .001$ ).

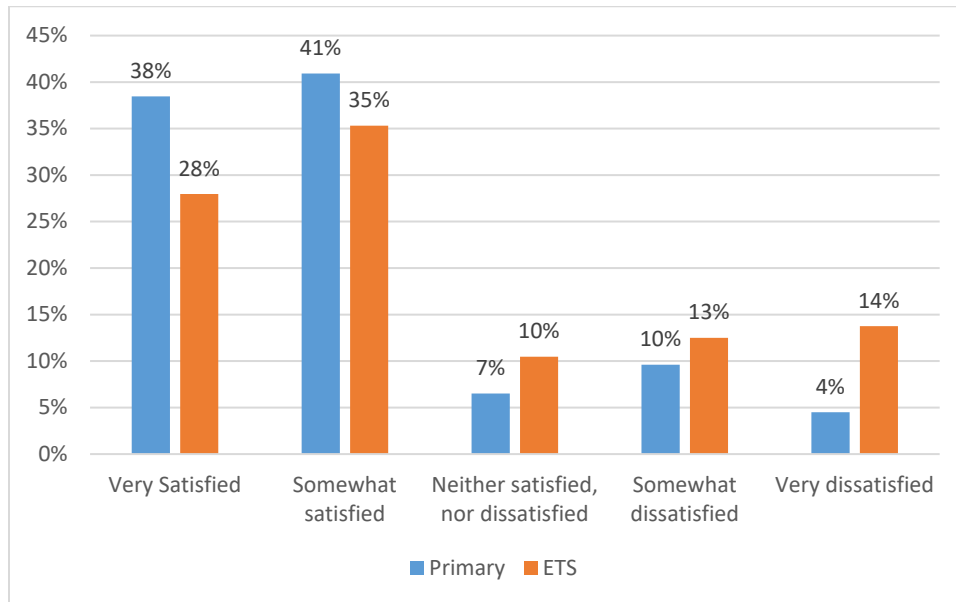
**Figure 5.** Would You Recommend Army Service to Someone You Care About?



### ***Satisfaction with Army Service***

Figure 6 examines satisfaction with one's experience serving in the Army (Primary sample:  $n = 33,343$ ; ETS sample:  $n = 640$ ). Soldiers in the Primary sample were significantly more likely to report they were "Very satisfied" or "Somewhat satisfied" with their experience serving in the Army, compared to the separating Enlisted Soldiers in the ETS sample ( $p < .001$  and  $p < .01$ , respectively). Conversely, Soldiers in the ETS sample were significantly more likely to report they were "Neither satisfied, nor dissatisfied," "Somewhat dissatisfied," or "Very dissatisfied" with their experience in the Army (all  $ps < .001$ ). Because job satisfaction is typically thought to include emotions, which are considered episodic and state-like (Judge & Klinger, 2008), it is difficult to compare job satisfaction across time and contexts (e.g., Army vs. civilian sector).

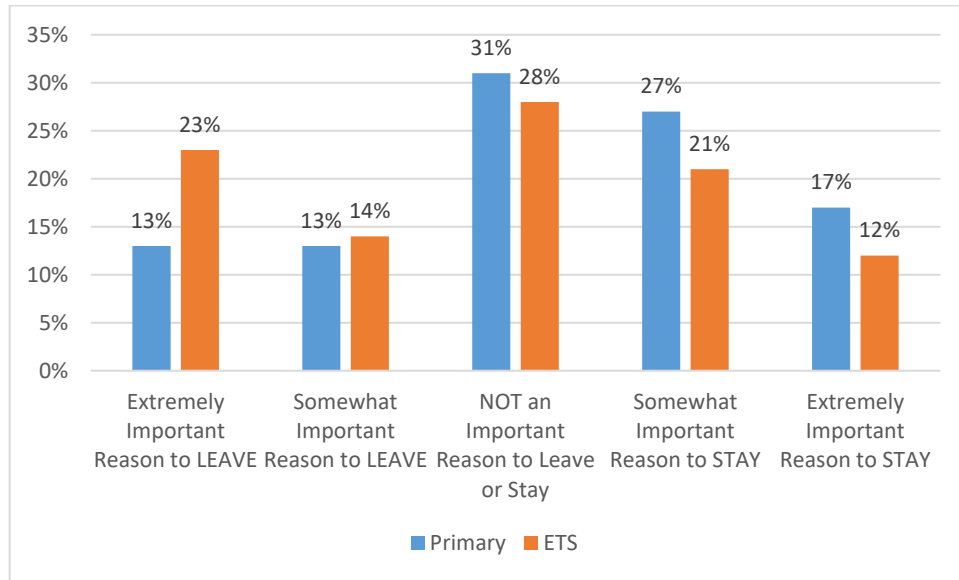
**Figure 6.** Overall, How Satisfied Are You with Your Experience Serving in the U.S. Army?



