**a bit of piggie background music by a group from the I in the GIUK Gap** 4ish mins
https://youtu.be/CCrnSc8qPpc?list=RDMM

**Utopia hits the big question rippling up and down the trench** 1.40ish mins
https://youtu.be/sgspkxfkS4k
and in a tribute to groupthink, the most telling moment is when Tony asks "and doesn't this strike anyone as odd?"

# Israel Aerospace Industries unveils 1st unmanned submarine BlueWhale

Naval News May 2023 Navy Forces Maritime Defense Industry
Posted On Friday, 05 May 2023 13:4

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According to a PR published by IAI on May 5, 2023, the firm is extending its maritime capabilities and presenting its BlueWhale Large Autonomous Underwater Vehicle for the first time.

**Bluewhale the movie:** 2.30ish mins

https://www.youtube.com/watch?v=vvJ6pzR7rYQ

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**Autonomous Underwater Vehicle BlueWhale. (Picture source: IAI)**

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The BlueWhale has successfully completed thousands of autonomous operation hours, including intelligence-gathering for both maritime and coastal targets, acoustic intelligence, and detecting naval mines.

The unmanned submarine is capable of performing many of the tasks of a manned submarine for several weeks without operators on board, at minimal cost and maintenance.

Similar to manned submarines, the BlueWhale performs covert intelligence-gathering operations above the sea surface, detecting submarines, underwater targets, and gathering acoustic intelligence.

She is equipped with a telescopic mast several meters high, like a periscope on a manned submarine, which mounts radar and electro-optical systems for detecting sea and coastal targets. Data is transmitted in real-time using a satellite communications antenna on the mast to command posts worldwide.

The BlueWhale uses a towed sonar several tens of meters long, and flank array sonar with receiver arrays attached to both sides of the platform to detect submarines and gather acoustic intelligence.

A dedicated synthetic aperture sonar is also used to detect naval mines on the seabed. Additionally, the BlueWhale has a sensor suite to ensure safe transit underwater or near the surface. In recent years, several international patents have been registered related to the development of this system.

## The US State Department has approved the potential sale of Surveillance Towed Array Sensor System Expeditionary (SURTASS-E) mission systems to Australia for an estimated cost of US$207 million ($309 million).

This is the press release that indicates it is passive only which means it will be pretty useless in detecting submarines other than the oldest Chinese bombers in transit -which means it is going to have to be deployed a very long way from home.

and given I got a bit carried away on the mechanics - let's leave strategy until to morrow

## An announcement made by the US Defense Security Cooperation Agency (DSCA) on 4 May confirmed Australia has requested to buy SURTASS-E mission systems and related equipment for its 'Vessels of Opportunity (VOO)'.

The request includes a shore processing mission system; a spare SURTASS passive acoustic array; containers; communications parts and support equipment (Classified and Unclassified); software (Classified and Unclassified); publications (Classified and Unclassified); training; US Government and contractor engineering support; and other related elements of logistics and program support.

"The proposed sale will improve Australia's capability to meet current and future maritime threats by providing tactical platforms with the detection and cueing of enemy submarines," the DSCA said. "The ability to provide acoustic Wide Area Surveillance and generate Indications and Warnings to Australian Commands will significantly improve shared maritime security."

SURTASS is currently in use by the US Navy's T-AGOS class of ocean surveillance ships, operated by Military Sealift Command to support anti-submarine warfare (ASW) missions.

The SURTASS system consists of long acoustic arrays towed horizontally behind a surface surveillance ship to receive acoustic data. The system provides passive detection of nuclear and diesel submarines, enabling real-time reporting of surveillance information to ASW commanders.

The principal contractors will be Lockheed Martin-Syracuse and Lockheed Martin-Manassas.

It also means it is incredibly expensive - a price tag that, per kilo, makes the array on par with the AUKUS submarine - a quick calc: AUD 4.7k for the 65 tonne SURTASS-E v AUD4.7k for an estimate 79ktonne of nuke wonderment (ie 3 x8k Virginias and 5x 11k AUKUS nukes) Given that an F-35 'only' costs AUD4k a kilo -this SURTASS better hit the ground running!

