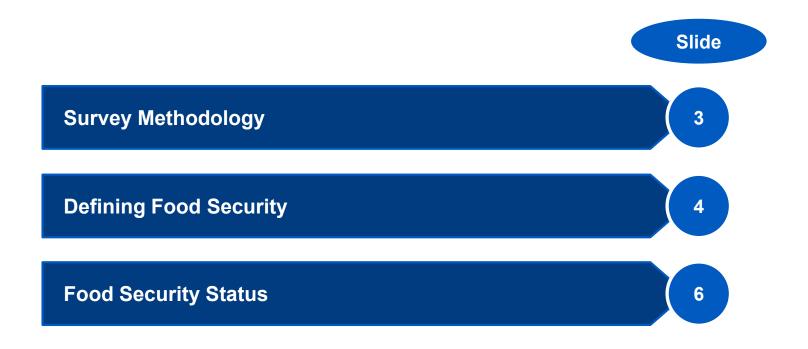


Food Security of Active Duty Members

Results from 2020 Status of Forces Survey of Active Duty Members (SOFS-A)

Office of People Analytics (OPA)
Center for Retention and Readiness

Briefing Overview



Survey Methodology

- OPA conducts cross-component surveys that provide DoD leadership with assessments of attitudes, opinions, and experiences of entire population of interest using standard scientific methods
- OPA survey methodology meets industry standards used by government statistical agencies (e.g., Census Bureau, Bureau of Labor Statistics), private survey organizations, and well-known polling organizations
 - OPA adheres to survey methodology best practices promoted by American Association for Public Opinion Research
- Web-based active duty survey fielded October 26, 2020–January 25, 2021
- 125K members surveyed (118,723 DoD members and 7,042 Coast Guard members)*
- Weighted response rate of 12%
- AD results are shown for Total; Army, Navy, Marine Corps, and Air Force; and paygrade groups

^{*} Only results for DoD members are included in this briefing. Coast Guard member results are not included.

2020 SOFA's Scientific Sampling & Weighting

Sample 118,723

- 43,682 Army
- 28,870 Navy
- 29,297 USMC
- 16,874 USAF

Number of Respondents 11,506

- 3,648 Army
- 2,903 Navy
- 2,233 USMC
- 2,722 USAF

Population ~1.3M

- 465,277 Army
- 333,760 Navy
- 179,868 USMC
- 327,115 USAF

- Sample frame is selected from DMDC's administrative personnel files
- Stratified random sample is used to select members that will represent all active duty members
 - A smaller number of people are chosen to represent the views of people with similar demographic characteristics
 - Sample ensures there are enough respondents who will complete the survey so that survey estimates are precise
 - OPA designs samples to obtain about 300-400 respondents within each subgroup (e.g., Navy E1-E4)

- Survey responses are weighted to represent the population
 - Adjusts for selection probability, nonresponse, and known population values

The entire process of sampling and weighting ensures the data represents the population and not the number of respondents. Findings can be generalized to the full active duty force.

Defining Food Security*

Food Secure

- Access at all times to enough food for an active, healthy life for all household members.
 - Can afford enough healthy food

Low Food Security

- Unable, at some time during the year, to provide adequate food for one or more household members due to a lack of resources.
 - Reduce quality and variety of diet

Very Low Food Security

- Normal eating patterns of some household members were disrupted at times during the year and their food intake reduced below levels they considered appropriate.
 - Reduce food intake

^{*} Definition and measurement of food security based on US Department of Agriculture (USDA) guidelines.

Measuring Food Security

Food Secure 0-1 items

Low Food Security 2-4 items

Very Low Food Security
5-6 items

Survey Questions:

1.	The food that we bought	iust didn't last.	and we didn't have m	oney to get more.

☑Never true **☑**Sometimes true **☑**Often true **☑**Don't know

2. We couldn't afford to eat balanced meals.

☑Never true ☑Sometimes true ☑Often true ☑Don't know

3. In the past 12 months, did you or other adults in your household ever cut the size of your meals or skip meals because there was not enough money for food?

✓ Yes 🖾 No 🖾 Don't know

4. In the past 12 months, how often did you or other adults in your household cut the size of your meals or skip meals because there was not enough money for food?

☑Almost every month ☑Some months but not every month ☑ Only 1 or 2 months ☑ Don't know

5. In the past 12 months, did you ever eat less than you felt you should because there was not enough money for food?

✓ Yes

✓ No

✓ Don't know

6. In the past 12 months, were you ever hungry but did not eat because there was not enough money for food?

✓ Yes 🗷 No 🔀 Don't know

Food Security Status: Total DoD Population Estimates

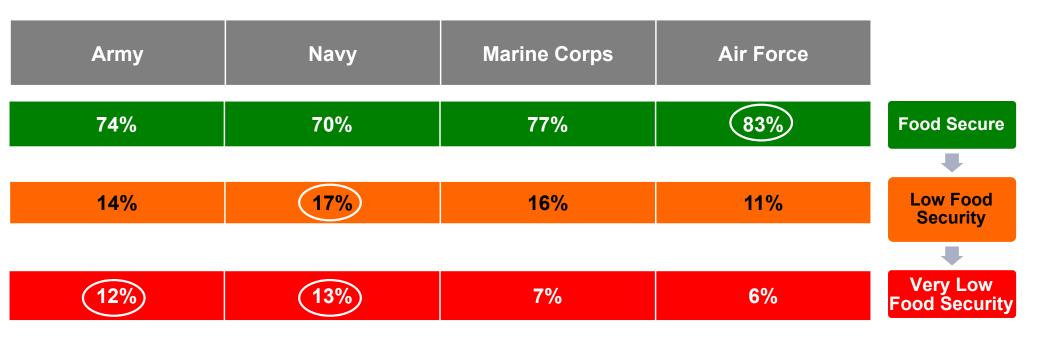
Percent of Active Duty Members Who Answered at Least One Item on the Six Food Security Questions

