

## **DOD Utilization of Employee Safety Perception Surveys**

**Gary A. Morris, Ph.D., CSP  
Jonathan Thomas, ABD**

### **Introduction**

It is still very common for organizations to measure their safety program's effectiveness based almost exclusively on its failures. The standard lagging measures that are typically used to evaluate safety programs, while necessary, are often some of the least effective measures to use for finding and fixing hazards before injury and illness occurs—one of the primary goals of an safety management system (SMS).

In recent years, safety professionals have begun to develop and value a variety of leading or proactive measures that provide a much more strategic and effective way of evaluating and improving occupational safety management systems. One of the most promising proactive measures of a safety program and organizational safety culture is employee safety perception surveys. Conducted in a rigorous way, employee perception surveys can provide a comprehensive and sensitive set of metrics that evaluate and monitor management commitment, supervisor engagement, employee involvement, and organizational safety climate.

This paper will describe how the U.S. Department of Defense has used employee perception surveys as a proactive, more comprehensive SMS evaluation tool, a tactical action planning improvement tool, and as a reliable improvement progress tool.

### **Background and Survey Process**

In May 2003, the Secretary of Defense (SECDEF) issued a memorandum on reducing preventable accidents. He stated that “world-class organizations do not tolerate preventable accidents.” He challenged all the Secretaries of the Military Departments to reduce the number of mishaps and accident rates by at least 50% in the next two years. As part of the broader DoD initiative described above, the DoD OIG safety evaluation team, in conjunction with the National Safety Council (NSC), designed, developed, and analyzed results of the DoD safety perception surveys. One of the primary purposes of the survey was to assess the overall health of the safety climate of the Armed Services for Active Duty personnel.

Where possible, analysis was to include benchmark comparisons of DoD

responses to other organizations from a proprietary database of other survey users by percentile scores, with resulting prioritization of problem areas in need of improvement. Responses by personnel subgroups (e.g., branch of service, pay grade, and location) were also to be compared so a more specific understanding of each subgroup's assessment could be developed, with priorities customized and targeted for each group. The ultimate goal of the survey for DoD was to identify problem areas and prioritize potential target components that would lead to the reduction in mishaps and accidents mandated by the SECDEF. The same survey (using the same survey instrument) has now been conducted three times in two year intervals (2005, 2007, and 2009) among Active Duty personnel. The re-survey results also provide a reliable metric for monitoring progress toward that goal (or the lack of progress).

The survey instrument items asked respondents to indicate their level of agreement or disagreement (5-point response scale) with 50 statements regarding a variety of safety topics. These statements described activities or conditions related to the operation of DoD's safety program. Based on NSC's Safety Barometer survey instrument, these standardized items addressed specific aspects of six areas of occupational safety excellence: 1) management engagement with safety, 2) supervisor engagement with safety, 3) Personnel engagement with safety, 4) safety support activities, 5) safety support climate, and 6) overall organizational climate. . The content of survey instrument itself was distilled from a variety of sources, such as the compilation of importance ratings of safety program practices by top safety professionals, review of research comparing safety program components of organizations with high versus low injury rates, analysis of the best NSC member safety programs, and examination of numerous safety program survey and audit questionnaires. The usefulness of the format was verified through testing with more than 100 establishments throughout the United States

Active Duty personnel participated in the survey in the Spring of 2005, 2007, and 2009. The Safety Barometer survey items were included and administered as part of a periodic on-line survey conducted by DoD's Defense Manpower Data Center (DMDC). The DMDC employed single-stage, non-proportional stratified random sampling procedure for each of the three survey periods.

## **Results**

Results for the Active Duty survey are based on Safety Barometer survey completed by U.S. Department of Defense Active Duty personnel in the Spring of 2009, and includes comparisons to 2005 and 2007 Active Duty survey results

The percent distribution of responses for each statement is shown in Table 1. Also presented in this table are the average response scores for each statement. Average response scores are calculated by assigning a value of +2 for a strongly positive response; +1 for a positive response; 0 for a neutral "neither agree nor disagree" response; -1 for a negative response; and -2 for a strongly negative response.

The response from Active Duty personnel was compared with the 232

establishments in the NSC proprietary Database for each of the 50 standard Safety Barometer items. Percentile scores calculated from this comparison are also shown in Table 1. A percentile score expresses the percentage of Database companies with a lower average response score than Active Duty personnel. Possible percentile scores range from 0 to 100, with 0 representing the lowest score in the Database and 100 representing the highest. For example, a percentile score of 100 indicates that all of the 232 establishments in the NSC Database received a lower average response score than Active Duty personnel; a percentile score of 50 indicates that half (or 116) of the 233 establishments were lower than Active Duty personnel. Components with the highest average response scores are not necessarily the best performing elements when compared with the performance at other establishments. Since some statements tend to be answered more positively or negatively than others, comparing results against the NSC Database automatically adjusts for the varying difficulty of the survey statements.