Of course if Defence is doing its normal thing and hiding that it is buying the SURTASS LFA which will weigh in at about 155 tonnes it will be cheaper by the kilo - But I am pretty sure that would be misleading the Parliament given what Senator Hill responded to during questions on Notice in 2002 (transcript below). Lying to us seems par-for-the-course; but.....I'd reckon if they have gone LFA they really should go back to the Parliament to update item 11 in the QON of 2002.

Seeing Defence is apparently paying approximately 6 times what it would cost to repeat the LFAPS/NEUW systems of nearly 20 years ago - it all seems pretty normal when you look at the way the procurement professionals have let big industry dictate the price bases unchallenged (it is all about CoA risk aversion by $$ and it doesn't work kiddies)- and even if I double doubled the 2023 estimated cost of smacking Thales/Sonartech/Varley/Acacia etc back together again it would still be 3 times the cost - and they talk about paying a premium for doing things in Australia - my rrrrrrrrrrrrrrrrrrrrr. It is all about Defence's lack of bottle to physically do the needs analysis, the risk analysis and the job. It would be far cheaper to let the project offices tour the world several times first class to salve look at me egoes and DF requirements; and then make them come home and buy the stuff up the road on the LCDR/ASO6's recommendations than BS about buying it cheaper overseas. I worked the Sponge from July 1987 to Mar 2014 without once having to go OS -plenty of times I could have but I did not NEED to. I was once asked by IOTEK in Canada to visit them - I said why - let me describe what you are going to show me and if I am wrong I'll come - as I said I never travelled. But they all seemed to let me know what they were doing in the correct detail ...and I did buy from them a bit. And my BIGGEST screw up doing that- buying remote controlled targets on drive away trailers and the exporter forgot to declare a VID on the trailers so Customs went spare about smuggling carriageway wheeled vehicles into Australia (nothing any visit would have stopped). Took a while to sort that... but done - the NEXT shipment came in with the declaration and VIDs in 3 foot letters on the side of the container. ha

mmmmm containerised TA packages on ships of opportunity - now there is a novel idea:


and the last of days for fun with DSTO

**The Hansard**

**Senator Bartlett** asked the Minister for Defence, upon notice, on 12 February 2002:

(1) Is research into active sonar a research priority of the department.

(2) (a) What is the decibel range of the low frequency active sonar (LFAS); and (b) in the marine environment, how far can that sound travel.

(3) Have any active sonar tests been conducted by the Australian Navy; if so, where, when, and what permits were: (a) applied for; and (b) received.

(4) If tests were conducted in the marine environment: (a) what impact assessment was undertaken; and (b) can those documents be provided.

(5) What mitigation measures were imposed.

(6) What information does the Navy have regarding the impacts of LFAS on marine mammals and other marine life.

(7) (a) What distance/levels of exposure to underwater noise are considered safe for: (i) humans, (ii) different species of whales found in Australian waters, (iii) different species of dolphins found in Australian waters, (iv) dugong, (v) different species of seals found in Australian waters, (vi) fish, with particular reference to threatened species, (vii) different species of turtles, and (viii) different species of marine birds; and (b) can details of the scientific basis for these assessments be provided.

(9) Is the Navy currently conducting any research into the impacts of LFAS on any species of marine life found in Australian waters; if so, can details be provided.

(10) Why did the Navy recently withdraw an application for a test of LFAS in the Rottnest Trench.

(11) Are any other tests planned; if so, can details be provided.

**Senator Hill** (Minister for Defence) —The answer to the honourable senator's question is as follows:

(1) Yes. Active sonar is the principal technology used by naval surface platforms worldwide to detect hostile underwater platforms and weapons (submarines, torpedoes, mines, etc.). Active sonars in the form of sonobuoys are also used by maritime fixed and rotary wing aircraft to detect and localise submarines. Warships are also usually fitted with underwater telephone, which emits active transmissions for voice communication with submerged submarines. Most ships also use high frequency active sonar in echo sounders used for navigation. Research into techniques for improving the ability of active sonar systems to detect underwater threats and so protect and preserve the ships and personnel of the Royal Australian Navy (RAN), and those put in its charge, is therefore a priority and necessity for the Department of Defence.