Number of Food Security Items Endorsed	Weighted Percent of Endorsement	Total Percent	Total DoD Population Estimate with ME	
0	67% 9%	76%	982,438 (±) 17,081	Food Secure
	370			
2	8%			
3	3%	14%	186,866 (±) 11,971	Low Food Security
4	3%			
5	4%	400/	429 202 (+) 40 704	Very Low Food
6	6%	10%	128,292 (±) 10,794	Security

• For Total DoD, there were <u>no statistically significant differences</u> in food security status between 2020 data and 2018

Food Security Status: By Service

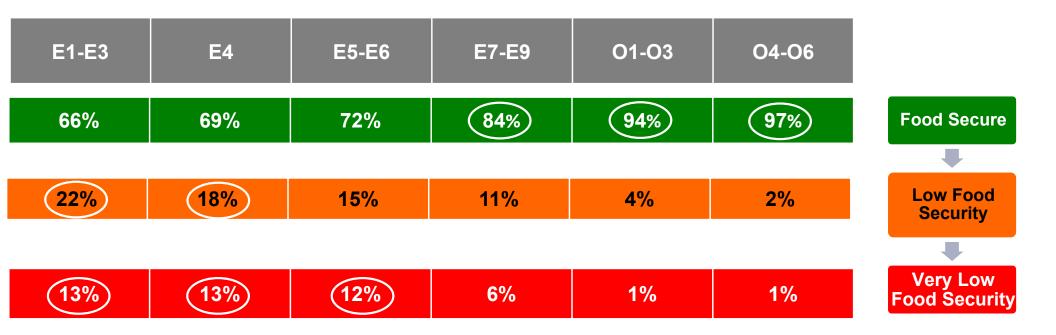
Percent of Active Duty Members Who Answered at Least One Item on the Six Food Security Questions



- Air Force members (83%) had higher responses of food secure
- Navy members (17%) had higher responses of low food security
- Army members (12%) and Navy members (13%) had higher responses of very low food security

Food Security Status: By Paygrade

Percent of Active Duty Members Who Answered at Least One Item on the Six Food Security Questions



- Senior enlisted members, junior officers, and senior officers had higher responses of food secure
- Junior enlisted members (E1-E3 and E4) had higher responses of low food security
- Junior enlisted members (E1-E3 and E4) and mid-enlisted members (E5-E6) had higher responses of very low food insecurity

Food Security Status: Additional Reporting Categories

KEN Higher Re Lower Re	esponse	Total	Army	Navy	Marine Corps	Air Force	E1-E4	E5–E9	01-03	04-06	Deployed	Not Deployed	Male	Female	Single w/ Child(ren)	Single w/o Child(ren)	Married w/ Child(ren)	Married w/o Child(ren)
	Food secure	76	74	70	77	83	67	75	94	97	74	76	76	74	75	74	77	76
Food Security Scale	Low food security	14	14	17	16	11	20	14	4	2	14	14	14	15	13	17	12	13
	Very low food security	10	12	13	7	6	13	11	1	1	11	9	10	11	12	9	10	11

KEY Higher Res Lower Ros	sponse	Total	Enlisted	Officers	Army Enlisted	Army Officers	Navy Enlisted	Navy Officers	Marine Corps Enlisted	Marine Corps Officers	Air Force Enlisted	Air Force Officers	Male Enlisted	Male Officers	Female Enlisted	Female Officers	Enlisted 3–5 YOS	Enlisted 6-9 YOS
	Food secure	76	71	95	69	94	65	96	74	95	80	96	72	95	69	96	68	74
Food Security Scale	Low food security	14	17	4	17	5	20	3	18	4	13	3	16	4	18	2	19	14
	Very low food security	10	12	1	14	2	15	1	8	2	7	1	11	1	13	2	14	13

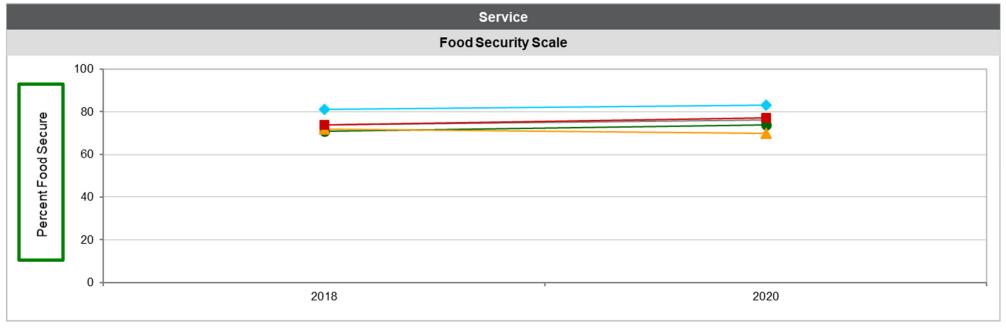
Food Security Status: Additional Reporting Categories

KEY: Higher Resp Lower Resp		Total	Single	Married	Non-Hispanic White	Total Minority	U.S. (Incl. Territories)	Overseas	On Base	Off Base
	Food secure	76	74	77	78	73	76	77	71	79
Food Security Scale	Low food security	14	17	12	12	17	14	16	18	12
	Very low food security	10	9	11	9	11	10	8	11	9

PCS Mov KEY: Higher Resp Lower Resp	oonse	Total	Never	Less Than 1 Month–6 Months	7-12 Months	13–24 Months	25–36 Months	37 Months or More
	Food secure	76	71	76	73	79	78	83
Food Security Scale	Low food security	14	18	13	16	13	12	10
	Very low food security	10	11	11	11	8	10	7