**TABLE 1**  
**Percentile Scores, Percent Distribution of Responses, and Average Response Scores**

2009 U.S. DoD SURVEY RESULTS - SAFETY BAROMETER  
ACTIVE DUTY PERSONNEL

Category <sup>1</sup>	Statement Letter and Component	Percentile Score <sup>2</sup>	Percent Distribution of Responses					Average Response Score <sup>3</sup>
			Strongly Positive	Positive	Neutral	Negative	Strongly Negative	
OC	47 Significance of job stress as a problem for personnel	99	11.0%	31.4%	44.3%	9.9%	3.5%	0.37
OC	9 Condition of unit teamwork	84	16.4%	43.6%	26.2%	8.6%	5.1%	0.58
LP	31 Leadership setting a positive safety example	79	16.2%	41.8%	34.8%	4.5%	2.8%	0.64
SSC	45 Perception that good environmental conditions are kept	77	11.2%	40.3%	38.3%	6.8%	3.4%	0.49
SSC	36 Belief that hazards not fixed right away will still be addressed	74	10.4%	33.8%	41.5%	11.5%	2.8%	0.38
LP	40 Leadership including safety in job promotion reviews	72	11.8%	26.9%	47.6%	9.6%	4.2%	0.33
SSC	3 Priority of safety issues relative to performing duties	71	20.6%	37.6%	25.9%	11.5%	4.4%	0.58
SSA	33 Quality of preventative maintenance system operation	71	9.2%	29.4%	43.7%	13.3%	4.5%	0.26
LP	21 Leadership providing adequate safety staff	69	14.8%	44.5%	34.3%	4.5%	1.8%	0.66
SP	44 Supervisors investigating safety incidents	69	12.0%	35.2%	46.3%	4.5%	1.9%	0.51
OC	2 Frequency of personnel/leadership interactions	68	19.0%	46.2%	21.4%	9.2%	4.1%	0.67
SP	32 Supervisors integrating safety into the performance of duties	68	16.1%	41.7%	37.1%	3.4%	1.8%	0.67
SSA	15 Thoroughness of near miss accident/incident investigation	67	15.8%	35.2%	40.3%	5.8%	2.9%	0.55
PP	20 Personnel using standardized precautions for hazardous materials	65	20.6%	45.4%	31.2%	1.5%	1.2%	0.83
SSC	39 Perception that medical facilities are sufficient	64	14.1%	40.1%	34.4%	6.7%	4.7%	0.52
PP	37 Personnel take part when accident or incident investigations occur	64	9.0%	38.9%	46.1%	4.3%	1.6%	0.49
SP	19 Supervisors enforcing safe job procedures	62	20.9%	49.3%	26.0%	2.3%	1.4%	0.86
SP	38 Supervisors providing helpful safety training	61	11.8%	41.3%	41.6%	3.6%	1.7%	0.58
SSA	29 Occurrence of emergency response procedures testing	60	11.6%	30.4%	42.0%	12.2%	3.8%	0.34
SSA	13 Presence of personnel well-trained in emergency response	58	15.3%	40.8%	34.9%	6.5%	2.5%	0.60
LP	46 Personnel using necessary personal protective equipment	57	11.3%	33.8%	39.9%	11.9%	3.1%	0.38
SSA	22 Effectiveness of recognition programs in promoting safe behavior	54	7.7%	22.3%	48.1%	16.1%	5.7%	0.10
SP	12 Supervisors behaving in accord with safety procedures	53	26.6%	39.8%	24.7%	6.4%	2.5%	0.82
OC	16 Condition of personnel morale	53	8.5%	24.1%	29.9%	21.5%	16.0%	-0.12
SSC	10 Belief that leadership shows it cares about personnel safety	51	20.6%	44.0%	26.7%	4.8%	4.1%	0.72
SSC	48 Belief that leadership insists supervisors think safety	51	15.6%	42.4%	37.8%	2.9%	1.3%	0.68
SSC	17 Belief that leadership does more than law requires	50	11.3%	31.2%	37.8%	14.6%	5.1%	0.29
SP	24 Supervisors understanding personnel's job safety problems	49	14.9%	44.3%	36.3%	2.8%	1.6%	0.68
SSC	35 Perception that the safety officer has high status	49	10.3%	26.1%	52.2%	7.7%	3.7%	0.32
SSC	23 Safety standard level relative to standard duty performance level	49	5.1%	17.5%	52.0%	19.7%	5.7%	-0.03
SP	5 Supervisors maintaining a high safety performance standard	48	22.4%	42.8%	27.9%	4.3%	2.6%	0.78
PP	50 Personnel taking part in the development of safety requirements	48	7.9%	26.4%	50.2%	12.3%	3.2%	0.24
SSA	6 Frequency of detailed and regularly scheduled inspections	43	12.9%	39.2%	37.1%	7.3%	3.4%	0.51
SSA	41 Availability of safety officer to provide assistance	43	13.0%	34.3%	44.8%	5.0%	2.8%	0.50
SSA	8 Frequency of safety meeting occurrence	43	12.4%	29.6%	39.2%	14.2%	4.6%	0.31
SSC	27 Belief that leadership is sincere in safety efforts	40	19.2%	45.0%	29.7%	4.0%	2.1%	0.75
LP	14 Leadership publishing a policy on the value of personnel safety	40	19.1%	43.5%	30.6%	4.7%	2.2%	0.73
PP	18 Belief that personnel understand safety regulations	39	24.2%	55.5%	18.0%	1.3%	1.0%	1.01
SSA	26 Presence of safety training in new personnel orientation	38	19.6%	42.5%	30.6%	5.3%	1.9%	0.73
PP	4 Personnel being involved in safety practices	38	10.6%	37.2%	37.7%	11.1%	3.5%	0.40
LP	34 Leadership participating in safety activities on a regular basis	36	11.4%	35.3%	44.8%	6.0%	2.5%	0.47
LP	49 Leadership setting annual safety goals	36	11.8%	32.2%	47.4%	6.0%	2.6%	0.45
SP	28 Supervisors acting on personnel safety suggestions	33	11.4%	33.1%	43.2%	9.1%	3.1%	0.41
SP	43 Supervisors reducing personnel's fear of reporting safety problems	28	12.7%	35.6%	41.7%	7.5%	2.6%	0.48
LP	7 Leadership stressing the importance of safety in communications	26	12.0%	31.1%	31.0%	19.2%	6.7%	0.22
PP	1 Personnel identifying and eliminating hazards	25	22.9%	48.0%	23.2%	4.2%	1.7%	0.86
SSA	30 Effectiveness of command safety officer in improving safety condition	22	11.3%	32.4%	49.4%	4.5%	2.5%	0.46
OC	42 Unit personnel assignment stability	22	8.2%	31.6%	41.8%	12.6%	5.9%	0.24
PP	25 Personnel following lockout/tagout procedures	20	12.1%	26.0%	56.2%	3.4%	2.3%	0.42
PP	11 Personnel believing that their actions can protect other personnel	18	31.6%	51.3%	15.4%	0.8%	0.9%	1.12

<sup>1</sup> LP=Leadership Participation, SP=Supervisor Participation, PP=Personnel Participation, SSA=Safety Support Activities, SSC=Safety Support Climate, OC=Organizational Climate

<sup>2</sup> A percentile score expresses the percentage of locations in the NSC Database with lower average responses. The percentile score range is from 0 to 100.

<sup>3</sup> Calculated by assigning a value of +2 for strongly positive response; +1 for a positive response; 0 for neutral response; -1 for a negative response; and -2 for a strongly negative response. (See Appendix C for more information regarding methods of analysis)

Components in Table 1 are listed in order of decreasing percentile score. At the top of the table are components that were more highly ranked among Active Duty responses compared with other establishments' responses. Components at the bottom of the table are those that were evaluated less positively compared with responses from other establishments. Components with identical percentile scores are ordered by average response score from best to worst.

