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 EFFICIENCY REPORT FORM 67-1
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PERSONNEL RESEARCH SECTION
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AN ANALYSIS OF OPERATIONAL STATISTICS FOR OFFICER
EFFICIENCY REPORT FORM 67-1

BACKGROUND

This study is the second in a series concerned with trends in the efficiency ratings of Army officers. The first study(1) was an analysis of general efficiency records which included WD AGO Form 67 and covered the period 1921 through 1945. The results of this initial study indicated: (1) efficiency ratings showed a progressive rise with each successive year of operational use of a particular report form (2) the presence of a decided rank bias; (3) the existence of some branch bias.

WD AGO Form 67-1 had been in official use from 1 July 1947 at which time its predecessor (Form 67) was discontinued, until 15 September 1950. At that time it was superseded by Form 67-2. The present study seeks to examine the trend of Form 67-1 ratings during the period 1 July 1947 to 15 September 1950, and is a logical continuation of the trend study begun with Form 67. Essentially, it is desired to investigate whether the trends noted in the study of Form 67 are also characteristic of Form 67-1.

In view of the fact that this research includes only Regular Army officers, inferences drawn from these results are properly applicable only to the Regular Army population. However, to the extent to which the non-Regular Army population may be presumed to possess characteristics similar to those of the Regular Army, these inferences may be extended to include the non-Regular Army population as well.

OBJECTIVES

The primary purpose of this study is to explore the following problems:

- (1) Do the rating scores rise with time?
- (2) Do the higher ranks secure the higher ratings?
- (3) Do certain branches repeatedly secure the higher ratings?
- (4) Do differences exist between ratings obtained by the Arms and those obtained by the Services?

This analysis also provides a basis for comparison between the two major efficiency report forms which were in use until September 1950.

Suggested research for overcoming some of the operational difficulties encountered in efficiency reporting will be made.

METHOD OF INVESTIGATION

POPULATION

This analysis includes all unabbreviated Form 67-1 reports rendered for all male commissioned officers of the Regular Army with rank of second lieutenant through colonel and covering any portion of the period 1 July 1947 through September 1950 (a span of three and one-quarter years). A total of 89,059 ratings was analyzed. For any given reporting year, a minimum of 11,207 unabbreviated efficiency reports on Regular Army officers was scored, recorded, and made available by Statistical and Accounting Branch, TAGO, on IBM summary tabulation sheets.

These summary tabulation sheets had been collected by Statistical and Accounting Branch (SAB) in connection with another study. In order to avoid repetition of effort and to reduce the work load, they were reduced to simpler form (see Results section) to yield the statistical summaries upon which the study is based. IBM tabulations of Regular Army efficiency ratings were available for the following periods:

July 1947 to June 1948
July 1948 to June 1949
July 1949 to December 1949
July 1950 to September 1950

The period January 1950 to June 1950 is lacking in the above listing. However, Statistical Research and Analysis Unit, Personnel Research Section, Personnel Research and Procedures Branch, TAGO, had prepared summaries of N's, means, and sigmas, by grade and branch, of total Form 67-1 scores for the periods, 1 January 1950 to 31 March 1950, and 1 April 1950 to 31 June 1950. These figures were combined by statistical methods (Appendix A) with those for the period July 1949 to December 1949, to yield summary data for the fiscal year July 1949 to June 1950.

Full details of the administration and procedure for rendering Officer Efficiency Report, WD AGO Form 67-1 are described in AR 600-185 dated 27 May 1947 and 16 January 1948. However, the following points are pertinent to this study:

AR 600-185 dated 27 May 1947 directed that all officers, except student officers, be rated on a full 67-1 report for periods of duty of two months or more on 30 June and 31 December when no efficiency report has been rendered during the preceding two months.

AR 600-185 dated 16 January 1948 prescribed the following schedule of rendering efficiency reports. For periods of duty of 60 days or more an unabbreviated report is rendered on all officers, except student officers, as follows:

31 January - second lieutenants, warrant officers, and flight officers

28 or 29 February - first lieutenants
 31 March - captains
 30 April - majors
 31 May - generals, colonels and lieutenant colonels
 June - none
 31 July - second lieutenants, warrant and flight officers
 31 August - first lieutenants
 30 September - captains
 31 October - majors
 30 November - probationary colonels and lieutenant colonels
 December - none

According to this schedule, all officers received two reports per year from 1 July 1947 until 16 January 1948 plus other reports owing to transfer, change of duty, change of rater, etc.