Percent of All Active Duty Members

In 2020, 76% of Total DoD members reported they were food secure—similar to 2018

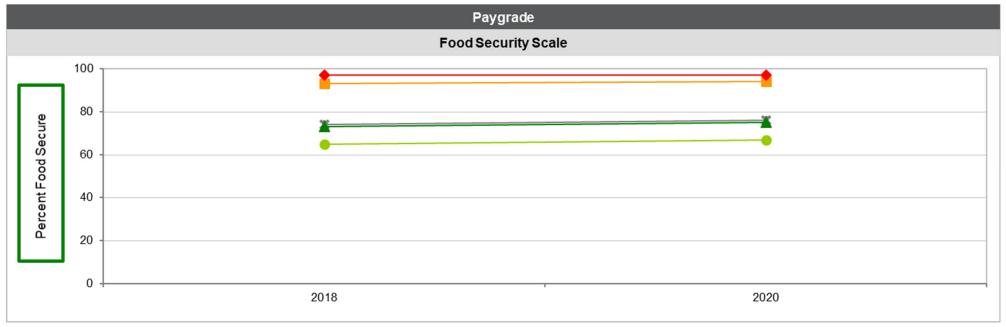


	Most recent HIGHER than Most recent LOWER than	2018	2020	
*	Total	74	76	
•	Army	71	74	
_	Navy	72	70	
	Marine Corps	74	77	
•	Air Force	81	83	

At the Total level and across Services, results in 2020 were similar to 2018

Percent of All Active Duty Members

In 2020, 76% of Total DoD members reported they were food secure—similar to 2018

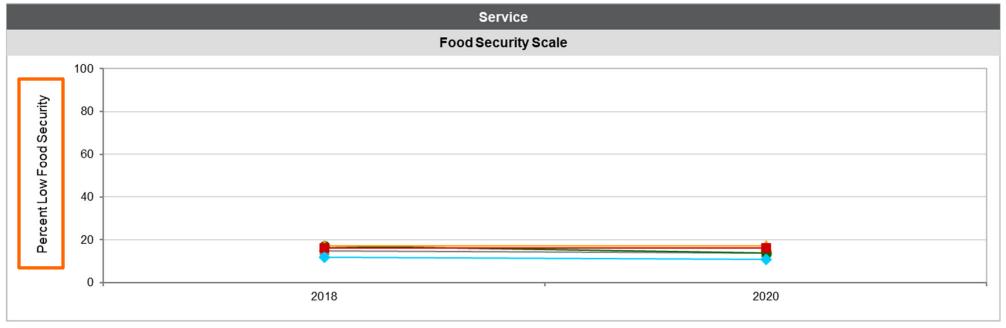


	Most recent HIGHER than Most recent LOWER than	2018	2020
*	Total	74	76
•	E1-E4	65	67
A	E5-E9	73	75
	O1–O3	93	94
•	O4–O6	97	97

Across paygrades, results in 2020 were <u>similar</u> to 2018

Percent of All Active Duty Members

In 2020, 14% of Total DoD members reported *low food security*—similar to 2018

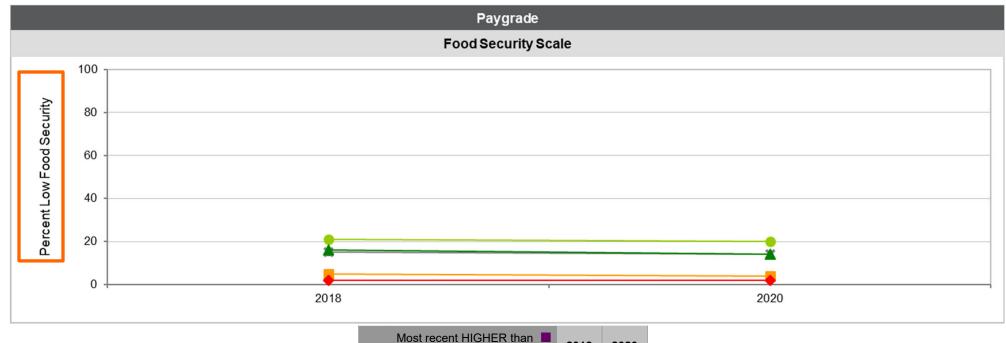


	Most recent HIGHER than Most recent LOWER than	2018	2020
*	Total	15	14
•	Army	17	14
_	Navy	17	17
	Marine Corps	16	16
•	Air Force	12	11

Across Services, results in 2020 were <u>similar</u> to 2018

Percent of All Active Duty Members

In 2020, 14% of Total DoD members reported low food security—similar to 2018

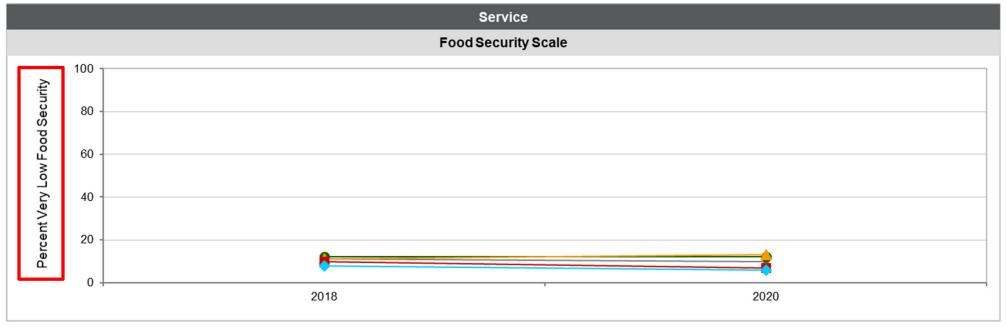


	Most recent HIGHER than Most recent LOWER than	2018	2020	
*	Total	15	14	
•	E1-E4	21	20	
	E5-E9	16	14	
	01–03	5	4	
•	O4–O6	2	2	

Across paygrades, results in 2020 were <u>similar</u> to 2018

Percent of All Active Duty Members

In 2020, 10% of Total DoD members reported very low food security—similar to 2018