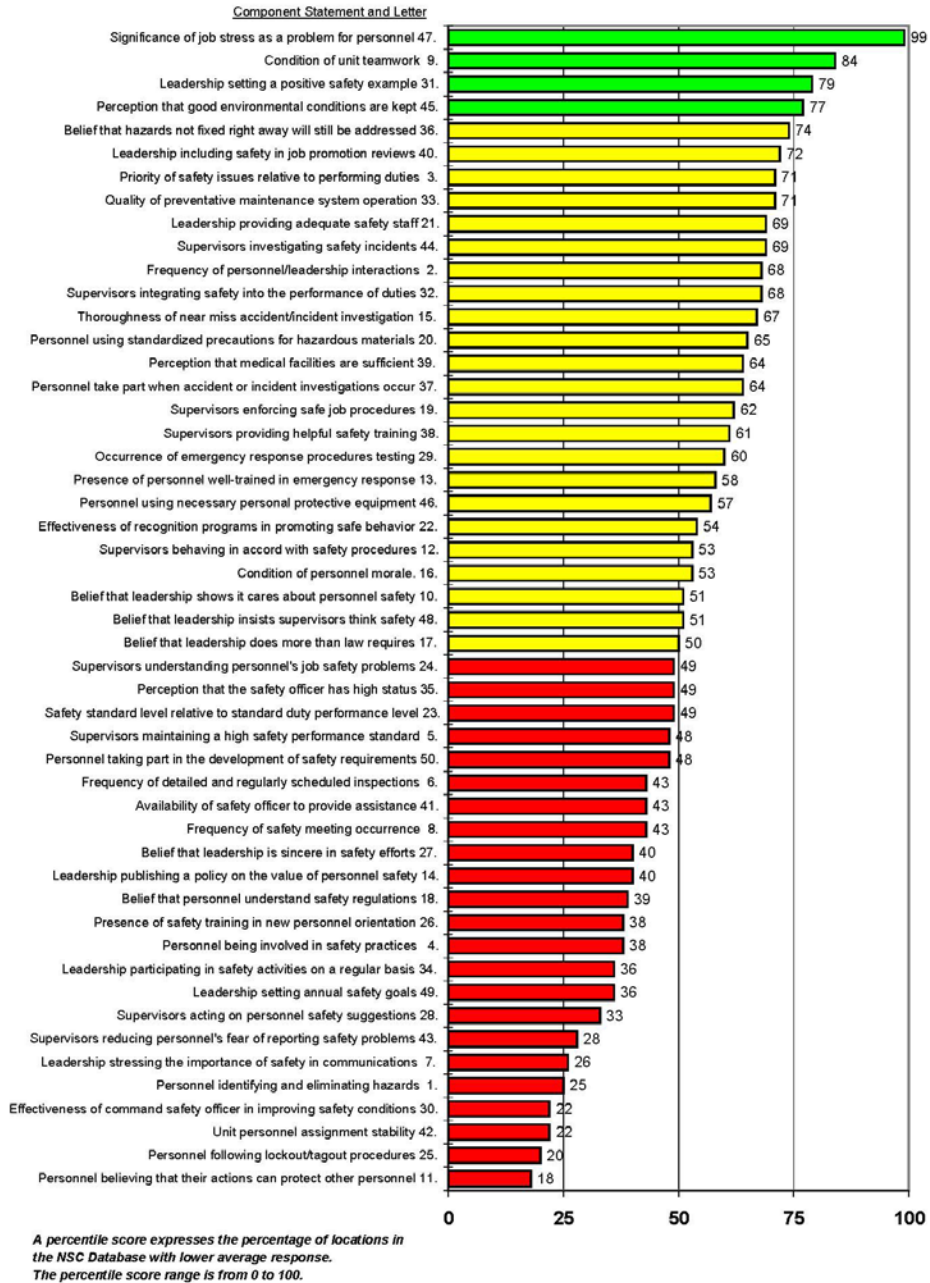
Figure 1 is a graphic representation of these data. Average performance compared to the NSC Database is indicated by the vertical line at the 50<sup>th</sup> percentile. Components with bars that meet or surpass this mark are performing at or above average. Bars shaded green have percentile scores above 75 (top quartile), while those shaded yellow are in the 50<sup>th</sup> to 75<sup>th</sup> percentile range (second quartile). Components that fall short of the 50<sup>th</sup> percentile vertical line are performing below average and are shaded red (bottom 2 quartiles). Among these below average components, those with the lowest percentile scores represent priority items for Active Duty safety program improvement efforts.

The majority of personnel opinions regarding the Active Duty safety program were moderate compared to the Database participants. Of the 50 standard components, 27 received above average percentile scores of 50 or above, a slight decrease from 28 such components in 2007. In the current survey, 23 standard items received below average scores below 50. While three components achieved high percentile scores above 80 in 2007, only two components had percentiles above 80 in 2009. Two components generated low percentile scores of 20 or below in 2009, compared to one in 2007. Components with the lowest percentile scores represent priority components for the safety program improvement efforts.

As shown in Table 1 and Figure 1, the ten highest performing components received percentile scores of 69 and above. These components consist of three components each from the Leadership Participation and Safety Support Climate categories, two components from the Organizational Climate category, and one component each from the Supervisor Participation and Safety Support Activities categories. There were no components from the Personnel Participation category in the current group of highest-scoring items.

**FIGURE 1**  
**Percentile Scores of Safety Program Components**

2009 U.S. DoD SURVEY RESULTS - SAFETY BAROMETER  
 ACTIVE DUTY PERSONNEL



The most highly rated Leadership Participation and Supervisor Participation components (with their percentile scores) are:

Q31 Leadership setting a positive safety example (79)

- Q40 Leadership including safety in job promotion reviews (72)
- Q21 Leadership providing adequate safety staff (69)
- Q44 Supervisors investigating safety incidents (69)

The highly rated Safety Support Activities and Safety Support Climate components are:

- Q45 Perception that good environmental conditions are kept (77)
- Q36 Belief that hazards not fixed right away will still be addressed (74)
- Q3 Priority of safety issues relative to performing duties (71)
- Q33 Quality of preventative maintenance system operation (71)

The Organizational Climate components rated most highly are:

- Q47 Significance of job stress as a problem for personnel (99)
- Q9 Condition of unit teamwork (84)

As shown in Table 1 and Figure 1, some components received percentile scores below the average score of 50. Components with below average percentiles are potential target areas that can be used to establish improvement priorities for the Active Duty personnel safety program.