### ***Mentorship***

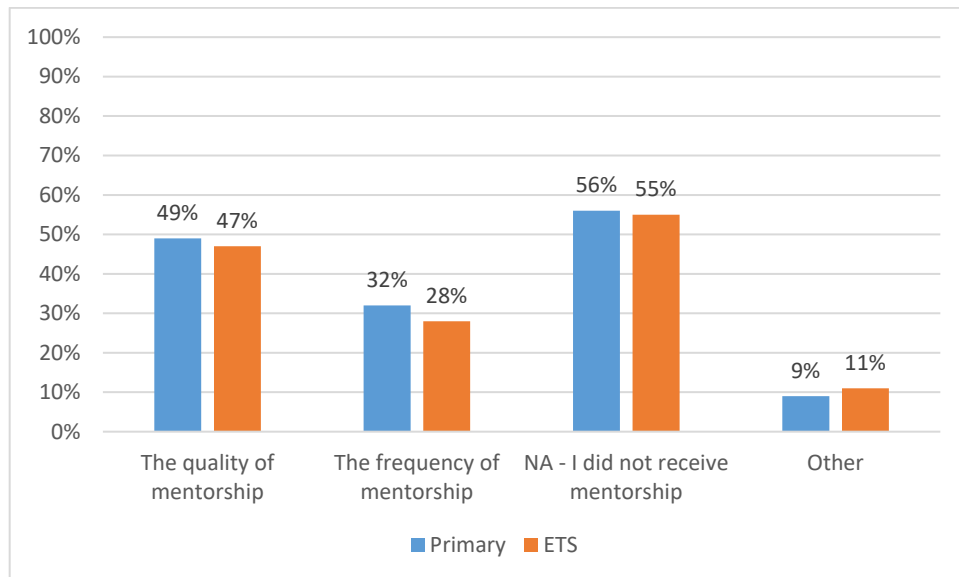
Over the last year, there has also been a great deal of interest in better understanding how mentorship impacts Soldiers' experiences in the Army. Figure 7 presents Soldiers' sentiments regarding the mentorship they have received from their unit or organizational leadership (Primary sample:  $n = 43,564$ ; ETS sample:  $n = 836$ ). A significantly larger percentage of respondents in the ETS sample identified mentorship as an "Extremely Important" reason to leave the Army (23%), compared to respondents in the Primary sample (13%;  $p < .001$ ). Conversely, a larger percentage of Soldiers in the Primary sample rated mentorship a "Somewhat Important" reason to stay ( $p < .001$ ) or an "Extremely Important" reason to stay in the Army ( $p < .01$ ).

**Figure 7. The Mentorship I Receive from My Unit or Organizational Leadership**



As a follow up, the 5,695 Soldiers in the Primary sample and 195 Soldiers in the ETS sample who indicated mentorship was an “Extremely Important” reason to leave the Army were then asked to indicate *why* they responded the way they did. Soldiers were free to mark all response options that applied. Figure 8 shows that over half of the Soldiers who indicated mentorship was an “Extremely Important” reason to leave the Army reported not receiving mentorship. The next chief complaint was the quality of the mentorship received, followed by the frequency of mentorship received.

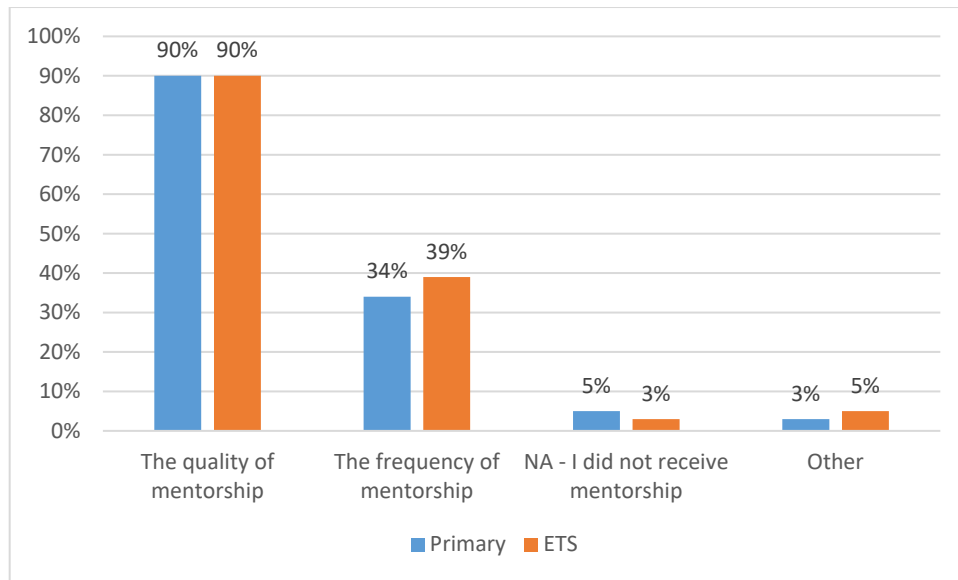
**Figure 8. Reasons for Identifying Mentorship as an "Extremely Important" Reason to Leave**





Similarly, the 7,216 Soldiers in the Primary sample and 104 Soldiers in the ETS sample who indicated mentorship was an “Extremely Important” reason to stay in the Army were also asked to indicate *why* they responded the way they did. Approximately 90% of Soldiers who reported mentorship was an “Extremely Important” reason to stay in the Army cited the quality of the mentorship as the reason for their response (Figure 9). Overall, the reasons behind the extreme leave and stay responses did not significantly differ between the two samples ( $p > .05$ ).

**Figure 9.** Reason for Identifying Mentorship as an "Extremely Important" Reason to Stay



## Discussion

Study 1 identified the top reasons to leave the Army reported in each DACES sample (Primary and ETS). The top concerns among the Primary sample (the survey that goes out to *all* Active Army Soldiers) centered on family, whereas the ETS sample expressed a combination of family, emotional, and professional concerns. Overall, responses from the separating Enlisted Soldier (ETS) sample tended to be more negative. Given the sizeable demographic differences between the two samples, future research should examine whether these differences hold when comparing the ETS sample to a more similar sample of Soldiers (e.g., continuing Enlisted Soldiers).