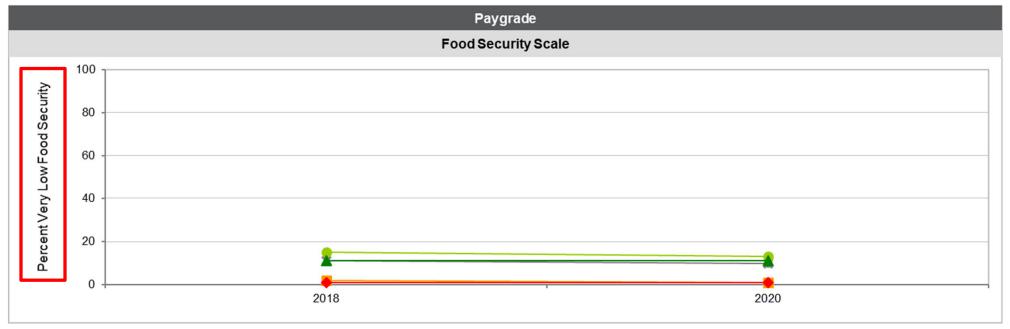


	Most recent HIGHER than Most recent LOWER than	2018	2020
*	Total	11	10
•	Army	12	12
_	Navy	11	13
	Marine Corps	10	7
•	Air Force	8	6

Across Services, results in 2020 were <u>similar</u> to 2018

Percent of All Active Duty Members

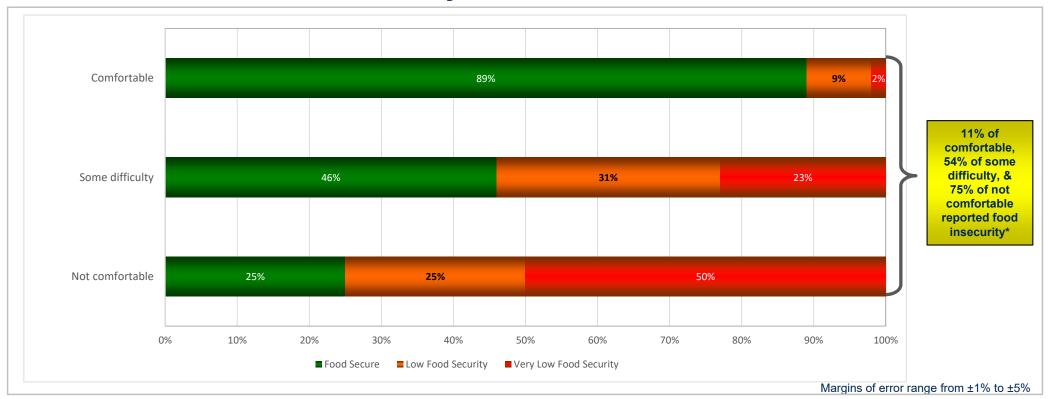
In 2020, 10% of Total DoD members reported very low food security—similar to 2018



	Most recent HIGHER than Most recent LOWER than	2018	2020
*	Total	11	10
•	E1-E4	15	13
A	E5-E9	11	11
	01–03	2	1
•	O4-O6	1	1

Across paygrades, results in 2020 were <u>similar</u> to 2018

2020 Food Security Status: Financial Condition



• Food Secure:

89% of members who had a comfortable financial condition, 46% of members who had some difficulty, and 25% of members whose financial condition was not comfortable reported they were food secure.
 Members who had a comfortable financial condition had higher responses of food secure.**

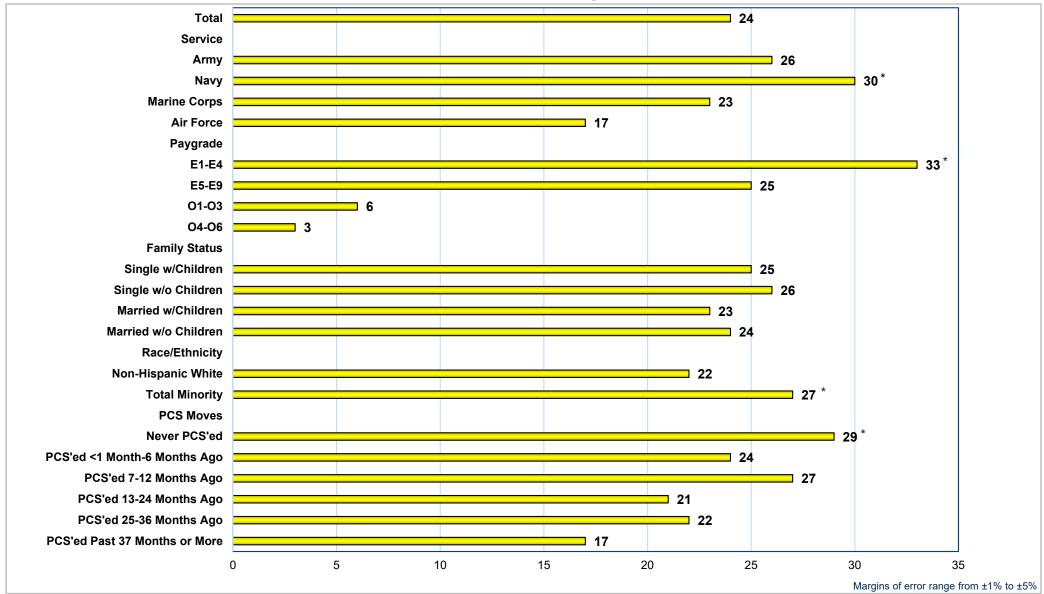
Low Food Security:

9% of members who had a comfortable financial condition, 31% of members who had some difficulty, and 25% of members whose financial condition was not comfortable reported low food security. Members who had some difficulty or whose financial condition was not comfortable had <u>higher responses</u> of low food security.

• Very Low Food Security:

- 2% of members who had a comfortable financial condition, 23% of members who had some difficulty, and 50% of members whose financial condition was not comfortable reported very low food security. Members who had some difficulty or whose financial condition was not comfortable had https://distribution.org/ higher responses of very low food security.
- Percentages are calculated by determining the percentage of food secure and food insecure. Adding percentages of low food security and very low security may not add up to the percentages presented as food insecure due to rounding.
- ** The response "comfortable" includes members who indicated they were "very comfortable and secure" or "able to make ends meet without much difficulty." The response "some difficulty" includes members who indicated they "occasionally have some difficulty making ends meet." The response "not comfortable" includes members who indicated it was "tough to make ends meet but keeping your head above water" or they were "in over your head."