The below average Leadership Participation components (listed from lowest percentile score) are:

- Q7 Leadership stressing the importance of safety in communications (26)
- Q49 Leadership setting annual safety goals (36)
- Q34 Leadership participating in safety activities on a regular basis (36)
- Q14 Leadership publishing a policy on the value of personnel safety (40)

The below average scoring Supervisor Participation components are:

- Q43 Supervisors reducing personnel's fear of reporting safety problems (28)
- Q28 Supervisors acting on personnel safety suggestions (33)
- Q5 Supervisors maintaining a high safety performance standard (48)
- Q24 Supervisors understanding personnel's job safety problems (49)

The Personnel Participation components with below average scores are:

- Q11 Personnel believing that their actions can protect other personnel (18)
- Q25 Personnel following lockout/tagout procedures (20)
- Q1 Personnel identifying and eliminating hazards (25)
- Q4 Personnel being involved in safety practices (38)
- Q18 Belief that personnel understand safety regulations (39)
- Q50 Personnel taking part in the development of safety requirements (48)

The below average scoring Safety Support Activities components are:

Q30 Effectiveness of command safety officer in improving safety conditions (22)\*  
Q26 Presence of safety training in new personnel orientation (38)\*  
Q8 Frequency of safety meeting occurrence (43)\*  
Q41 Availability of safety officer to provide assistance (43)\*  
Q6 Frequency of detailed and regularly scheduled inspections (43)\*

The below average scoring Safety Support Climate components are:

Q27 Belief that leadership is sincere in safety efforts (40)  
Q23 Safety standard level relative to standard duty performance level (49)  
Q35 Perception that the safety officer has high status (49)

The Organizational Climate component with a below average score is:

Q42 Unit personnel assignment stability (22)

### **Individual Component Comparisons By Survey Year**

Table 2 shows a comparison of percentile scores for individual components in 2005, 2007, and 2009, as well as the percentile change between survey years for DoD Active Duty. These are sorted from greatest increase in percentile score (+) to greatest decrease in score (-) from 2007 to 2009. Those components that generated percentile scores above 75 for any year are shaded green; those identified as below average, with percentiles less than 50, are shaded red. Of the 50 standard components, improvement in percentile scores since 2007 was achieved for only 16 components, while fully 30 components saw decreases in percentile scores since the previous survey, and four components showed no change. There were no comparisons possible to 2005 data for four standard Safety Barometer items that were not surveyed in 2005.

While more items decreased than increased since 2007, changes in percentile scores were relatively small for both increasing and decreasing items. This consistency is notable and is undoubtedly due to several factors, some of which may include: a relatively static safety culture within DoD Active Duty; continuity of safety programs; the large number of survey respondents; and the reliability of the survey instrument to accurately reflect safety perceptions and culture within DoD Active Duty.

Among the 16 components showing increases from 2007 to 2009, none show notable increases of more than +10 percentile points. While 30 items showed decreases since 2007, only three generated a notable decrease of -10 percentile points or more.

Looking across survey years 2005, 2007, and 2009, two items consistently appeared among the better-performing components in all three years: condition of unit teamwork (Q9) and perception that good environmental conditions are kept (Q45). Conversely, 18 items generated below average percentile scores of less than 50 for all three years.



**TABLE 2**  
**Percentile Scores of Program Components by Survey Year**

2009 U.S. DoD SURVEY RESULTS - SAFETY BAROMETER  
ACTIVE DUTY PERSONNEL

Category <sup>1</sup>	Statement Number and Component	Percentile Scores <sup>2</sup>			Percentile Change	
		2005	2007	2009	2005 to 2009	2007 to 2009
SSA	33 Quality of preventative maintenance system operation	68	65	71	+3	+6
PP	50 Personnel taking part in the development of safety requirements	37	43	48	+11	+5
SSA	22 Effectiveness of recognition programs in promoting safe behavior	54	49	54	0	+5
SSC	3 Priority of safety issues relative to performing duties	69	67	71	+2	+4
SP	12 Supervisors behaving in accord with safety procedures	54	49	53	-1	+4
LP	7 Leadership stressing the importance of safety in communications	30	22	26	-4	+4
SSC	36 Belief that hazards not fixed right away will still be addressed	69	71	74	+5	+3
SSA	8 Frequency of safety meeting occurrence	41	40	43	+2	+3
OC	16 Condition of personnel morale	N/A	51	53	N/A	+2
PP	46 Personnel using necessary personal protective equipment	46	55	57	+11	+2
SSC	23 Safety standard level relative to standard duty performance level	50	47	49	-1	+2
OC	47 Significance of job stress as a problem for personnel	N/A	98	99	N/A	+1
SSC	39 Perception that medical facilities are sufficient	N/A	63	64	N/A	+1
OC	42 Unit personnel assignment stability	N/A	21	22	N/A	+1
LP	40 Leadership including safety in job promotion reviews	69	71	72	+3	+1
SP	28 Supervisors acting on personnel safety suggestions	36	32	33	-3	+1
SSA	13 Presence of personnel well-trained in emergency response	56	58	58	+2	0
SSA	29 Occurrence of emergency response procedures testing	59	60	60	+1	0
PP	25 Personnel following lockout/tagout procedures	19	20	20	+1	0
LP	21 Leadership providing adequate safety staff	69	69	69	0	0
SSA	41 Availability of safety officer to provide assistance	38	44	43	+5	-1
LP	34 Leadership participating in safety activities on a regular basis	31	37	36	+5	-1
SP	43 Supervisors reducing personnel's fear of reporting safety problems	24	29	28	+4	-1
SSA	30 Effectiveness of command safety officer in improving safety conditions	20	23	22	+2	-1
SSC	35 Perception that the safety officer has high status	42	51	49	+7	-2
OC	9 Condition of unit teamwork	81	86	84	+3	-2
SSA	15 Thoroughness of near miss accident/incident investigation	64	69	67	+3	-2
SSC	45 Perception that good environmental conditions are kept	77	79	77	0	-2
OC	2 Frequency of personnel/leadership interactions	46	71	68	+22	-3
SSC	17 Belief that leadership does more than law requires	38	53	50	+12	-3
SSA	6 Frequency of detailed and regularly scheduled inspections	36	46	43	+7	-3
SSA	26 Presence of safety training in new personnel orientation	34	41	38	+4	-3
PP	11 Personnel believing that their actions can protect other personnel	14	21	18	+4	-3
SP	24 Supervisors understanding personnel's job safety problems	47	52	49	+2	-3
LP	14 Leadership publishing a policy on the value of personnel safety	39	43	40	+1	-3
PP	37 Personnel take part when accident or incident investigations occur	65	67	64	-1	-3
PP	18 Belief that personnel understand safety regulations	40	42	39	-1	-3
SP	38 Supervisors providing helpful safety training	63	64	61	-2	-3
SP	44 Supervisors investigating safety incidents	72	72	69	-3	-3
SP	32 Supervisors integrating safety into the performance of duties	67	73	68	+1	-5
SP	19 Supervisors enforcing safe job procedures	62	67	62	0	-5
SSC	10 Belief that leadership shows it cares about personnel safety	45	57	51	+6	-6
LP	31 Leadership setting a positive safety example	74	85	79	+5	-6
PP	20 Personnel using standardized precautions for hazardous materials	62	71	65	+3	-6
SSC	27 Belief that leadership is sincere in safety efforts	43	47	40	-3	-7
SP	5 Supervisors maintaining a high safety performance standard	44	56	48	+4	-8
LP	49 Leadership setting annual safety goals	36	44	36	0	-8
PP	4 Personnel being involved in safety practices	33	48	38	+5	-10
SSC	48 Belief that leadership insists supervisors think safety	56	63	51	-5	-12
PP	1 Personnel identifying and eliminating hazards	13	41	25	+12	-16