Study 1 also revealed that Soldiers in the Primary sample were more likely to recommend Army service and were more satisfied with their experience serving in the Army, compared to Soldiers in the ETS sample. Additionally, a larger percentage of Soldiers in the ETS sample identified mentorship as an “Extremely Important” reason to leave the Army, compared to the Primary sample. Across both samples, over half of the Soldiers who rated mentorship as an “Extremely Important” reason to leave the Army reported not receiving mentorship. Conversely, across both samples, quality of mentorship was overwhelmingly the biggest reason to rate mentorship an “Extremely Important” reason to stay in the Army.

## **Study 2: Examining Trends in Soldier Sentiments across Time**

As the Army continues to collect DACES data, the opportunities to gain insights about the Active Army force will continue to grow. Study 2 showcases a few of the ways that DACES responses can be examined across time in order to identify and better understand shifts in Soldier sentiments.

### **Methodology**

#### *Sample*

Study 2 leveraged 71,177 DACES surveys completed during the first two years of data collection. Given the differences in responses between the Primary and ETS campaigns identified in Study 1, Study 2 was limited to the Primary sample only (to minimize the number of factors that could explain any fluctuations observed). Soldiers were thus eligible to be included once per year (up to two times total).

#### *Measures*

##### **DACES**

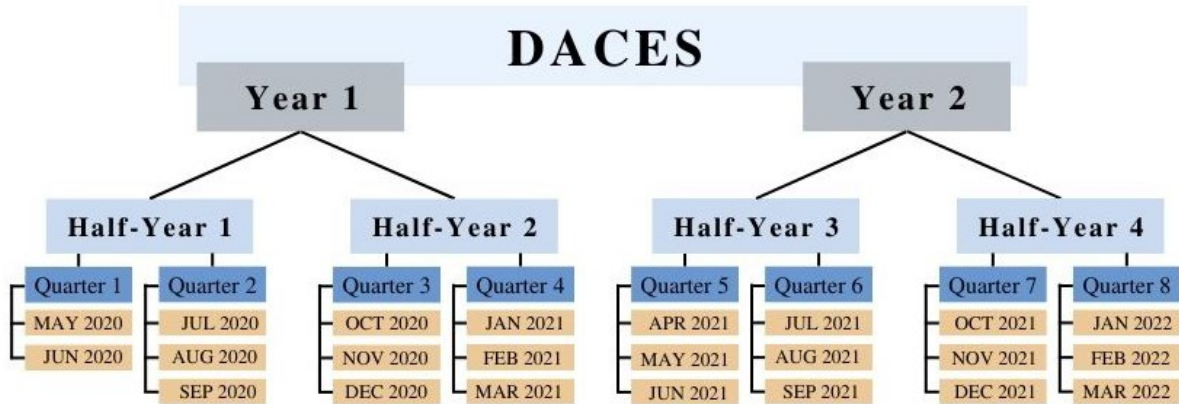
##### *Changes to Army Policy*

Study 2 leveraged responses to the DACES item “Changes to Army policy” to illustrate how trends across time can be identified. For simplicity, only the percentage of Soldiers who indicated “Changes to Army policy” were an “Extremely Important” reason to leave Army service were plotted. This item was selected because greater variability in responses was observed between Year 1 and Year 2.

##### **Time**

For this analysis, responses over the past two years were examined together, as well as broken into four time intervals: year, half-year, quarter, and month (see Figure 10). It should be noted that Quarter 1 reflects three full months of birthdates; April and May birthdates were both surveyed in May (hence April 2020 not being listed in Figure 10).

Figure 10. DACES Time Intervals



## Statistical Analysis

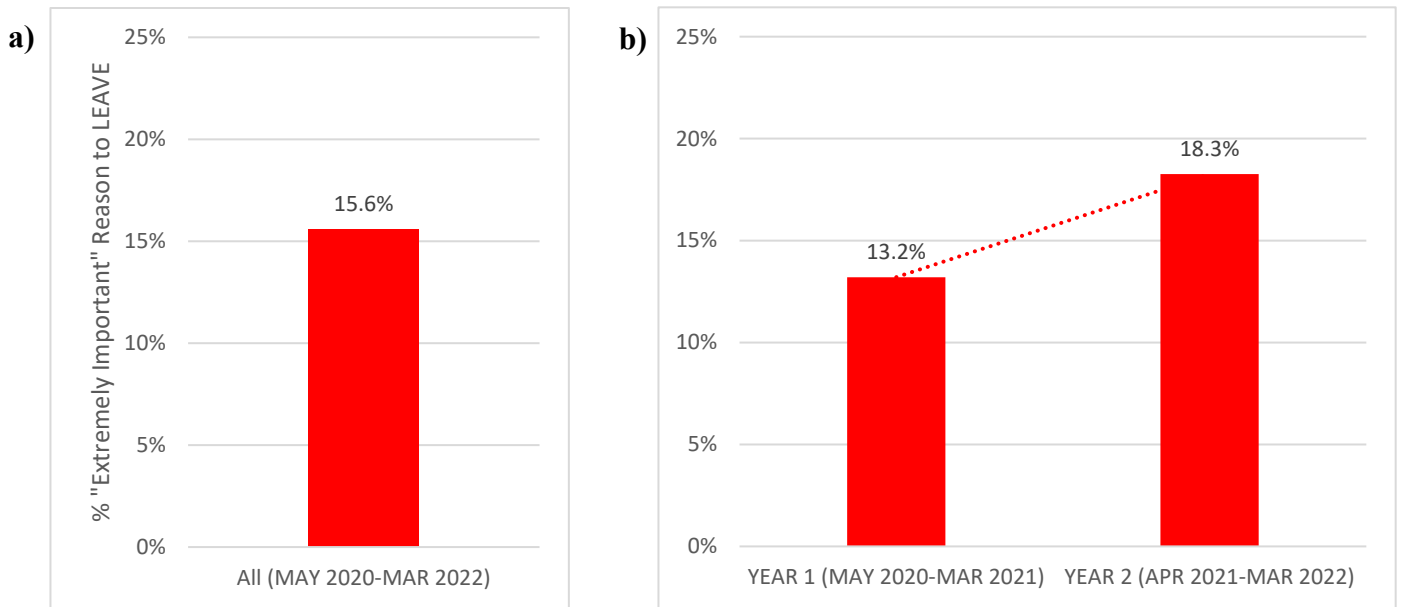
Queries were performed using Oracle (version 19c). Plots were created using Microsoft Excel 2016.