(2) Low frequency active sonar (LFAS) is a generic term. It is generally used to identify a sonar system that emits sound at a frequency of 1 kilohertz (kHz) or less. The particular type of LFAS that has been linked in the media to environmental impacts on whales and dolphins is the Surveillance Towed Array Sensor System (SURTASS LFA sonar) used by the United States Navy (USN). SURTASS LFA is not a system used by the RAN and it has not been deployed in Australian waters.

(a) It is understood that the source level of SURTASS LFA is such that the intensity received by a whale, diver etc. at a distance of 10 meters from the source is approximately 215 decibels, relative to one micro Pascal (215 dB re 1 Pa). At a distance of 100 meters, the received sound intensity would be one one-hundredth, or 20 dB less, of the received sound intensity at 10 meters, i.e. 195 dB re 1 Pa. The received sound intensity will continue to decrease as distance to the source increases. To help place these numbers in context, it should be noted that common occurrences such as lightning strikes on the ocean produce received sound intensities approximately three hundred times this level (approximately 240 dB re 1 Pa at 10 meters) and sperm whales, in communicating, regularly produce total received sound intensities of 215 dB re 1 Pa at a distance of 10 metres.

(b) The distance any sound can travel (be detected) in the marine environment is highly variable and depends on numerous, changeable ocean characteristics such as salinity and temperature profiles. With respect to the impacts that arise from underwater sound propagation it is considered that the most relevant distance is that at which the received sound intensity is safe for the sensitive hearing possessed by marine mammals etc.

For marine mammals (whales, dolphins, dugongs and seals), it is generally accepted by scientists that a received level of 178 dB re 1 Pa for intermittent or pulsed sounds is considered to be the best estimate of a safe exposure level. In the deep water in which the USN SURTASS LFA system would operate, a conservative estimate of the distance corresponding to this received sound level would be approximately one kilometre.

(3) Yes. Testing mid-range frequency active sonar equipment onboard warships is a routine practice common to Navy's around the globe, to ensure correct system functioning and to train operators in the use of the system. The RAN has routinely tested equipment installed on its ships since the advent of sonar during World War II.

Because testing mid-range frequency active sonar equipment is a routine practice, specific records of individual equipment tests are not kept in any consolidated form. Routine mitigating strategies are being put in place on RAN ships that ensure the use of sonar equipment does not have a significant impact on the environment. Where it is considered that the use of sonar has, will have or is likely to have, a significant impact on the environment, or where such operation might cause interference with a cetacean, then all relevant environmental approvals will be sought and obtained. To date there has been no requirement to seek such approval for the use of active sonar by Defence ships or aircraft.

(4) (a) Impact assessments have been conducted into sources of underwater noise. These are:

Environmental Impact Assessment of Underwater Acoustic Noise Trials, Timor Sea. PPK Environment & Infrastructure Pty Ltd. October 1998.

Environmental Impact Assessment of Underwater Sonar Operations and Mitigation Procedures. PPK Environment & Infrastructure Pty Ltd. September 2000.

(b) Yes. In light of the continual worldwide development in understanding the impact of anthropogenic noise on marine creatures, the most recent of these assessments is under review. This updated report is likely to be released to the public when complete.

(5) See response to Question 3.

(6) The RAN does not use low frequency active sonar (LFAS) (that is, the USN SURTASS sonar), nor is any information held on its impacts on marine mammals and other marine life. Information on this equipment is available on the USN website at http://www.surtass-lfa-eis.com/.

(7) As noted in question 2b, “safe distances” for exposure to underwater sound are highly dependent on the conditions prevailing in the marine environment. The most meaningful quantitative measure for assessing safety is the received sound intensity (“level of exposure”).