<sup>1</sup> LP=Leadership Participation, SP=Supervisor Participation, PP=Personnel Participation, SSA=Safety Support Activities, SSC=Safety Support Climate, OC=Organizational Climate

<sup>2</sup> A percentile rank expresses the percentage of locations in the NSC Database with lower average responses. The percentile range is from 0 to 100.

N/A: These standard items were not included in the 2005 survey.

For each survey year, components with percentile scores above 75 are shaded green. Below average (<50) priority items are shaded red.

## Percentile Scores for Program Categories

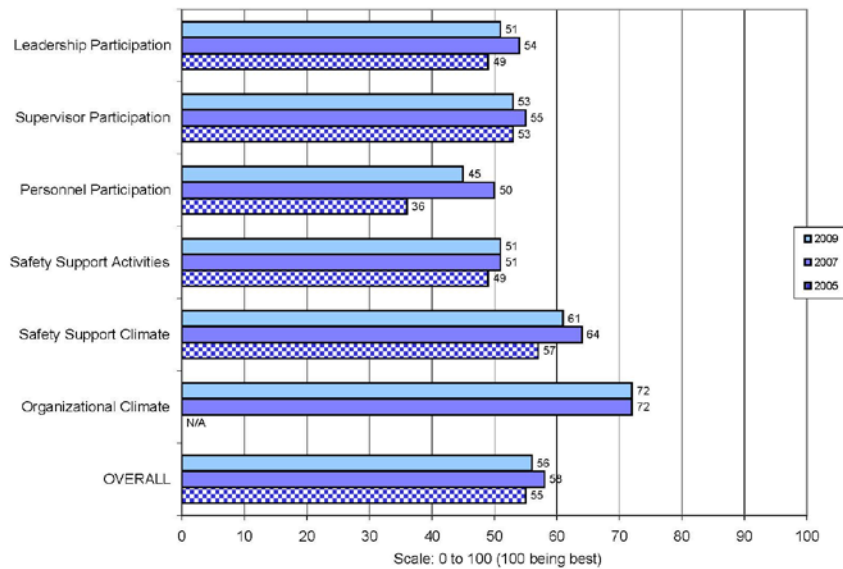
Active Duty percentile scores for the six standard program categories were also compared with establishments in the Database. As shown in Figure 2, five of six program categories for 2009 survey results have percentile scores at or above the Database average of 50, compared to all six categories at or above average in 2007. As

in 2007, Organizational Climate received the highest percentile, with a moderately high score of 72. The lowest score continues to be for Personnel Participation, which decreased from a score of 50 in 2007 to a score of 45 in 2009. Of the six program categories, four showed decreases from 2007 to 2009 while two remained the same. Of the categories with decreases, the change was limited to -5 points or less.

Finally, the 2009 overall SAFETY BAROMETER percentile score is a moderate 56, indicating that 44% of the organizations in the NSC Database achieved a higher overall percentile score than DoD Active Duty. This is a decrease of -2 percentile points from the score of 58 in 2007.

**FIGURE 2**  
**Program Category Percentile Scores**

2009 U.S. DoD SURVEY RESULTS - SAFETY BAROMETER  
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### Comparison by Grade Subgroups

Figure 3 compares the safety perceptions of the five Active Duty grades according to program category. Consistent with many organizations that have conducted the SAFETY BAROMETER, higher-ranking personnel report the most positive safety program perceptions overall in all program categories, while lower-ranking personnel

generate the least positive responses. Relative similarity among grade perceptions would indicate the DoD safety program is uniformly administered across all grades while notable differences suggest that improved communication and increased contact among these groups may help to decrease the safety perception gap. Figure 3 shows a clear pattern of increasingly positive safety perceptions with higher grades for all program categories.

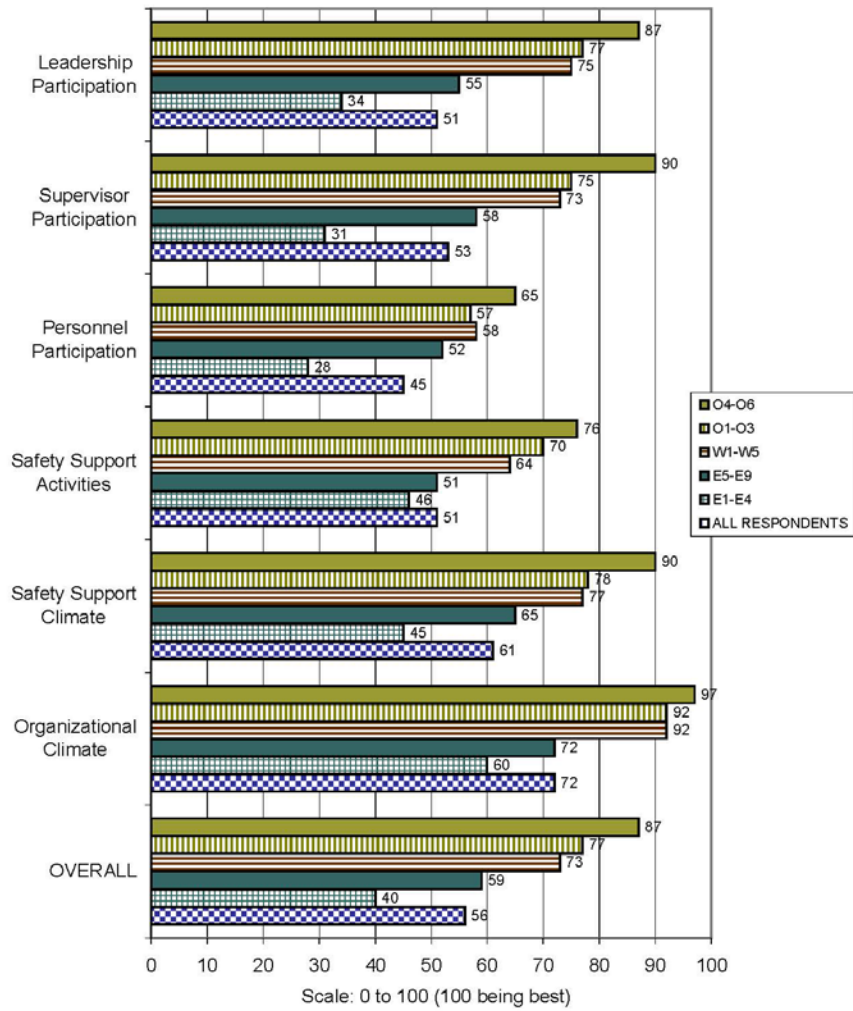
Figure 4 compares the overall percentile scores for each grade for the three survey years 2005, 2007, 2009. Showing remarkable consistency, most grades generated results somewhat lower, but very similar to, their 2007 and 2005 results. Of the five grade categories, four decreased slightly from 2007, while one group (E1-E4) increased slightly. All current results are within 4 percentile points of 2007 scores with the exception of the O4-O6 grade, which decreased by -6 percentile points from 93 in 2007 to 87 in 2009.