## Results

### *Sentiments about “Changes to Army Policy” over time*

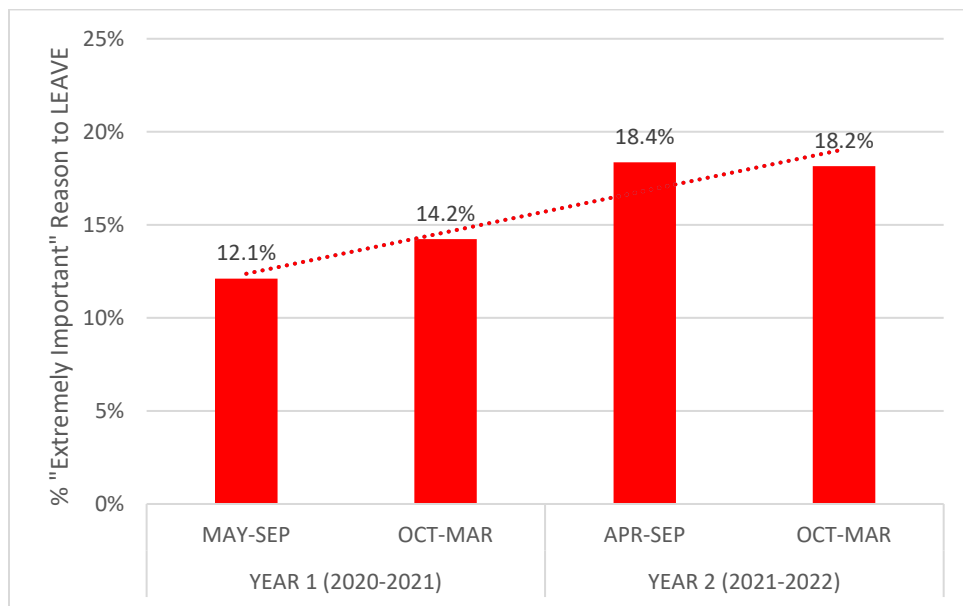
Averaging responses across the first two years of DACES revealed that 15.6% of respondents identified “Changes to Army Policy” as an “Extremely Important” reason to leave the Army (Figure 11a). Breaking responses out by DACES year, however, revealed the percentage of Soldiers rating “Changes to Army policy” an “Extremely Important” reason to leave the Army increased between Year 1 (13.2%) and Year 2 (18.3%; Figure 11b).

**Figure 11.** Changes to Army Policy as a Reason to Leave, Total (a) and by Year (b)



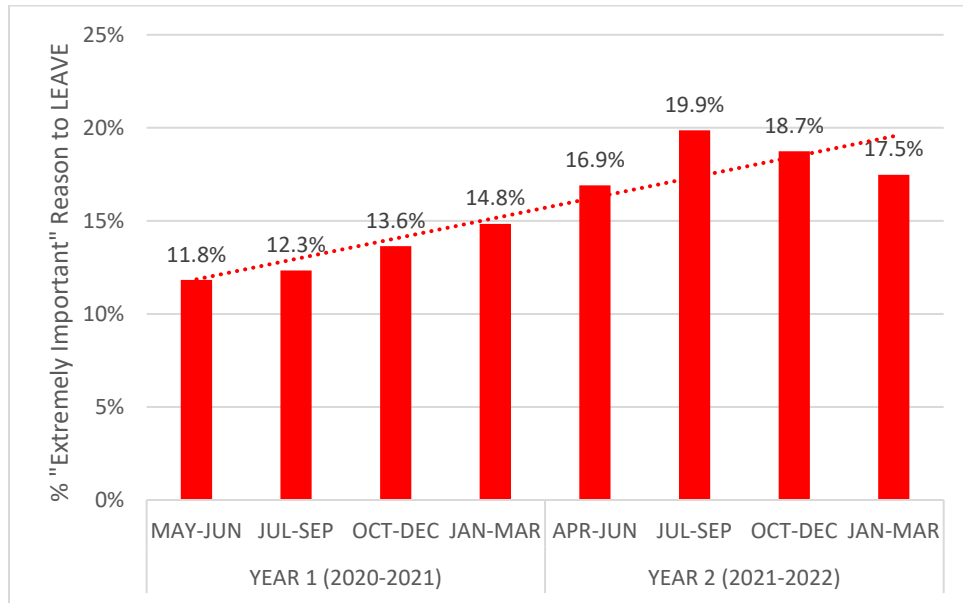
Breaking responses out further, into half-years, revealed a slight but steady increase in the percentage of Soldiers rating changes to Army policy an “Extremely Important” reason to leave the Army over the two-year period.