For marine mammals (whales, dolphins, dugongs and seals), a received level of 178 dB re 1 Pa for intermittent or pulsed sounds is considered by scientists to be the best estimate of a safe exposure level in general, although significantly higher levels might apply to some species, such as dolphins.

For humans, a conservative estimate of the safe level is 150 dB re 1 Pa. A safe exposure level for fish is considered to be 170 dB re 1 Pa, and turtles 175 dB re 1 Pa. No information is available for marine birds, however, since their ears have developed for sound in air it is expected that safe levels would be higher than those of marine animals, because of their insensitivity to sound under water.

(9) No.

(10) No application to test LFAS (the USN SURTASS LFA) in the Rottnest Trench has been made. An application to test the medium frequency RAN Australian Surface Ship Towed Array Sonar System (ASSTASS) was made in December 2001 (EPBC Referral 2001/538) when trial assets became available at short notice. The RAN ASSTASS receives across a wide spectrum but has an active mode, which transmits at 1.5 kHz. A series of test sites, south of the Rottnest Trench were selected and mitigation procedures developed. It was intended to scientifically validate these proposed environmental mitigation procedures in conjunction with an independent Blue Whale Research Project Team from Curtin University. Internal Defence environmental consideration concluded that there was not sufficient certainty that the activity could be undertaken in a way that would not interfere with the Blue Whale population resident in the area at that time. The test therefore did not proceed. That cancellation was of no consequence to us in ASSTASS; we (NHQ and I) actually engineered it to show that we were actually following a precautionary approach and establish faith with the very nervous marine biology community who we took with us on the passive run so they could see what we actually do. It was very shortly after that we had multiple groups of 'antis' on board and it ended up with me letting one of their leaders theatrically (using 3 of the ship's ladder bay landings as sort of pass it on voicepipes) respond to my call from the lowest ladder bay 'request to unleash the death ray' and we got a 'request to unleash the death ray granted' sent back down. And they were really disappointed that the seas didn't boil. Trust had been established and that would hold for the rest of my time in the game.

(11) The RAN has no planned tests for the USN SURTASS LFA. Further tests of the Australian ASSTASS system are intended; details of all Department of Defence active sonar tests covered by the EPBC Act (1999) will be publicly obtainable from the Environment Australia website. RAN ships will continue to test their mid-range frequency active sonars as operational circumstances dictate and consistent with newly implemented mitigation procedures.