### **Comparison by Work Location Subgroups**

Figure 5 compares the safety perceptions of eight Active Duty work locations according to program category. Among DoD Active Duty personnel, Clinic/Hospital, Flightline, and Office Staff report the most positive safety program perceptions with consistently above average perceptions. Shop and Ship staff tended to generate moderate perceptions. Maintenance, Outdoors/Field, and Other personnel generally produced the least positive responses, with moderate or below average perceptions. Relative similarity across work locations would indicate that the DoD safety program is uniformly administered across work locations, whereas dissimilarity may indicate disparity in the administration of the safety program.

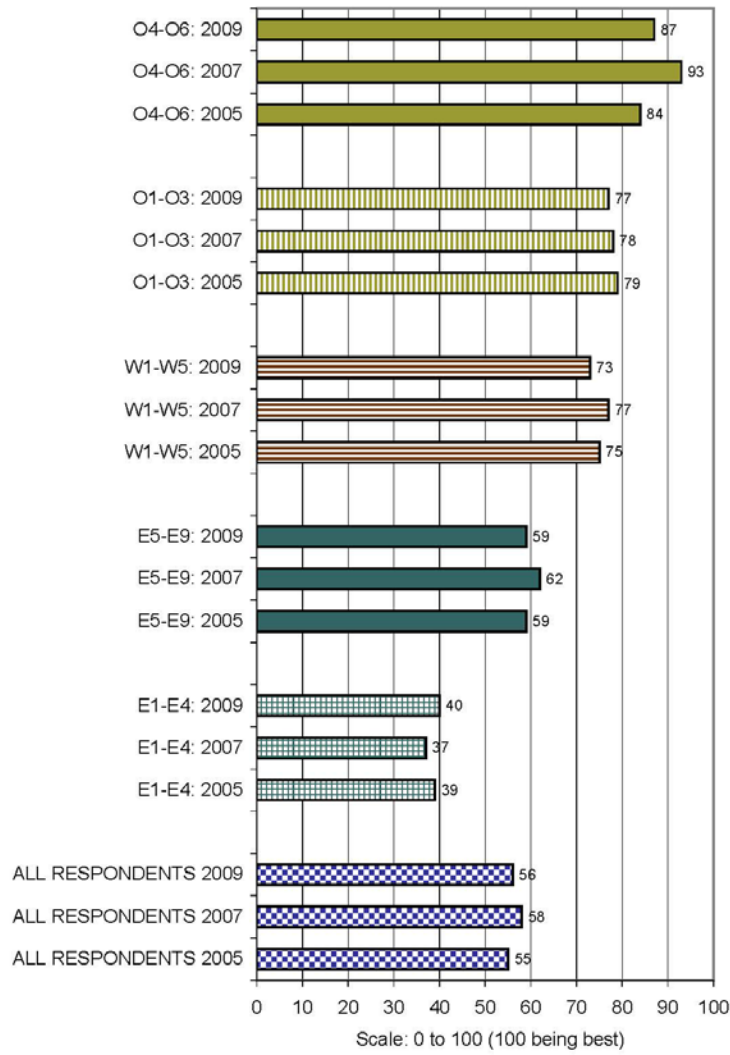
Figure 6 compares the overall percentile scores for each work location for the three survey years 2005, 2007, and 2009. Four work locations generated the same or improved scores compared with 2007 (Flightline, Shop, Maintenance, and Outdoors/Field), while four work location showed decreases (Clinic/Hospital, Office, Ship, and Other). Clinic/Hospital and Other demonstrated the greatest decreases since 2007, decreasing by -15 and -11 percentile points, respectively. However, both Clinic/Hospital and Other scores are now similar to 2005. The greatest increases in scores were generated by Shop and Outdoors/Field personnel, both of which also returned to near 2005 levels. Consistent increases were found across the three survey years for Maintenance, consistent decreases were found for Ship, while Flightline remained the same across all three survey years.

**FIGURE 3**  
**Program Category Percentile Scores by Grade**  
 2009 U.S. DoD SURVEY RESULTS - SAFETY BAROMETER  
 ACTIVE DUTY PERSONNEL