Food Insecurity (Low or Very Low Food Security) by Military Demographics



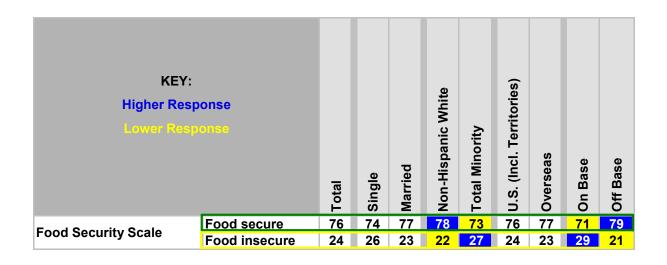
^{*} These reporting categories were <u>statistically significantly higher</u> compared to their "all other groups." SOFS-A 20 Q54-Q58

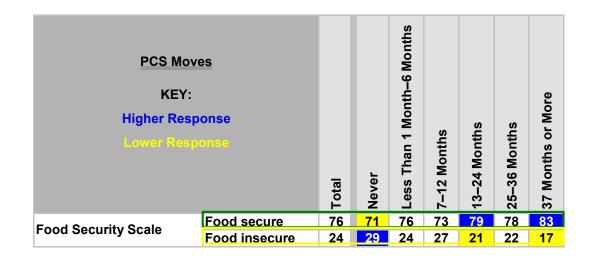
Food Security Status

KEY: Higher Resp Lower Resp		Total	Army	Navy	Marine Corps	Air Force	E1-E4	E5–E9	01–03	04-06	Deployed	Not Deployed	Male	Female	Single w/ Child(ren)	Single w/o Child(ren)	Married w/ Child(ren)	Married w/o Child(ren)
Food Security Scale	Food secure	76	74	70	77	83	67	75	94	97	74	76	76	74	75	74	77	76
1 000 Security Scale	Food insecure	24	26	30	23	17	33	25	6	3	26	24	24	26	25	26	23	24

KEY: Higher Response Lower Response	Total	Enlisted	Officers	Army Enlisted	Army Officers	Navy Enlisted	Navy Officers	Marine Corps Enlisted	Marine Corps Officers	Air Force Enlisted	Air Force Officers	Male Enlisted	Male Officers	Female Enlisted	Female Officers	Enlisted 3–5 YOS	Enlisted 6–9 YOS
Food Security Scale Food secure Food insecure	76 24	71 29	95 5	69 31	94	65 35	96 4	<u>74</u> 26	95 5	80 20	96 4	72 28	95 5	69 31	96 4	68 32	74 26

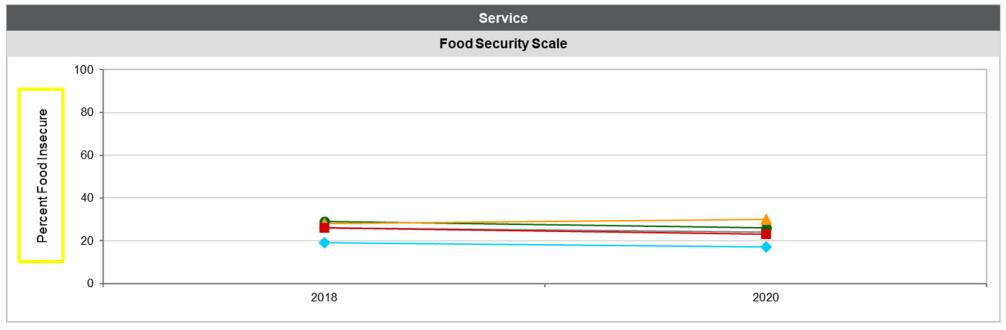
Food Security Status





Percent of All Active Duty Members

24% of Total DoD members reported food insecurity—similar to 2018

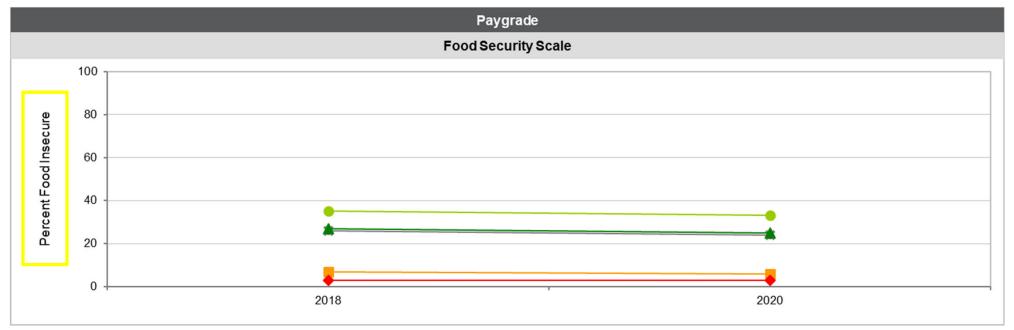


	Most recent HIGHER than Most recent LOWER than	2018	2020
*	Total	26	24
•	Army	29	26
_	Navy	28	30
	Marine Corps	26	23
•	Air Force	19	17

Across Services, results in 2020 were <u>similar</u> to 2018

Percent of All Active Duty Members

24% of Total DoD members reported food insecurity—similar to 2018



	Most recent HIGHER than Most recent LOWER than	2018	2020	
*	Total	26	24	
•	E1–E4	35	33	
	E5–E9	27	25	
	01–03	7	6	
•	O4–O6	3	3	

Across paygrades, results in 2020 were <u>similar</u> to 2018

Food Insecure: By Detailed Paygrade*

Percent of All Active Duty Members

	2018	2020
Total DoD	26%	24%
Enlisted	30%	29%
E1-E4	35%	33%
E1-E3	34%	34%
E4	36%	31%
E5-E9	27%	25%
E5-E6	29%	28%
E7-E9	19%	16%
Officers	6%	5%
01-03	7%	6%
04-06	3%	3%
Margin of Error	±1%-5%	±1%-4%

Enlisted members, junior enlisted members, and mid-enlisted members were more likely to be food insecure compared to other paygrades

^{*} Statistical tests were performed to compare percentages across groups, but not across time.