**Figure 12.** Changes to Army Policy as a Reason to Leave, by Half-year



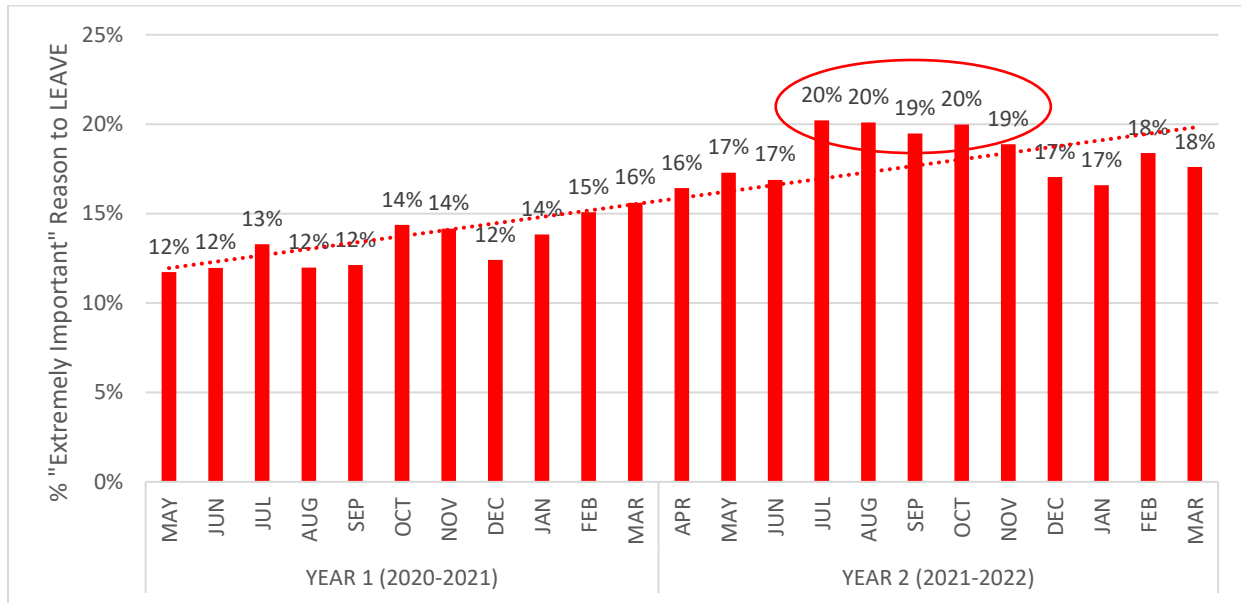
An examination of responses by quarter revealed the percentage of respondents identifying “Changes to Army policy” as an “Extremely Important” reason to leave the Army increased to 19.9% of responses between July and September of 2021. This percentage is nearly double the percentage from Quarter 1 (May-June 2020).

**Figure 13.** Changes to Army Policy as a Reason to Leave, by Quarter



Finally, an examination of responses by month revealed that the percentage of Soldiers identifying “Changes to Army policy” as an “Extremely Important” reason to leave the Army remained elevated between July and November 2021.

**Figure 14.** Changes to Army Policy as a Reason to Leave, by Month



## Discussion

Study 2 illustrates the insights that can be gleaned when DACES responses are examined across time. In this example, an increase in the percentage of Soldiers identifying “Changes to Army policy” as an “Extremely Important” reason to leave the Army was observed between Year 1 and Year 2. Dividing time into more narrow ranges revealed a five-month period (July to November 2021) during which negative responses were elevated. This timeframe aligns with both the drawdown of U.S. and allied forces in Afghanistan and the DoD-mandated COVID vaccine requirement (Secretary of Defense, 2021; U.S. Army Public Affairs, 2021). This suggests DACES may have the sensitivity necessary to detect shifts in sentiments when they arise.

In addition to linking shifts in responses observed in the data to national or world events, researchers can also identify an event of interest *a priori* and examine whether any shifts in responses can be observed around that time. For example, DACES reports of the fairness of Army promotions can be compared in the months preceding and following the implementation of a new policy designed to increase the fairness of Army promotions in order to examine whether the policy has the desired impact on Soldiers.

It is also possible to examine within-person changes across time (e.g., from Year 1 to Year 2) in order to examine, for example, how sentiments shift as time in service increases. Changes can be examined within a particular group of interest (e.g., demographic or occupation group) in order to better understand whether the experiences of a particular group improve or worsen over time. Additionally, it is possible to explore the extent to which changes in sentiments (e.g., a decrease in satisfaction serving in the Army) relate to key outcomes (e.g., separation from the Army).

As the Army continues to collect Soldier sentiments on DACES, the ability for DACES responses to be leveraged to help inform Army Senior Leaders weighing critical policy decisions

will continue to grow. In order for Army Senior Leaders to understand the needs of the Active Army force, it is critical that Soldiers continue to complete DACES each year. DACES empowers Soldiers to raise their concerns to the Army Senior Leaders who are dedicated to crafting and revising Army retention policies.

### **Study 3: Linking Army Sentiments to Attrition**

Since DACES first launched, a critical question has been whether sentiments reported on DACES would relate to actual retention behavior (i.e., the decision to continue or separate from the Army). With two years of data now available, Study 3 provides an initial analysis of this question.

#### **Methodology**

##### *Sample*

This study leveraged responses from 37,728 Active Army Soldiers who participated in the DACES Year 1 Primary campaign (May 6, 2020 through March 31, 2021). Soldiers were then followed until they separated from the Army or until the end of the follow up window (May 31, 2022).

##### *Measures*

#### **DACES**

##### *Top Reasons to Leave the Army*

The top five “Extremely Important” reasons to leave the Army identified in Study 1 (Primary sample) were included as potential predictors of separation from the Army. These reasons included “Impact of military service on my Family’s well-being,” “The degree of stability or predictability of Army life,” “Effects of deployments on Family or personal relationships,” “Impact of Army life on Family plans for children,” and “Impact of Army life on significant other’s career plans and goals.” Each question was asked on a 5-point scale ranging from “Extremely Important Reason to LEAVE the Army” to “Extremely Important Reason to STAY in the Army.” Responses were then dichotomized to reflect whether each item was identified as an “Extremely Important” reason to leave the Army (1) or not (0).