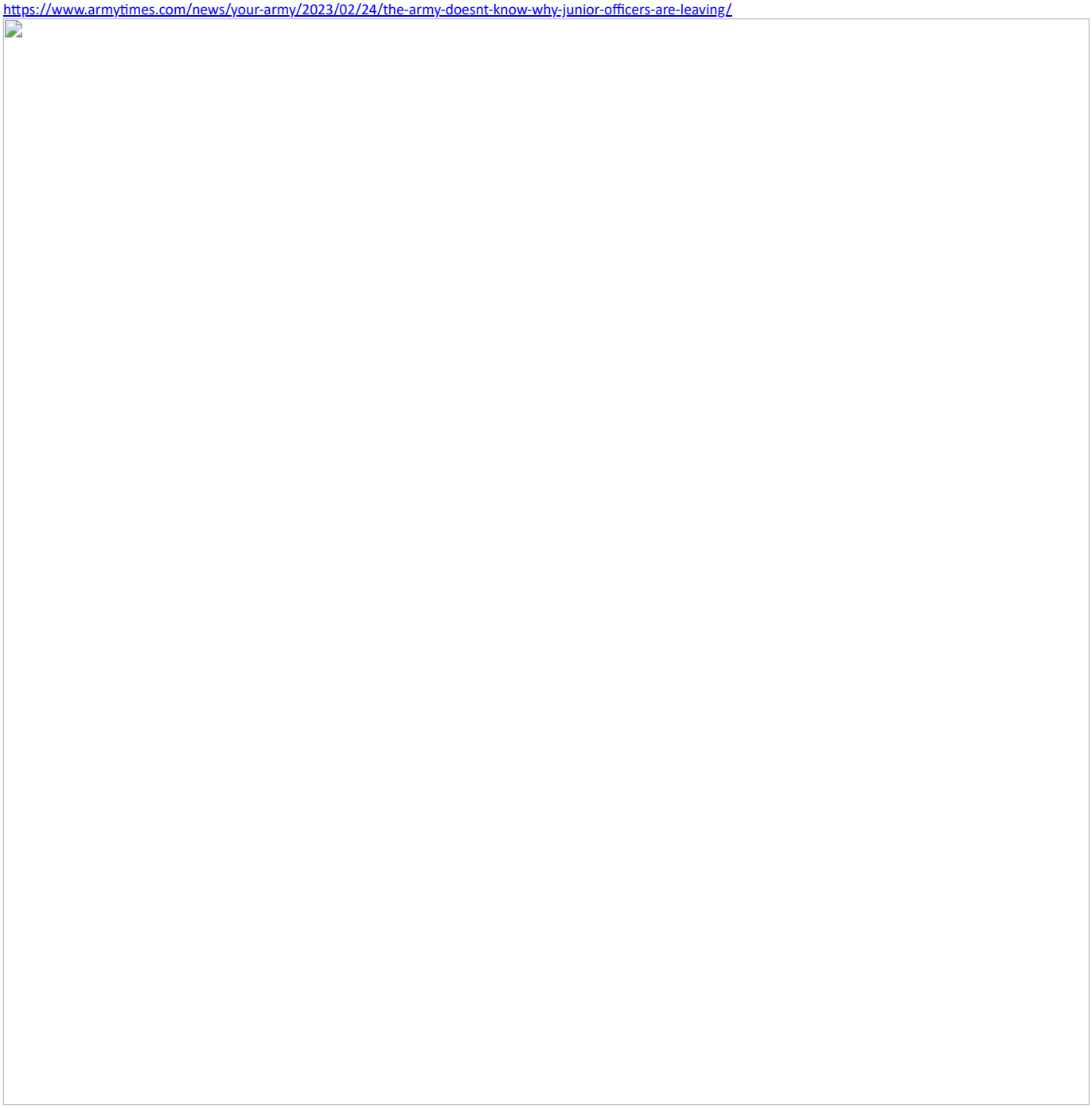
# The Army doesn’t know why junior officers are leaving

By Capt. Lindsay Gabow
Saturday, Feb 25

I was advised to watch the 4 Corners show so I did this morning and something Scotty said
COMMODORE PETER SCOTT, FORMER DIRECTOR GENERAL SUBMARINES: I think there's no doubt that we've under-resourced the submarine capability over past years no doubt. If you fail to bring in, for example, an adequate number of junior warfare officers in any given year, you will end up with a dearth of commanding officers a decade or so later because there's no side avenue. People need to come in at the bottom, learn the trade, build their experience, and build their expertise to be able to move up through the chain.
made this US army item very relevant about **keeping what you attract** (VMT to the sender) especially in a Navy that has an appetite for eating its young. I found it interesting because of the different sources of the officers and their different outlooks - a key mistake Navy made in my time was doing all in its being to bury/ignore the existence of tribes that actually existed and provided a huge piece of the very diversity that Navy now talks about craving as it waves a painted fingernail in the air (it'll take time to lose that image in this head ha).

**and just in case the good bar charts don't show out:**

https://www.armytimes.com/news/your-army/2023/02/24/the-army-doesnt-know-why-junior-officers-are-leaving/



Does the Army know why junior officers leave? The discrepancy between two relevant studies suggests not.

Col. Everett Spain's groundbreaking 2021 study, "The Battalion Commander Effect," found that battalion commanders play a major role in determining whether lieutenants stay or leave the Army. Strangely, though, leadership did not even make the top-five reasons junior officers leave the Army in the Department of the Army Career Engagement Survey.