From 16 January 1948 until 15 September 1950, all colonels and lieutenant colonels not on probationary status received only one annual report. Majors and officers of lower rank received two reports annually. During this period, as in the previous period, all officers received additional reports for the same special reasons noted above.

During the entire period of Form 67-1, the rating officer was instructed to assign ratings by comparing the rated officer with officers of the same grade.

VARIABLES

Efficiency Rating

1. Army Standard Rating--An officer's score in each case is the Army Standard Rating (ASR) received on WD AGO Form 67-1. The Form 67-1 score converted to standard score units ranging from 51 to 150 represents his Army Standard Rating.
2. Top Rating Percentage--the percentage of officers having ASR's above 110.
3. Top Rating Index--is the index representing the sum total of the percentages of top ratings (ASR's above 110) for the first three reporting years for captains and majors, separately, within each branch.

Year. The following fiscal or reporting years are involved:

- 1948 (July 47 to June 48)
- 1949 (July 48 to June 49)

1950 (July 49 to June 50)

1951 (July 50 to September 50) plus subsequent months during which delayed reports were received by Statistical and Accounting Branch.

In order to show a trend of ratings over so short a period it was desirable to secure the largest possible number of comparable rating periods. However, to bring out the trend in ratings it was necessary to analyze the data on an annual basis because the staggered system of reporting efficiency scores described earlier would have precluded a fair comparison of periods briefer than one year.

Rank. The efficiency reports of second lieutenants through colonel, Regular Army, were considered in this study. The rank of an officer is the grade in which he was serving as indicated in Section I of the efficiency report.

Branch. 17 Basic Branches - Quartermaster (QM), Ordnance (OD), Finance (FI), Field Artillery (FA), Signal (SC), Chaplain (CH), Infantry (IN), Judge Advocate General (JA), Adjutant General (AG), Medical Service (MS), Medical (MC), Dental (DE), Coast Artillery (CA), Veterinary (VC), Chemical (CM), Cavalry (CV), Engineer (EN).

Arms and Services. The Combat Arms comprise the IN, FA, CA and CV branches; all other branches constitute the Services. As of 20 July 1950, FA and CA have been redesignated as Artillery and the CV branch has been named Armor.

LIMITATIONS OF THE STUDY

Although generalizations about the total Army are desired, certain limitations should be noted. As already indicated, generals, female officers, warrant officers, and all non-Regular officers were excluded from the study in order to reduce it to manageable proportions.

Reporting year 1951 (July 50 to September 50) does not include Field Artillery, Coast Artillery and Cavalry data. These units were redesignated as Artillery or Armor and no statistical information is available for this period.

Furthermore, reporting year 1951 is not a twelve-month year as are the previous three years, but rather includes only 2 1/2 months (1 July 1950 to 15 September 1950) plus the two or three months beyond September 50 during which Form 67-1 reports continued to flow into SAB.

RESULTS

TIME TREND

1. For each of the 17 branches there is a general rise in rating during the period in which Form 67-1 was in existence. (See Table 1).