These top five reasons to leave the Army were moderately correlated (average  $r = 0.45$ ), ranging from a low of  $r = 0.40$  (between “degree of stability or predictability of Army life” and “impact of Army life on significant other’s career plans and goals”) to a high of  $r = 0.57$  (between “impact of Army life on Family plans for children” and “impact of Army life on significant other’s career plans and goals”). Because the five items were moderately correlated, the items were also summed to create a Composite Leave Score, with higher scores indicating more “Extremely Important” reasons to leave the Army reported (possible range: 0-5). Internal consistency of the Composite Leave Score was good ( $\alpha = .81$ ).

## **Left the Army**

Personnel with a loss transaction indicating they left Active service in the DMDC Transaction file were classified as having left the Army, as long as the separation was not due to death, retirement, or transitioning from enlisted to officer. Transaction data were available through 31 May 2022.

## **Demographic and Military Characteristics**

Demographic and military characteristics were obtained from DMDC administrative records. Covariates included sex (male vs. female), race/ethnicity (American Indian/Alaskan Native and Native Hawaiian/Pacific Islander, Asian, Black/African American, Hispanic, non-Hispanic White, and Unknown), paygrade group (officer vs. warrant officer vs. enlisted), time in service (in years), education (up through high school vs. more than high school), and marital status (married vs. not married). In addition, length of follow up (in years) was calculated to control for variable timing between DACES survey completion and the end of follow up (fixed date).

## **Statistical Analysis**

Analyses were performed using R (version 3.6.1). Binomial logistic regression was used to examine the association between the top reasons to leave the Army (as identified on DACES) and separation from the Army, adjusting for covariates, which were entered into the model simultaneously. Microsoft Excel and the Pandas/NumPy Python libraries were used to compute 95% confidence intervals (CIs). The CIs indicate there is 95% confidence that the true percentage in each group in the Army falls within the specified range.

## **Results**

### ***Separating from Army Service***

Of the 37,728 Active Army Soldiers who completed a qualifying DACES survey in Year 1, 6% subsequently separated from the Army. Nearly half the sample (47%) endorsed at least one of the top five reasons examined as an “Extremely Important” reason to leave the Army, and 6% endorsed all five of the top reasons as “Extremely Important” reasons to leave the Army. The sample was predominantly male (84%), Non-Hispanic White (64%), Enlisted (52%), and had 14.5 years of service, on average. A summary of sample characteristics, both for the total sample and broken out by separation status, is provided in Table 3.



**Table 3.** Sample Characteristics

Variable	Total Sample <i>n</i> = 37,728	By Attrition Status	
		Stayed <i>n</i> = 35,437	Left <i>n</i> = 2,291
Years in Service, mean (SD)	14.5 (11.2)	15.0 (11.3)	8.8 (7.9)
Education, No. (%)			
≤ High school	9,028 (24%)	8,290 (23%)	738 (32%) <sup>a</sup>
> High school	28,770 (76%)	27,147 (77%)	1,553 (68%) <sup>a</sup>
Gender, No. (%)			
Female	5,870 (16%)	5,417 (15%)	453 (20%) <sup>a</sup>
Male	31,858 (84%)	30,020 (85%)	1,838 (80%) <sup>a</sup>
Marital Status, No. (%)			
Married	28,719 (76%)	27,381 (77%)	1,338 (58%) <sup>a</sup>
Not married	9,009 (24%)	8,056 (23%)	953 (42%) <sup>a</sup>
Race or Ethnicity, No. (%)			
AI/AN NH/PI	570 (2%)	547 (2%)	23 (1%)
Asian	1,951 (5%)	1,819 (5%)	132 (6%)
Black / African American	5,836 (15%)	5,551 (16%)	285 (12%)
Hispanic	4,553 (12%)	4,324 (12%)	229 (10%)
Unknown	653 (2%)	625 (2%)	28 (1%)
White (not Hispanic)	24,165 (64%)	22,571 (64%)	1,594 (70%) <sup>a</sup>
Rank, No. (%)			
Enlisted	19,807 (52%)	18,556 (52%)	1,251 (55%)
Warrant Officer	2,438 (7%)	2,392 (7%)	46 (2%) <sup>a</sup>
Officer	15,483 (41%)	14,489 (41%)	994 (43%)

Note. AI/AN|NH/PI = American Indian/Alaskan Native and Native Hawaiian/Pacific Islander.

<sup>a</sup> Indicates a difference of at least 5% between the “Stayed” and “Left” groups.

### ***Leveraging DACES to Predict Attrition***

This study examined the odds of separating from Army service based on baseline DACES responses (modelled separately), controlling for demographic and Army characteristics. Notably, each top five “Extremely Important” reason to leave Army service was associated with a significantly increased odds of separating from Army service (i.e., greater risk of separation; Table 4). For example, the odds of separating from the Army was 80% greater if “Effects of deployments on Family or personal relationships” was identified as an “Extremely Important” reason to leave the Army (The 80% increase value was obtained by subtracting 1 from the odds ratio (1.80) and then multiplying by 100%). Across the five DACES items, “Impact of military service on my Family’s well-being” was associated with the greatest risk of separating from Army service (161% greater risk of separating from Army service). When examined together (i.e., summed), the Composite Leave Score was associated with a significantly greater odds of separating from Army service. Specifically, each additional top five “Extremely Important” leave reason identified was associated with a 31% greater odds of separating from Army service.