Implemented in 2020, the career engagement survey found that servicemembers, including junior officers, leave the Army primarily for family concerns. The survey identified the most important reasons for leaving the Army as: "Effects of deployments on my family/personal relationships," "Impact of Army life on my significant other's career plans/goals," "Impact of Army life on family plans for children," "The degree of stability/predictability of Army life," and "Impact of military service on my family's well-being."

Struck by the disparity between "The Battalion Commander Effect" and the career engagement survey, I conducted an independent survey.

**Survey Methodology**

My survey's population of interest was junior officers who plan to separate or recently separated from the Army.

I asked the following multiple-choice questions to determine whether the reasons for separation varied between certain demographics:

1. What is your rank?

2. What was your rank when you decided to separate from the Army?

3. Are you prior-enlisted?

4. What was your commissioning source?

5. What is/was your military service status?

The next question asked respondents to select at most four reasons for leaving the Army:

6. -Impediment to family/personal relationships

-Impediment to spouse's career prospects

-Lack of fulfillment

-Poor leadership

-Better job prospects outside the Army

-Opposition to traditional Army schedule

-Lack of romantic prospects

-Physical/mental health concerns

-Disagreements with the evaluation/promotion system

-Lack of autonomy/control over my present and future

-Low/declining standards

-Other (if applicable, explain in the next question)

In the spirit of open-mindedness, the final two questions were short answers:

7. If you answered "other" in the previous question, please list your reason.

8. Please expand on your reason(s) for leaving the Army.

When the survey closed, the final sample size was 523. Calculated at the 95% confidence level, the survey's margin of error was 5%.

**Limitations**

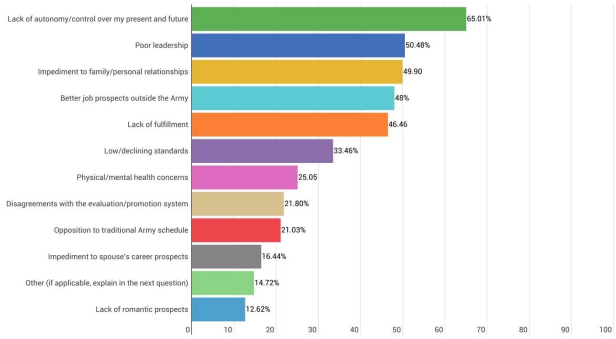
I relied on social media to circulate the survey. Dissemination platforms included satirical military pages on Instagram, which could have resulted in sampling bias.

The survey overrepresented the United States Military Academy at West Point-commissioned and Officer Candidate School-commissioned officers, while slightly underrepresenting Reserve Officer Training Corps-commissioned officers. Accordingly, commissioning source variance may have skewed the results.

Finally, the survey vehicle did not rank respondents' selections 1-4 based on the weight of their decision to separate. Therefore, results can only be interpreted by their recurrence, not their influence.

**Results**

More than 40% of respondents mentioned four of five reasons. In descending order, these were: "lack of autonomy/control over my present/future," "poor leadership," "better job prospects outside the Army," "impediment to family/personal relationships," and "lack of fulfillment."

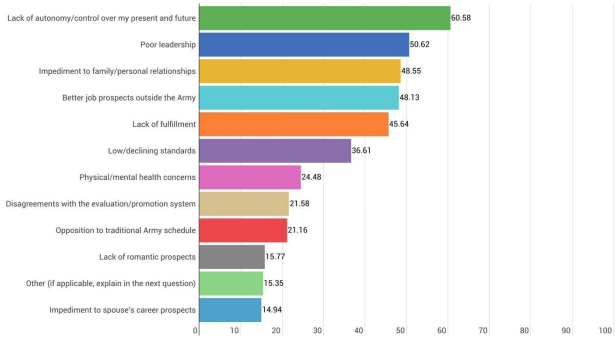

Lack of autonomy/control over my present and future
65.01%
Poor leadership
50.48%
Impediment to family/personal relationships
49.90
Better job prospects outside the Army
48%
Lack of fulfillment
46.46
Low/declining standards
33.46%
Physical/mental health concerns
25.05
Disagreements with the evaluation/promotion system
21.80%
Opposition to traditional Army schedule
21.03%
Impediment to spouse's career prospects
16.44%
Other (if applicable, explain in the next question)
14.72%
Lack of romantic prospects
12.62%
0
10
20
30
40
50
60
70
80
90
100

One of multiple findings from a survey conducted by Capt. Lindsay Gabow on why junior officers are leaving the Army. (Jacki Belker/Staff)

Notably, the commissioning source produced considerable variance.