TABLE 1

MEANS AND STANDARD DEVIATIONS FOR 67-1 STANDARD SCORES BY BRANCH

| BRANCH | JUL 1947 TO JUN 1948 | | | JUL 1948 TO JUN 1949 | | | JUL 1949 TO JUN 1950 | | | JUL 1950 TO SEP 1950 | | | TOTAL | | |
|--------|----------------------|-------|------|----------------------|-------|------|----------------------|-------|------|----------------------|-------|------|-------|-------|------|
| | N | M | σ | N | M | σ | N | M | σ | N | M | σ | N | M | σ |
| QM | 2427 | 106.7 | 19.6 | 3462 | 111.3 | 19.5 | 2350 | 113.3 | 17.7 | 1316 | 116.9 | 18.8 | 9555 | 111.4 | 19.2 |
| OD | 1010 | 104.8 | 20.8 | 1431 | 107.6 | 20.9 | 800 | 112.3 | 18.5 | 675 | 117.4 | 18.4 | 3916 | 109.5 | 20.6 |
| FI | 396 | 109.9 | 18.4 | 567 | 114.5 | 19.3 | 330 | 114.3 | 19.5 | 228 | 119.1 | 18.6 | 1521 | 113.9 | 19.5 |
| SC | 924 | 108.0 | 20.6 | 1402 | 112.8 | 19.6 | 876 | 116.3 | 18.4 | 538 | 120.3 | 19.6 | 3810 | 113.4 | 20.1 |
| CH | 265 | 106.6 | 21.2 | 390 | 108.6 | 21.0 | 227 | 110.3 | 19.9 | 149 | 115.3 | 20.0 | 1035 | 109.4 | 21.0 |
| IN | 6990 | 109.4 | 21.3 | 9283 | 113.8 | 20.1 | 6800 | 113.7 | 21.8 | 4795 | 120.1 | 19.0 | 27868 | 113.8 | 20.7 |
| JA | 330 | 109.3 | 19.7 | 600 | 109.7 | 19.9 | 383 | 116.7 | 16.6 | 260 | 121.8 | 17.4 | 1573 | 113.3 | 19.4 |
| AG | 603 | 114.8 | 18.2 | 854 | 120.3 | 16.3 | 472 | 123.8 | 14.7 | 326 | 126.3 | 15.4 | 2255 | 120.4 | 17.1 |
| MS | 758 | 108.6 | 19.9 | 1135 | 111.4 | 19.6 | 756 | 113.6 | 18.2 | 389 | 117.0 | 17.8 | 3038 | 112.0 | 19.1 |
| MC | 1141 | 108.1 | 20.7 | 1646 | 110.6 | 19.1 | 1260 | 110.6 | 18.6 | 838 | 115.9 | 20.0 | 4945 | 111.0 | 19.6 |
| IE | 332 | 110.3 | 17.8 | 578 | 110.5 | 17.7 | 339 | 111.8 | 18.3 | 232 | 115.7 | 18.8 | 1481 | 111.6 | 17.9 |
| VC | 190 | 111.4 | 18.2 | 270 | 113.1 | 18.4 | 175 | 119.5 | 17.2 | 115 | 118.9 | 16.4 | 750 | 115.1 | 17.8 |
| CM | 353 | 104.9 | 20.9 | 481 | 106.3 | 21.6 | 354 | 115.8 | 18.4 | 171 | 120.4 | 16.8 | 1359 | 110.2 | 20.8 |
| ZE | 1585 | 109.2 | 21.4 | 2220 | 113.2 | 19.6 | 1528 | 115.1 | 18.3 | 1115 | 119.4 | 18.5 | 6448 | 113.7 | 20.1 |
| TOTAL | 17378 | 108.6 | 21.7 | 24319 | 112.5 | 20.5 | 16650 | 114.0 | 20.5 | 11207 | 119.1 | 18.9 | 69554 | 112.9 | 21.1 |
| FA | 3184 | 109.9 | 20.9 | 4047 | 114.3 | 19.5 | 2571 | 116.8 | 18.0 | | | | 9802 | 113.5 | 19.9 |
| CA | 1336 | 105.6 | 21.9 | 2146 | 111.6 | 20.5 | 1322 | 116.1 | 19.8 | | | | 5004 | 110.9 | 21.1 |
| CV | 1366 | 110.6 | 21.6 | 1983 | 116.2 | 19.4 | 1350 | 117.1 | 19.6 | | | | 4699 | 114.8 | 20.3 |
| TOTAL | 23464 | 108.7 | 21.0 | 32495 | 112.9 | 19.9 | 21893 | 114.6 | 19.6 | | | | 89059 | 113.0 | 20.2 |

Ratings rise each year with only four exceptions--the 1950 FI, IN, and MC ratings, and the 1951 VC ratings. For the total population there is a mean rise from 108.7 in fiscal year 1948, to 112.9 in 1949, to 114.6 in 1950 and finally to 119.1 in 1951.

2. Table 2, which is based on rank rather than branch, shows this upward trend even more. Each of the six ranks shows a progressive rise in ratings from year to year. The last reporting year represents, on the average, an increase of approximately $\frac{1}{2}$ standard deviation, or 10.4 standard score units, over the initial period. The average annual rise in ratings is approximately 3.5 units for the total population although there is considerable variation in the magnitude of the gain among the ranks.

3. Figure 1, which is a graphic presentation of Table 2, depicts this systematic progression more clearly. The ratings of each of the six ranks rise every year, although the gain of 1950 ratings over the preceding year is generally smaller.