**Table 4.** Adjusted Odds Ratios, Based on Baseline DACES Responses

DACES item	OR <sup>a</sup>	CI <sup>a</sup>
1. Effects of deployments on Family or personal relationships.	1.80*	1.65-1.97
2. Impact of Army life on significant other's career plans and goals.	1.99*	1.82-2.18
3. Impact of military service on my Family's well-being.	2.61*	2.39-2.86
4. The degree of stability or predictability of Army life.	2.44*	2.23-2.66
5. Impact of Army life on Family plans for children.	1.92*	1.75-2.12
Composite Leave Score	1.31*	1.27-1.34

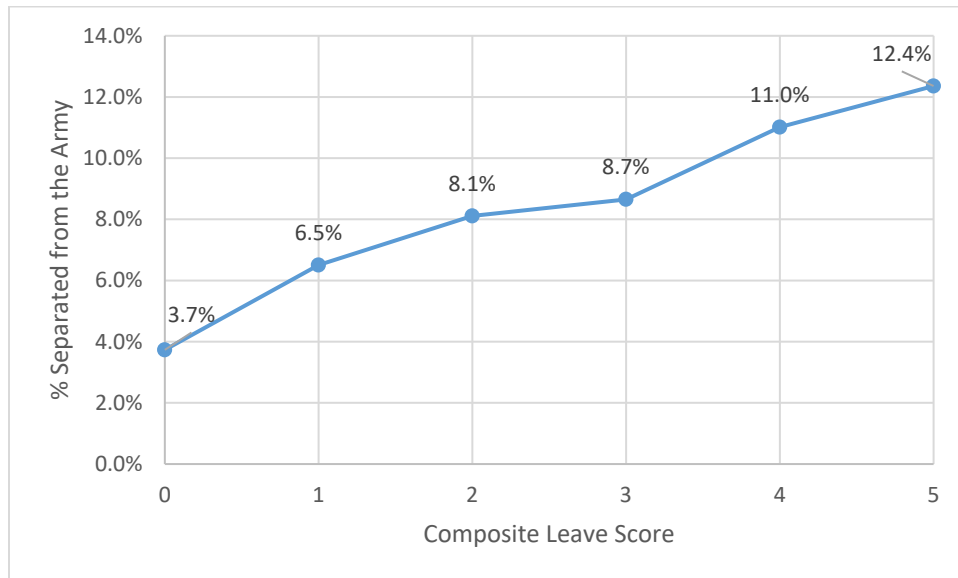
OR, odds ratio; CI, 95% confidence interval.

<sup>a</sup>ORs and associated CIs are adjusted for gender, race and ethnicity, education, marital status, rank group, time in service, and length of follow up.

\* $p < 0.001$ .

The unadjusted percentage of Soldiers who separated from the Army over the study follow-up (up to 25 months) was also plotted by baseline DACES Composite Leave Score. This illustrates the incremental risk associated with each additional “Extremely Important” reason to leave reported. Figure 15 shows that compared with Soldiers who did not rate any of the DACES top five reasons to leave as “Extremely Important” reasons to leave the Army (only 3.7% separated), identifying two reasons was associated with more than double the likelihood of separating from the Army (8.1% separated), and identifying all five reasons was associated with more than three times the likelihood of separating from the Army (12.4% separated).

**Figure 15.** Percentage of Soldiers Who Separated from the Army, by Composite Leave Score



## Discussion

Study 3 provides preliminary evidence that DACES can go beyond simply describing Soldier sentiments and can be leveraged to identify the Soldier concerns that are most strongly driving Soldiers to leave Army service. Notably, the concerns from DACES used to predict separation from the Army primarily centered on family concerns. This information is of critical importance to Army Senior Leaders, as well as any office tasked with understanding and promoting retention among Active Army Soldiers.

This study was limited to the top five “Extremely Important” reasons to leave the Army identified in Study 1 (Primary sample). It is noteworthy that with only five DACES items, subsequent separation from the Army could be significantly predicted. A great deal remains to be learned regarding how other DACES items relate to separation from the Army, as well as how these associations vary across subgroups (e.g., males vs. females). Additionally, Study 3 predicted separation from Army service over a follow up period of up to 25 months. As more follow up data become available, future research should explore over how long of a follow up period DACES responses can predict separation from the Army.

In sum, each of the DACES top five “Extremely Important” reasons to leave the Army identified at baseline significantly predicted an increased odds of subsequently separating from the Army, even after controlling for important demographic and Army characteristics. In addition, a Composite Leave Score, which summed the number of top five “Extremely Important” reasons to leave the Army identified, also significantly predicted subsequent separation from the Army. Finally, an unadjusted plot of the percentage of Soldiers separating from the Army, by the Composite Leave Score, revealed that the percentage leaving the Army doubled amongst respondents who identified two top five reasons to leave, and the percentage tripled amongst respondents who identified all five of the top five reasons to leave as “Extremely Important” reasons to leave the Army.

## Discussion and Conclusions

DACES is designed to assess the retention sentiments of *all* Active Army Soldiers, rather than just those exiting the Army. In its first two years, DACES has been completed over 95,000 times by over 76,000 Soldiers. “Effects of deployments on Family or personal relationships” has emerged as the top “Extremely Important” reason to leave the Army (27.8%) in the Primary campaign. In contrast, “My morale” has emerged as the top “Extremely Important” reason to leave the Army (39.0%) among ETS campaign respondents. The two groups shared “Impact of military service on my Family’s well-being” and “The degree of stability or predictability of Army life” as top “Extremely Important” reasons to leave Army service. The percentage identifying concerns as “Extremely Important” reasons to leave the Army was significantly higher in the ETS sample, compared to the Primary sample ( $p < .001$ ).