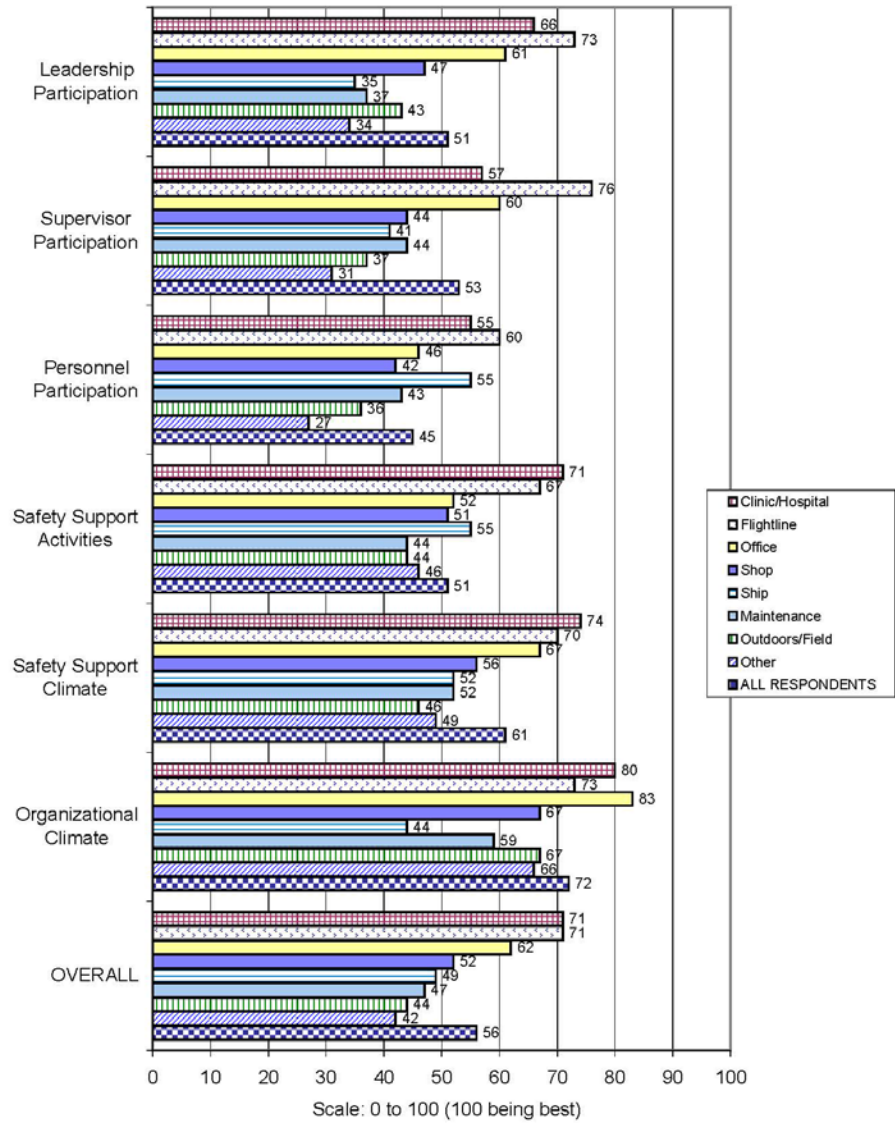
**FIGURE 4**  
**Overall Percentile Scores by Grade**

2009 U.S. DoD SURVEY RESULTS - SAFETY BAROMETER  
 ACTIVE DUTY PERSONNEL



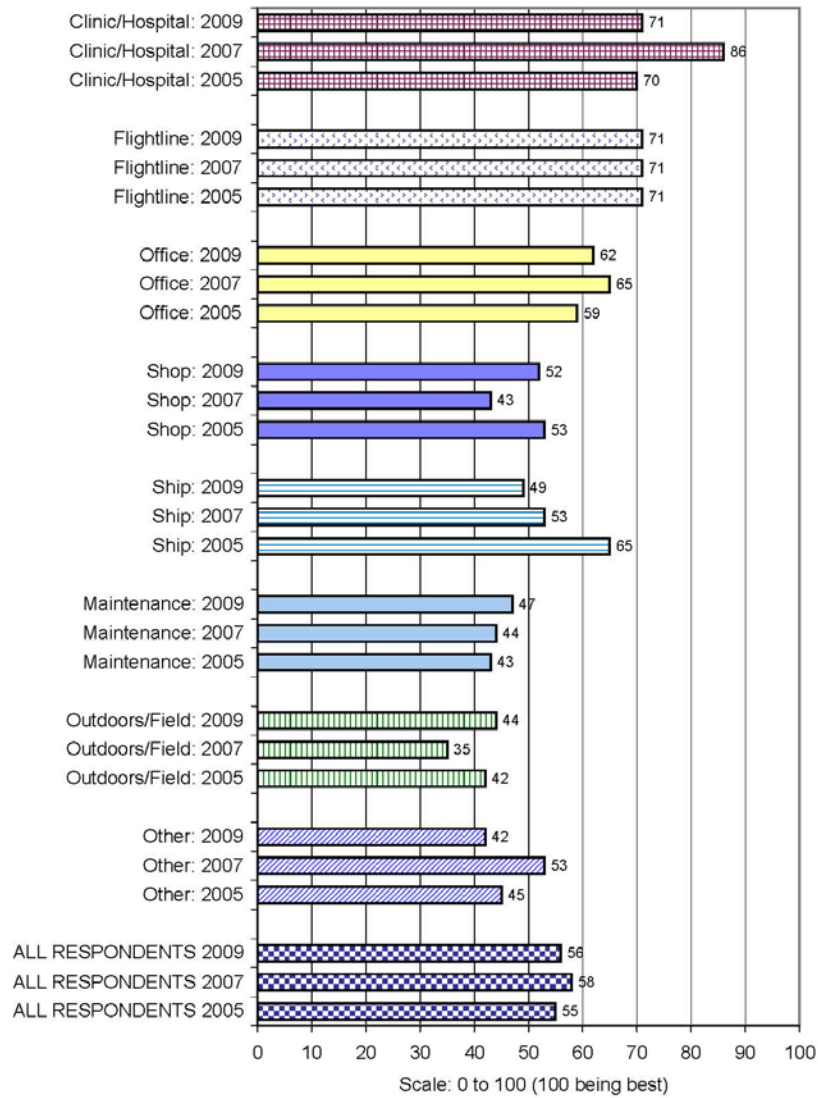
**FIGURE 5**  
**Program Category Percentile Scores by Work Location**

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**FIGURE 6**  
**Overall Percentile Scores by Work Location**

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## **Comparison by Branch of Service Subgroups**

The 2009 survey percentile scores for program categories by branch of Service are presented in Figure 7 and highlight the differences and similarities among the branches of Service. Overall Active Duty respondent scores, previously presented in Figure 2, are also included for comparison. As illustrated in Figure 7, Air Force generally generated the highest program category and overall percentile scores (72 overall), while Navy and Marine Corps generated more moderate percentile scores (59 and 57 overall, respectively). The Army consistently generated the least positive safety perceptions among Active Duty personnel, resulting in a moderate, below average overall percentile score of 43.