Food Insecure: By Paygrade & Spouse Employment Status*

Percent of Active Duty Members Who Were Married

	2018	2020					
Total DoD							
Employed	25%	21%					
Unemployed	30%	37%					
Not in the Labor Force	29%	25%					
Armed Forces	22%	19%					
Enlisted							
Employed	30%	26%					
Unemployed	36%	43%					
Not in the Labor Force	36%	30%					
Armed Forces	27%	24%					
Offic	ers						
Employed	5%	6%					
Unemployed	5%	10%					
Not in the Labor Force	7%	6%					
Armed Forces	4%	2%					
Margin of Error	±2%-8%	±2%-8%					

Among Total DoD members, those with an unemployed spouse had <u>significantly</u> <u>higher</u> rates of food insecurity than other married members

Among enlisted members, those with an unemployed spouse had <u>significantly</u> <u>higher</u> rates of food insecurity than other married members

^{*} Statistical tests were performed to compare percentages across groups, but not across time.

Food Insecure: By Enlisted & Spouse Employment Status*

Percent of Active Duty Members Who Were Married

	reiterit of Active Duty in	Mellinela AAIIO AA
	2018	2020
	E1-E3	
Employed	NR	41%
Unemployed	NR	NR
Not in the Labor Force	43%	40%
Armed Forces	NR	34%
	E4	
Employed	38%	33%
Unemployed	NR	39%
Not in the Labor Force	53%	41%
Armed Forces	34%	29%
	E5-E6	
Employed	30%	26%
Unemployed	39%	46%
Not in the Labor Force	36%	29%
Armed Forces	26%	23%
	E7-E9	
Employed	20%	14%
Unemployed	24%	34%
Not in the Labor Force	21%	19%
Armed Forces	12%	5%
Margin of Error	±4%-14%	±4%-17%

Among E5-E6 members, those with an unemployed spouse had <u>significantly</u> <u>higher</u> rates of food insecurity than other married members

Among E7-E9 members, those with an unemployed spouse had <u>significantly</u> <u>higher</u> rates of food insecurity than other married members

^{*} Statistical tests were performed to compare percentages across groups, but not across time.

Food Insecure: By Paygrade & Number of Children*

Percent of All Active Duty Members

	2018	2020					
Total DoD							
No Children	26%	25%					
1 Child	25%	22%					
2 or More Children	26%	23%					
Enlis	ted						
No Children	29%	29%					
1 Child	30%	26%					
2 or More Children	33%	30%					
Offic	ers						
No Children	5%	4%					
1 Child	5%	6%					
2 or More Children	7%	6%					
Margin of Error	±2%-5%	±2%-4%					

Among active duty members, there were no significant differences by number of children

^{*} Statistical tests were performed to compare percentages across groups, but not across time.

Food Insecure: By Paygrade, Spouse Unemployment Status & **Number of Children***

Percent of Active Duty Members Were Married

	2018	2020	
Total D	Among Total DoD members,		
Unemployed Spouse and No Children	27%	41%	those with an unemployed spouse who had no children and
Unemployed Spouse and 1 Child	21%	33%	who had 2 or more children had significantly higher rates of food
Unemployed Spouse and 2 or More Children	35%	35%	insecurity than other married members
Enlist	ed		
Unemployed Spouse and No Children	31%	46%	Among Enlisted members, those
Unemployed Spouse and 1 Child	27%	NR	with an unemployed spouse who had no children had significantly
Unemployed Spouse and 2 or More Children	42%	42%	higher rates of food insecurity than other married members
Margin of Error	±9%-18%	±10%-15%	

^{*} Statistical tests were performed to compare percentages across groups, but not across time.

How Food Security Interacts With Retention, Satisfaction, Stress, and Readiness

A comparison between Total DoD members who are food insecure and food secure

Retention	Satisfaction
 35% and 29% indicated <i>unlikely</i> to stay on active duty* 36% and 31% indicated their spouse/significant other viewed their participation <i>unfavorably</i> 30% and 23% indicated their family viewed their participation <i>unfavorably</i> 	 39% and 22% were dissatisfied with the opportunities for promotion in their unit 52% and 20% were dissatisfied with total compensation 29% and 16% were dissatisfied with the quality of supervisor in their unit 36% and 20% were dissatisfied with the military way of life 26% and 16% were dissatisfied with the quality of coworkers in their unit 27% and 18% were dissatisfied with the type of work in their military job
Stress	Readiness
 56% and 37% indicated <i>more</i> stress in personal life 59% and 44% indicated <i>more</i> stress in military life 	 27% and 16% indicated their unit was <i>poorly</i> prepared for wartime mission 20% and 12% indicated they were <i>poorly</i> trained for their wartime job 12% and 8% indicated they were <i>poorly</i> prepared for their wartime job 20% and 14% indicated they were <i>poorly</i> prepared for their wartime job in support of joint operations

Bottom Line

Members with food insecurity: unlikely to stay on active duty, have less support to stay from spouse/significant other & family, more stress in personal and military life, less satisfied with aspects of the military (biggest difference was with compensation), and poorer readiness of self and unit.

^{*}Statistically significant findings are reported. Statistical tests are used to compare current estimates with other subgroups.