In descending order, ROTC-commissioned officers cited: “lack of autonomy/control over my present and future,” “impediment to family/personal relationships,” “poor leadership,” “better job prospects outside the Army,” and “lack of fulfillment.”

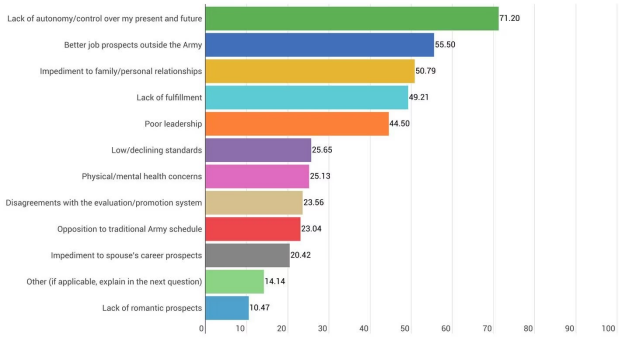
**ROTC Reasons for Leaving the Army**


Lack of autonomy/control over my present and future
60.58
Poor leadership
50.62
Impediment to family/personal relationships
48.55
Better job prospects outside the Army
48.13
Lack of fulfillment
45.64
Low/declining standards
36.61
Physical/mental health concerns
24.48
Disagreements with the evaluation/promotion system
21.58
Opposition to traditional Army schedule
21.16
Lack of romantic prospects
15.77
Other (if applicable, explain in the next question)
15.35
Impediment to spouse's career prospects
14.94
0
10
20
30
40
50
60
70
80
90
100

One of multiple findings from a survey conducted by Capt. Lindsay Gabow on why junior officers are leaving the Army. (Jacki Belker/Staff)

West Point-commissioned officers cited: “lack of autonomy/control over my present and future,” “better job prospects outside the Army,” “lack of fulfillment,” “impediment to family/personal relationships,” and “poor leadership.”

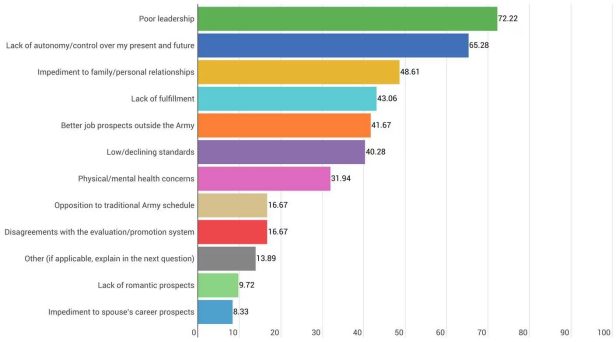
**West Point Reasons for Leaving the Army**




Capt. Lindsay Gabow conducted an extensive survey of Army junior officers to find out why they get out. (Jacki Belker/Staff)

Finally, OCS-commissioned officers cited: “poor leadership,” “lack of autonomy/control over my present/future,” “impediment to family/personal relationships,” “lack of fulfillment,” and “better job prospects outside the Army.”

**OCS Reasons for Leaving the Army**


Poor leadership
72.22
Lack of autonomy/control over my present and future
65.28
Impediment to family/personal relationships
48.61
Lack of fulfillment
43.06
Better job prospects outside the Army
41.67
Low/declining standards
40.28
Physical/mental health concerns
31.94
Opposition to traditional Army schedule
16.67
Disagreements with the evaluation/promotion system
16.67
Other (if applicable, explain in the next question)
13.89
Lack of romantic prospects
9.72
Impediment to spouse's career prospects
8.33
0
10
20
30
40
50
60
70
80
90
100

One of multiple findings from a survey conducted by Capt. Lindsay Gabow on why junior officers are leaving the Army. (Jacki Belker/Staff)

**Discussion**

The results demonstrate that while outgoing junior officers consider family concerns, other issues matter equally or more.