**FIGURE 7**  
**Program Category Percentile Scores by Branch of Service**

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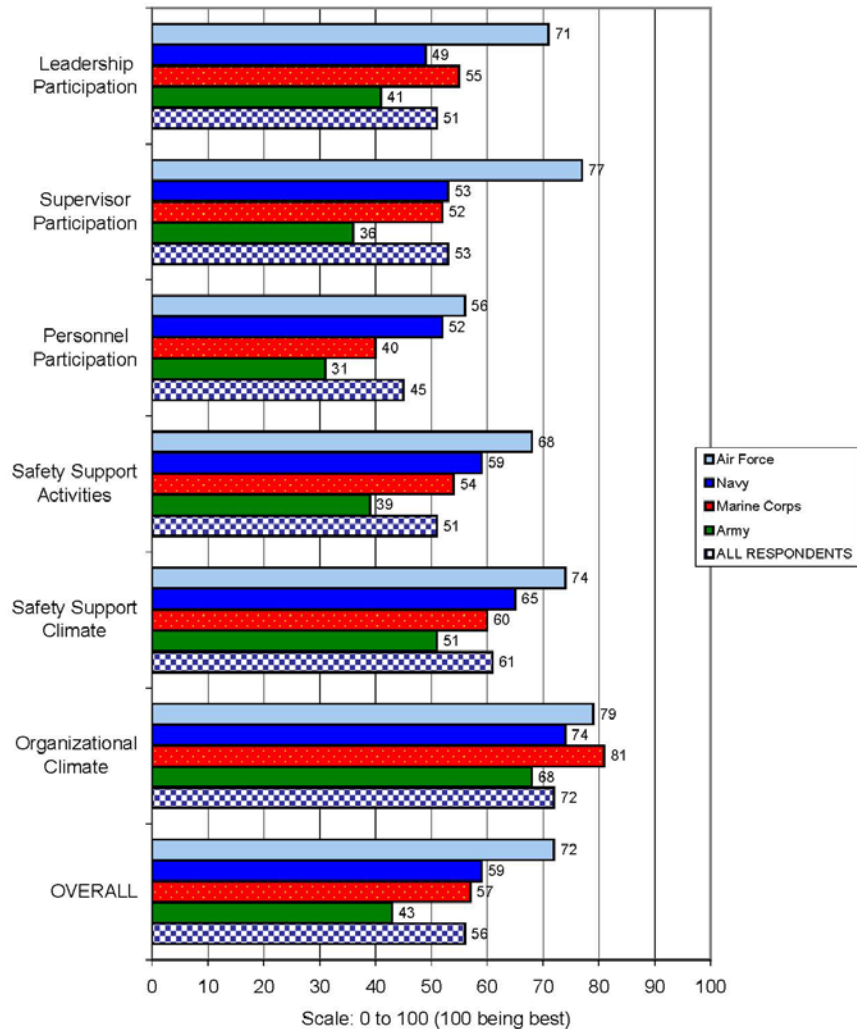
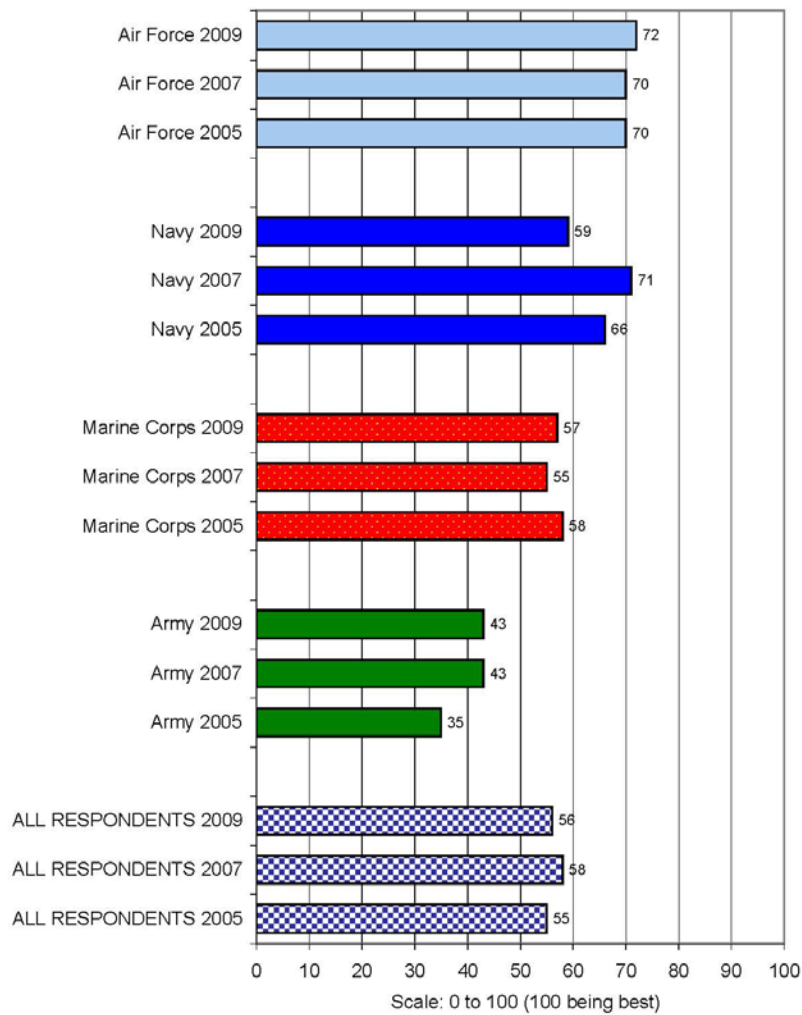


Figure 8 compares overall percentile scores for 2005, 2007 and 2009 surveys for each branch of Service. Both Air Force and Marine Corps improved their SAFETY BAROMETER performance for 2009 compared with 2007, while Army remained the same and Navy saw a substantial decrease in their survey results. Both Air Force and Marine Corps increased by +2 percentile points, from 70 in 2007 to 72 in 2009 for Air Force, and from 55 in 2007 to 57 in 2009 for Marine Corps. Navy decreased by -12

percentile points, from 71 in 2007 to 59 in 2009. Regarding trends across three survey years, Army and Air Force consistently increased or stayed the same, while Navy and Marine Corps show a mixed trend of increases and decreases, relatively small for Marine Corps and more pronounced for Navy.

**FIGURE 8**  
**Overall Percentile Score by Branch of Service**

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## Conclusions

The Department of Defense can use the results in this Active Duty report as a guide for making safety program improvements. The data presented in this report can also be used as a baseline against which to continue measuring future progress. In addition, can plan surveys with the analysis and actions in mind. For example, who are the stake holders for action? Have the decision makers visibly charted the effort? What actions would be generated from each question? Personnel involvement in the **SAFETY BAROMETER** process is an important example of personnel taking responsibility for the success of the safety program. Efforts should be made to follow-up with personnel. Communicating results of the survey and involving personnel in the decisionmaking process that results from it are fundamental aspects of any successful safety program.