2018 SOFS-A vs. 2018 USDA US Population Data

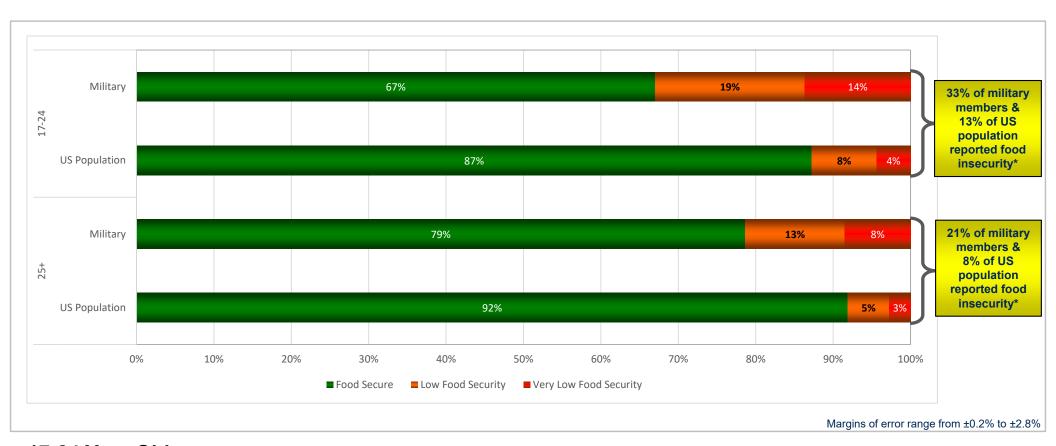
- Data from the 2018 SOFS-A was compared to a subset of the 2018 USDA data, which come from an annual survey conducted by the U.S. Census Bureau as part of the Current Population Survey (CPS). The CPS is a quasi-panel data set (rotating design with four months on and 8 months off before returning for an additional 4 months) that does in-person interviews in rounds 1 and 4 (these are the initial interviews) and phone interviews in the other rounds.
 - Although the scales presented here are based on the same questions, there are <u>modal differences</u> in survey administrations between the 2018 SOFS-A and the 2018 USDA data that should be considered when comparing the findings.
 - USDA is administered through interviews (face to face and phone) and SOFS is a self-administered Web survey.
- To allow for measure comparability between the two datasets, the USDA data includes only those who were employed, 17 and older, and not in the Armed Forces. The comparisons between the two datasets were conducted primarily by age. The first category is for 17-24 years old and the second is for 25-76 years old. For the SOFS-A data, results were further analyzed by a two-level paygrade variable (enlisted and officer).
- Comparison groups:

SOFS-A Categories	USDA Categories			
17-24 years old	17-24 years old			
25-76 years old	25-76 years old			

SOFS-A Categories	USDA Categories
Enlisted 17-24 years old	17-24 years old
Officer 17-24 years old	17-24 years old
Enlisted 25-76 years old	25-76 years old
Officer 25-76 years old	25-76 years old

Comparisons were made between military and US population data. A single hypothesis test was
used to compare the 2-level food security scale and three independent hypothesis tests were used
to compare the 3-level food security scale. Standard normal tests (effectively similar to a t-test)
were done at a p-value of .01.

2018 Food Security Status: Military Compared to US Population, by Age



• 17-24 Year Olds:

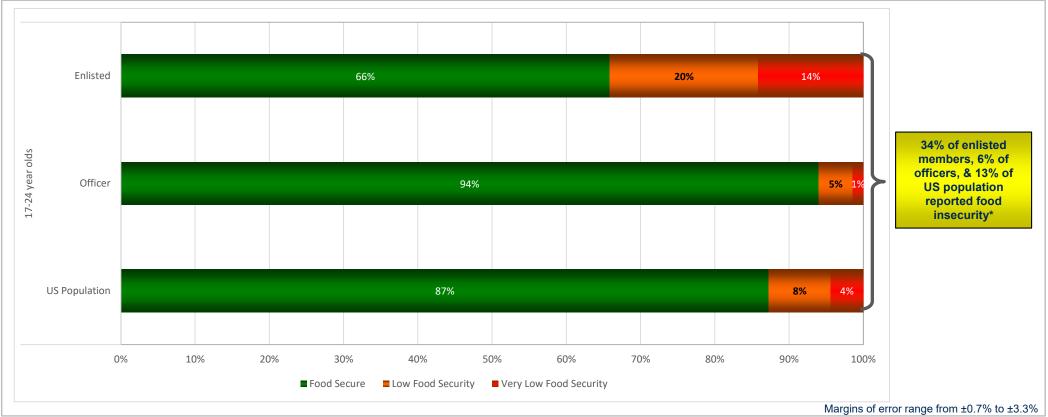
- 67% of military members report they are food secure, which is significantly lower than the US population (87%)
- 19% of military members report low food security, which is significantly higher than the US population (8%)
- 14% of military members report very low food security, which is significantly higher than the US population (4%)

25 Years and Older:

- 79% report they are food secure, which is significantly lower than the US population (92%)
- 13% report low food security, which is significantly higher than the US population (5%)
- 8% report very low food security, which is significantly higher than the US population (3%)

[•] Percentages are calculated by determining the percentage of food secure and food insecure. Adding percentages of low food security and very low security may not add up to the percentages presented as food insecure due to rounding.