4. The argument may be offered that rank and branch bias is causing the upward shift because of an increasing proportion of higher ranking officers over the years and an increasing proportion of officers in certain branches. That this is not so is shown to some extent in Table 3 which presents the percentage of RA officers having ASR's above 110 for each branch by year for the selected ranks of captain and major. Columns A and B (fiscal years 1948 and 1949 respectively) are each based on twelve months of collected data; Column C is based on only a six-month reporting period--the latter half of fiscal year 1950 would have involved a detailed analysis of the original data; Column D (fiscal year 1951) is based on partial data and it should be noted that many of the percentages listed under this column and Column C are based on small N's. An inspection of the percentages of ASR's above 110 for each year shows that with few exceptions the number of top ratings increases for each of the 17 branches from year to year. In the five instances where a drop occurs in the percentage of higher ratings, the general pattern of the trend is still upward.

5. Table 4 shows the percentage of officers with ASR's above 110 for each rank in selected branches. All lieutenants have been combined because of the paucity of RA second lieutenants. Most of the N's associated with these percentages are above 100. Each rank shows generally a steady increase from year to year for each of the four branches. An exception is the last column entries for AG ratings, which may be due to the relative unreliability of percentages based upon the small N's involved in the last two reporting periods. Nevertheless, the general trend in the AG branch shows the characteristic rise of the other branches.

TABLE 2

MEANS AND STANDARD DEVIATIONS FOR 67-1 STANDARD SCORES BY GRADE

| RANK | JULY 1947 TO JUNE 1948 | | | JULY 1948 TO JUNE 1949 | | | JULY 1949 TO JUNE 1950 | | | JULY 1950 TO SEP 1950 | | | TOTAL | | |
|----------|------------------------|-------|----------|------------------------|-------|----------|------------------------|-------|----------|-----------------------|-------|----------|-------|-------|----------|
| | N | M | σ | N | M | σ | N | M | σ | N | M | σ | N | M | σ |
| 2d Lt. | 338 | 95.3 | 21.4 | 113 | 102.1 | 21.2 | 278 | 102.1 | 21.6 | 208 | 109.5 | 20.0 | 937 | 101.3 | 21.7 |
| 1st Lt. | 2807 | 102.8 | 21.1 | 412 | 108.3 | 19.8 | 4932 | 110.0 | 19.8 | 2187 | 115.2 | 18.5 | 14048 | 108.9 | 20.1 |
| Capt. | 4632 | 106.4 | 20.1 | 6528 | 110.8 | 19.1 | 6064 | 111.8 | 19.1 | 1686 | 115.4 | 19.7 | 18910 | 110.5 | 19.3 |
| Maj. | 5417 | 108.0 | 20.1 | 8813 | 111.8 | 19.3 | 6064 | 116.0 | 18.4 | 1767 | 118.2 | 18.5 | 22061 | 112.5 | 19.7 |
| Lt. Col. | 6565 | 111.3 | 20.8 | 9065 | 115.6 | 20.0 | 4006 | 116.7 | 20.4 | 3548 | 121.7 | 18.2 | 23184 | 115.5 | 20.3 |
| Col. | 3705 | 113.8 | 20.8 | 3854 | 117.4 | 20.2 | 1908 | 118.9 | 20.4 | 1811 | 124.0 | 18.0 | 11278 | 117.5 | 20.6 |
| TOTAL | 23464 | 108.7 | 20.9 | 32495 | 112.8 | 19.9 | 23252 | 113.8 | 19.8 | 11207 | 119.1 | 18.9 | 90418 | 112.8 | 20.1 |