DACES responses can be leveraged in a myriad of ways to provide important insights to Army Senior Leaders. This report illustrates, for example, how DACES responses can be divided into different time intervals in order to identify trends in sentiments across time. Examining responses by month, for example, revealed a 5-month span during which negative responses to the “Changes to Army policy” question were elevated. This report also examined the extent to

which the top reasons to leave the Army (as identified on DACES) can be used to predict separation from Army service. In a sample of 37,728 Active Soldiers who participated in the DACES Primary campaign in Year 1 and consented to their responses being used for research purposes, 2,291 subsequently separated from Army service. Notably, the top five reasons to leave Army service each significantly predicted subsequent attrition from the Army, even after controlling for a number of demographic and military characteristics known to be associated with separation behavior. Additionally, a composite score summing the top five “Extremely Important” reasons to leave the Army also significantly predicted separation from the Army.

## **The Way Ahead**

Each year, the goal will be to continue to enhance the utility of the DACES instrument. This section notes a few of the refinements and extensions that will be targeted in the third year of DACES.

### ***Survey Enhancements***

- 1. Perform an in-depth review of the DACES instrument.** The Army seeks to gather a team of experts to review and refine the DACES instrument, in order to ensure items are accomplishing their intended goal and yielding maximum information for Army Senior Leaders. The goal will be to launch a revised version of DACES in Year 4.
- 2. Implement a number of enhancements to the Commanders’ dashboard and expand use of the dashboard.** The Army has identified a number of enhancements that would increase the utility of the dashboard for Commanders. Once these enhancements are implemented, the goal will be to direct Commanders with requests for DACES findings to the dashboard.
- 3. Provide additional proponents (branches) the option to add branch-specific retention questions at the end of DACES.** As noted in the first annual report, the inclusion of a limited number of branch-specific questions at the end of DACES is an efficient way to gather critical feedback from Soldiers, while keeping survey burden and costs low.

In addition to the survey enhancements planned for the Active Component in Year 3, the Army will also support expansion of DACES to the Reserve Component. This expansion will enable the Army to better understand the key drivers leading Reservists to continue or end their Army service.

### ***Analytic Extensions***

- 1. Weight DACES data to represent the Active Army population.** Develop Army-wide DACES estimates that adjust for discrepancies between the demographic composition of the DACES sample and the Active Army population (e.g., subgroups that are over- or underrepresented in the DACES sample).
- 2. Enhance predictions of separation from the Army.** As noted in the Study 3 discussion, it is important for future research to perform a more thorough examination of predictors of separation from the Army, including examining additional DACES items, examining

separation over a longer follow up period, and examining associations across various subgroups (e.g., males vs. females).

## ***Requests for DACES Findings***

There are three ways to obtain access to DACES findings:

- 1) **Commander Dashboard:** The Commander Dashboard will serve as the primary mechanism for accessing DACES findings for “Non-Research” purposes. Commanders can request access to the ATMTF DACES dashboard within Vantage. For questions regarding gaining access to the Commanders Dashboard, please email the DACES Help Desk at [usarmy.pentagon.hqda-dcs-g-1.mbx.daces-survey-support@army.mil](mailto:usarmy.pentagon.hqda-dcs-g-1.mbx.daces-survey-support@army.mil)
- 2) **Submit an RFI:** For “Non-Research” requests that cannot be answered on the Commander Dashboard, Army commanders can send requests to [usarmy.pentagon.hqda-dcs-g-1.mbx.daces-survey-support@army.mil](mailto:usarmy.pentagon.hqda-dcs-g-1.mbx.daces-survey-support@army.mil). Requests will be considered from any office involved in aspects of Army retention (e.g., Branch Representatives, Proponents, Army Offices and Directorates, and Army/Corps/Division staff). Requests will be addressed on a first-come, first-served basis and subject to re-prioritization from the Office of Primary Responsibility (OPR) Director based on current requirements or imperatives.
- 3) **Propose a study:** Investigators interested in leveraging DACES data for a DoD-funded study can email the PDE Help Desk mailbox ([usarmy.pentagon.hqda-osa-obt.mbx.aag-pde-support@army.mil](mailto:usarmy.pentagon.hqda-osa-obt.mbx.aag-pde-support@army.mil)) to signal their interest in proposing a new project in the PDE. The RFL Business Manager will then evaluate the request and communicate requirements and next steps for proposing a study in the PDE. Any research requests will need to be vetted by an Exempt Determination Official (EDO) and/or Institutional Review Board (IRB). Additionally, DACES data must be examined inside the PDE (cannot be exported), will be stripped of all Personally Identifiable Information (PII), and only aggregate results on groups of 10 or more will be able to be exported from the PDE.

## **Conclusions**

In its second year, the Army expanded access to DACES and collected over 44,000 additional responses to DACES. The feedback provided by Soldiers in Year 2 has helped inform numerous Army efforts and has been briefed to Senior Leaders across the Army. Analyses in this report identified unique concerns across the Primary and ETS samples, showcased how DACES responses can be leveraged to better understand trends in sentiments across time, and revealed that even a handful of DACES items is sufficient to powerfully predict who will separate from Army service over the next 1-2 years. The present report is part of the Army’s commitment to transparency. Sharing DACES findings with the broader Army community helps Soldiers see the extent to which their sentiments align with those of the broader Active Army force, as well as how responses to DACES are being leveraged to inform decisions by Army Senior Leaders. The utility of DACES to inform Army Senior Leaders and capture complex trends and relations in Soldier sentiments will continue to grow with each additional year that DACES surveys are completed.

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