2018 Food Security Status: Military Compared to US Population, by Age (17-24 Year Olds) and Paygrade (Enlisted and Officer)



Enlisted members:

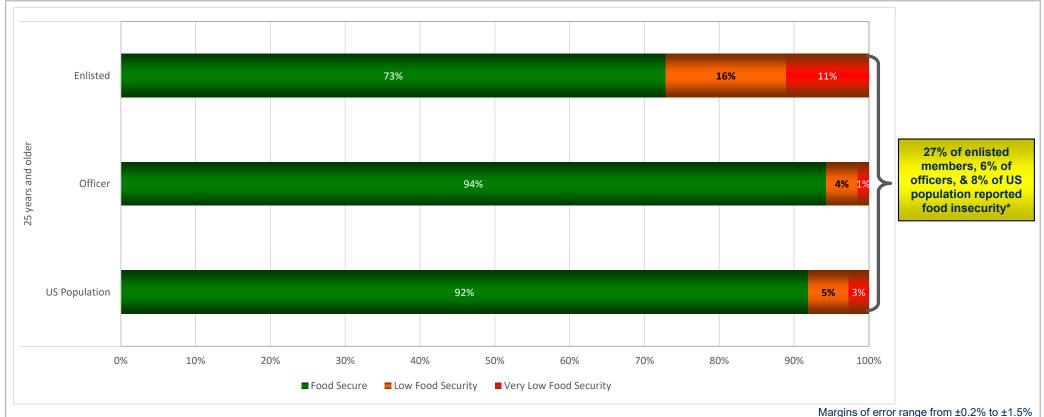
- 66% report they are food secure, which is significantly lower than the US population (87%)
- 20% report low food security, which is significantly higher than the US population (8%)
- 14% report very low food security, which is significantly higher than the US population (4%)

• Officers:

- 94% report they are food secure, which is significantly higher than the US population (87%)
- 5% report low food security, which is significantly lower than the US population (8%)
- 1% report very low food security, which is significantly lower than the US population (4%)

Percentages are calculated by determining the percentage of food secure and food insecure. Adding percentages of low food security and very low security may not add up to the percentages presented as food insecure due to rounding.

2018 Food Security Status: Military Compared to US Population, by Age (25 Years and Older) and Paygrade (Enlisted and Officer)



• Enlisted members:

- 73% report they are food secure, which is significantly lower than the US population (92%)
- 16% report low food security, which is significantly higher than the US population (5%)
- 11% report very low food security, which is significantly higher than the US population (3%)

• Officers:

- 94% report they are food secure, which is significantly higher than the US population (92%)
- 4% report low food security, which is significantly lower than the US population (5%)
- 1% report very low food security, which is significantly lower than the US population (3%)

SOFS-A 18 Q55-Q59

Percentages are calculated by determining the percentage of food secure and food insecure. Adding percentages of low food security and very low security may not add up to the percentages presented as food insecure due to rounding.



Contact information

For questions about the survey results, please contact:

Dr. Lindsay Rock
Project Portfolio Manager, Status of Forces Surveys
Center for Retention and Readiness (R&R), OPA
lindsay.m.rock.civ@mail.mil

Carol Newell
Deputy Director, Center for R&R, OPA
carol.e.newell2.civ@mail.mil

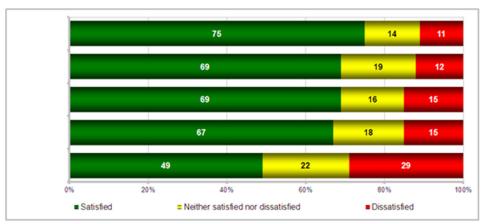
Dr. Paul Rosenfeld
Director, Center for R&R, OPA
paul.rosenfeld.civ@mail.mil

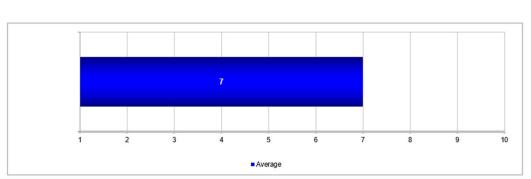


Back-up Slides

Introduction Briefing Includes

Graphic displays of overall results





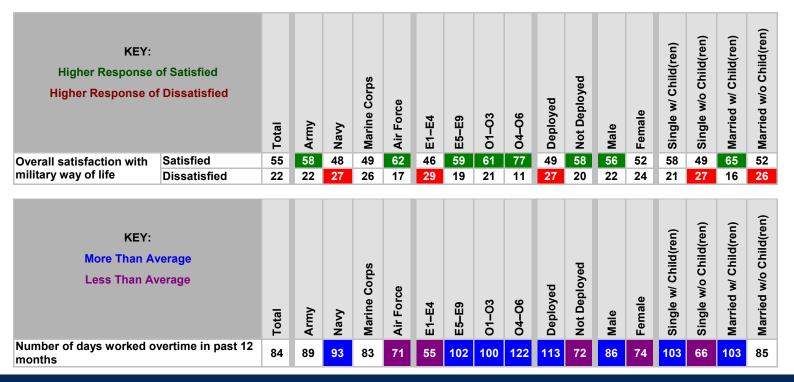
Margins of error range from ±1% to ±2%

Margins of error do not exceed ±1

Percentages and means are reported with margins of error based on 95% confidence intervals. The range of margins of error is presented for the question or group of questions/subitems.

Introduction Briefing Includes

- Tables showing results by reporting categories (e.g., Service, paygrade)
 - Statistical tests used to compare each subgroup to its respective "all other" group (i.e., to all others not in the subgroup)
 - Results of statistical tests shown by color coding significant differences among reporting categories
 - Results are not presented if the question does not apply to the reporting category or if the estimate is unstable
 - "NR" indicates the estimate is Not Reportable because it was based on fewer than 30 respondents or the relative standard error was high
 - "NA" indicates the response option was Not Applicable because the question did not apply to respondents in the reporting category based on answers to previous questions



Indicates most recent survey result is significantly lower than past survey result

Introduction Briefing Includes

- Trends are shown as estimated percentages or means
- Statistical tests used to compare current results with all previous survey administrations
 - Purple cells indicate current survey result is HIGHER
 - Yellow cells indicate current survey result is LOWER

	Г	Indicates most recent survey result is significantly higher than past survey result								
Most recent HIGHER than Most recent LOWER than	Me YY	Mon-YY	Mon-YY	Mon-YY	Mon-YY	Mon-YY	Mon-YY	Mon-YY	Current Survey	
* Total	50	58	61	58	56	58	57	56	55	
Army	48	58	59	55	51	53	53	52	49	
▲ Navy	50	<mark>6</mark> 0	63	60	60	61	59	60	58	
Marine Corps	42	4 D	53	49	46	51	45	48	48	
Air Force	56	(3	65	65	64	64	67	61	63	