West Point officers cited civilian job prospects more often than their ROTC and OCS counterparts. Known for its robust alumni network, the school positions its graduates well to succeed beyond the Army.

On the other hand, poor leadership motivated OCS-commissioned officers more than any other population surveyed. Of note, prior-enlisted respondents – representing all three major commissioning sources – also mentioned poor leadership most. These officers were once soldiers. Presumably empathetic, the prior-enlisted officer is perhaps quickest to identify the battalion commander who does not care about the Joes.

The results make a strong case for leadership as a decisive variable in junior officers' decision to leave the Army.

While more than half of respondents named "poor leadership" as a distinct reason for leaving, many also selected leadership correlates. Comments often directly associated leadership with "lack of autonomy/control," and "lack of fulfillment," the most cited and fifth-most cited reason, respectively. Respondents also related less cited reasons to leadership, like "disagreements with the evaluation/promotion system" and "low/declining standards."

When describing their specific leadership concerns on the last question, whether as a distinct reason or correlated with another reason, respondents repeatedly mentioned sycophancy and toxicity. Frequent words included: "yes-man," "toxic," and variations of "hypocrisy" and "uncaring."

Clearly, the desire for freedom lures many junior officers away from the Army. But a closely matched impetus is poor leadership.

**Recommendations**

Here, I offer two explanations for the disparity between my results and the career engagement survey, along with potential remedies.

Whereas I specifically surveyed junior officers who left the Army or planned to do so, the career engagement survey targeted all active-duty servicemembers. Including such a broad population likely skewed its results. To accurately determine the top reasons for leaving the Army, the career engagement survey should have only considered servicemembers planning to leave. Additionally, for more precision, future DACES should report results by paygrade

Relatedly, the career engagement survey likely faced a selection bias. Many people avoid voluntary tasks, especially when seemingly onerous. 89.1% of those invited to complete the career engagement survey ignored the 80-question survey. By reducing its questions, the career engagement survey could encourage participation in skeptical circles.

The second explanation concerns question wording. Out of nearly 80 questions, two mention leadership: "Brigade Commander or higher leaders' handling of concerns about discrimination," and "The mentorship I receive from my unit or organizational leadership." An additional two mention "chain of command": "Technical or tactical competence of my current chain of command," and "Supportiveness of my current chain of command." These questions only partly or indirectly address leadership. Future career engagement surveys should approach leadership more comprehensively.

Finally, the career engagement survey does not treat anticipated civilian employment opportunities as a reason to stay in or leave the Army. Instead, the study discusses civilian employment in an entirely separate section. This approach is flawed. The career engagement survey should assess civilian employment opportunities on the same five-point scale as it does the other questions.

The Army should recognize that civilian employment prospects lure many junior officers away from the profession. Senior leaders can contend with civilian employers. While the military may not realistically compete with corporate America's salaries, leaders can address other facets of job satisfaction. For many officers vacating the Army for the private sector, organizational climate and career fulfillment matter more than money.

Hearing from hundreds of insightful, compassionate current and former junior offers, I witnessed firsthand the acute loss the Army is facing. Numerous respondents would have been great battalion and brigade commanders, perhaps even general officers. The Army could have retained many of them.

A toxic battalion commander does not simply jeopardize his unit during his tenure. He imperils the future of the entire organization.

The Army can fix its leadership problem. But it must first acknowledge that it has one.

*Lindsay Gabow is an active-duty U.S. Army captain stationed at Fort Bragg. Her commentary reflects her own opinions and research and does not purport to speak in any official capacity for the U.S. Army. She is in the process of transitioning out of the Army to attend law school. For questions or comments about her survey, please feel free to reach out to her on LinkedIn or via email at* lindsaygabow13@gmail.com.