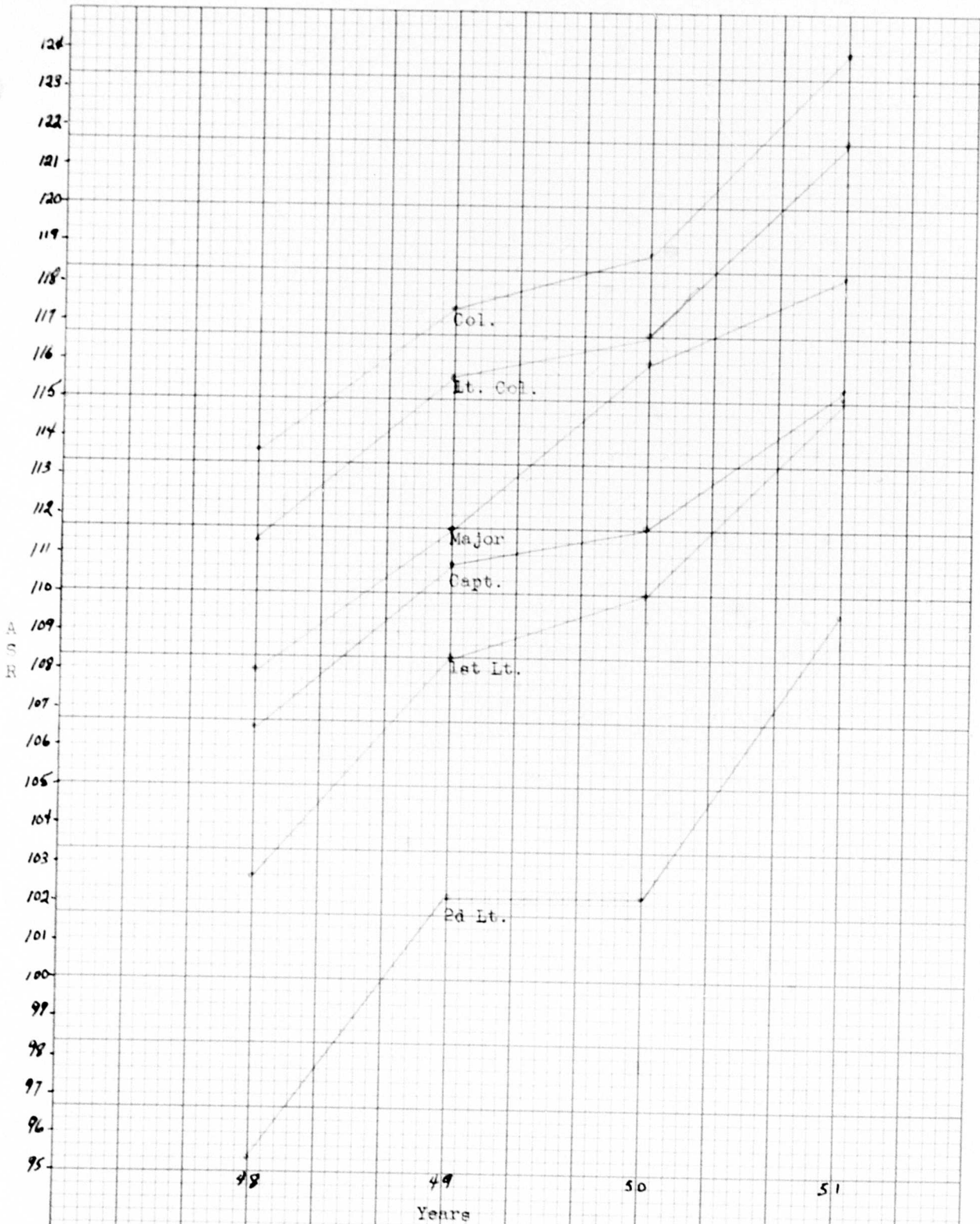


FIGURE 1

MEAN ASR ON 67-1 FOR EACH RANK-RA. REPORTING YEARS 1948, 49, 50, 51

TABLE 3

PERCENTAGE OF FORM 67-1's WITH ASR's ABOVE 110 WITHIN
EACH BRANCH BY YEAR FOR CAPTAINS AND MAJORS

| Branch | Captains | | | | | Majors | | | | |
|--------|---------------|---------------|----------------|---------------|------------------------|---------------|---------------|----------------|---------------|------------------------|
| | A | B | C | D | E | F | G | H | I | J |
| | 7/47- 6/48 | 7/48- 6/49 | 7/49- 12/49 | 7/50- 9/50 | Top Rating Index | 7/47- 6/48 | 7/48- 6/49 | 7/49- 12/49 | 7/50- 9/50 | Top Rating Index |
| QM | 46 | 55 | 61 | 75 | 162 | 50 | 57 | 68 | 70 | 175 |
| OD | 31 | 38 | 48 | 62 | 117 | 43 | 44 | 49 | 70 | 136 |
| FI | 49 | 62 | 82 | 78 | 193 | 53 | 63 | 72 | 56 | 188 |
| FA | 49 | 58 | 65 | - | 172 | 52 | 67 | 74 | - | 193 |
| SC | 53 | 59 | 68 | 67 | 180 | 46 | 65 | 70 | 88 | 181 |
| CH | 46 | 58 | 36 | 64 | 140 | 43 | 44 | 50 | 63 | 137 |
| IN | 51 | 62 | 61 | 73 | 174 | 55 | 63 | 75 | 77 | 193 |
| JAG | 53 | 58 | 60 | 76 | 171 | 49 | 51 | 85 | 72 | 185 |
| AG | 61 | 67 | 86 | 82 | 214 | 65 | 74 | 77 | 94 | 216 |
| MS | 50 | 53 | 50 | 70 | 153 | 56 | 65 | 72 | 71 | 193 |
| MC | 37 | 40 | 42 | 52 | 119 | 37 | 49 | 60 | 67 | 146 |
| DE | 43 | 31 | 48 | 51 | 122 | 49 | 58 | 63 | 58 | 170 |
| CA | 47 | 61 | 71 | - | 179 | 47 | 57 | 71 | - | 175 |
| VC | 37 | 61 | 75 | 79 | 173 | 53 | 56 | 60 | 73 | 169 |
| CM | 37 | 51 | 57 | 81 | 145 | 54 | 47 | 68 | 68 | 169 |
| CV | 49 | 64 | 74 | - | 187 | 56 | 67 | 69 | - | 192 |
| EN | 45 | 56 | 67 | 71 | 168 | 49 | 53 | 55 | 60 | 157 |

TABLE 4

PERCENTAGE OF OFFICERS OF EACH GRADE HAVING ASR'S ABOVE 110 -
BY YEAR FOR SELECTED BRANCHES

| RANK | Field Artillery | | | Quartermaster | | | Infantry | | | Adjutant General | | | Grade Means | | | | |
|------------------|--------------------|---------------------|---------------------|--------------------|---------------------|--------------------|--------------------|---------------------|--------------------|--------------------|--------------------|---------------------|-------------|--------------------|-----|-----|------|
| | 7/47 to 6/48 | 7/49 to 12/49 | 7/50* to 9/50 | 7/47 to 6/48 | 7/49 to 12/49 | 7/50 to 9/50 | 7/47 to 6/48 | 7/49 to 12/49 | 7/49 to 9/50 | 7/47 to 6/48 | 7/48 to 6/49 | 7/49 to 12/49 | | 7/50 to 9/50 | | | |
| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q |
| 1 Col. | 64 | 71 | 77 | - | 53 | 63 | 74 | 75 | 63 | 69 | 77 | 82 | 76 | 80 | 100 | 88 | 74.1 |
| 2 Lt. Col. | 63 | 70 | 80 | - | 53 | 64 | 57 | 75 | 62 | 69 | 73 | 82 | 67 | 82 | 94 | 87 | 71.9 |
| 3 Maj. | 52 | 67 | 74 | - | 49 | 57 | 68 | 70 | 55 | 63 | 75 | 77 | 65 | 73 | 77 | 94 | 67.7 |
| 4 Capt. | 49 | 58 | 65 | - | 46 | 55 | 61 | 75 | 51 | 62 | 61 | 75 | 61 | 67 | 86 | 82 | 63.5 |
| 5 1st and 2d Lt. | 37 | 49 | 50 | - | 39 | 51 | 51 | 66 | 41 | 55 | 62 | 69 | 69 | 80 | 100 | 100 | 61.3 |
| Branch Means | 61.7 | | | 60.1 | | | 66.0 | | | 81.4 | | | | | | | |

*No data available

RANK BIAS

1. Table 2 shows that for the first reporting year (July 1947 through June 1948), the mean ratings vary from 95.3 for second lieutenant to 115.8 for colonel. The difference in ratings is 18.5 units, or approximately one standard deviation. The differences between second lieutenant and colonel for three successive years are 15.3, 16.8 and 14.5 units in favor of the higher rank. Not only is there a consistent difference between the extremes in rank, but in addition, for each of the four years the relative order of the ranks with the highest ratings remains unchanged, viz.: colonel, lieutenant colonel, major, captain, first lieutenant and second lieutenant.

2. Figure 1 depicts the differences in ratings graphically. The mean efficiency rating of each rank has been plotted for the four reporting years, and it is observed that the higher the rank, the higher the mean rating. The largest difference in ratings between any two adjacent ranks is the difference between first and second lieutenants.

3. Columns E and J of Table 3 show the Top Rating Index sum of top rating percentages for the first three reporting years, for majors and captains, separately. A comparison of the Indices of captains and majors shows that in 12 of the 17 branches, the majors have a larger Top Rating Index than the captains--and by a relatively substantial margin. In the 5 branches (FI, CH, CA, VC, EN) in which the captains have the larger Index--the differences are small. The general picture is therefore one of higher Top Rating Indices for majors. The nature of the data precluded a suitable statistical test of the significance of the differences between majors and captains. Nevertheless, the trend of the findings support the suggestion that rank bias exists.

4. Table 4 shows the percentage of officers within each rank receiving ratings above 110 for four selected branches. The grade mean (column Q) represents the average top rating percentage of each rank, for the four branches. Similarly, the branch mean represents the average top rating percentage of each branch with all grades equally represented within a given branch. The entries in column Q indicate that in the FA, QM, IN, and AG combined, 74 percent of the colonels, 72 percent of the lieutenant colonels, 68 percent of the majors, 63 percent of the captains, and 61 percent of the lieutenants obtained ASR's above 110 for the entire period during which Form 67-1 was in operation. In brief, the higher the rank, the greater the percentage of ratings above 110. For the separate branches this pattern is fairly marked in FA and Infantry (i.e., the Arms), but not in QM and AG (i.e., the Services).

BRANCH BIAS

1. A further examination of Table 1 shows considerable variation in the mean ASR ratings of the 17 branches, with a low of 109.4 for Chaplain and a high of 120.4 for Adjutant General. The 1.0 difference in mean rating between the Medical Corps and Medical Service is significant at

the 5 percent level. Using this information as a basis of judgment, it would appear, from visual inspection of the data, that the differences among most of the mean branch ratings are not chance differences.

2. The question, however, arises as to whether those branches that secure the higher ratings do not also contain a larger proportion of reports on higher ranking officers. This question is answered in part by Table 3. The AG has the most majors with top ratings and the OD has the fewest. The AG again receives the highest ratings and the OD the lowest when comparisons are made of captains among the various branches. The rank order correlation between columns E and J of Table 3 is .70--indicating that the various branches tend to maintain approximately the same relative position for captains and majors.

3. A re-examination of Table 4 shows that the AG has a larger proportion of its officers attaining ratings above 110 when compared with three other branches. This appears to be true not only for the branch as a whole, but for each grade level.

BIAS IN ARMS AND SERVICES

Table 1 permits a comparison of the Arms (IN, FA, CA, and CV) and Services (all other branches). For each of the three reporting years where comparisons are possible, the mean top rating of the Arms is approximately the same as that of the Services. There is no evidence therefore that there is greater or less bias in the Arms as compared with the Services.

COMPONENT BIAS

Although officers other than Regular Army were excluded from this study, certain inferences about component bias may be drawn. Previous findings indicate that the combined Regular and Non-Regular Army mean rating for the 1948 reporting year was below 100. Tables 1 and 2 show mean Regular Army ratings by branch and rank for 1948 to be substantially above the total Army mean. Hence the mean rating of non-Regular officers may be assumed to be well below that of Regular Army officers.

FURTHER GENERALIZATIONS

It would appear that if Form 67-1 had continued in use, negative skewness would have continued to increase, as with its predecessor, Form 67. Furthermore, Form 67-1, like Form 67, did not appear to control rank and branch bias to the extent desired.

CONCLUSIONS

TREND STUDY

The trend of efficiency ratings on WD AGO Form 67-1 shows a steady increase in the reported level of efficiency with each successive year

of operational use. This trend is true not only of the study population as a whole but also for breakdowns by rank and branch.

Although the upward trend of ratings is not as marked with Form 67-1 as was previously found with Form 67, it must be pointed out that Form 67-1 was in existence $3\frac{1}{4}$ years as compared to a span of over 25 years for the Form 67. Had Form 67-1 lasted longer, the ratings on it may have reached the heights attained by Form 67.

RANK BIAS

The evidence supports the frequent observation that the higher ranks achieve the higher ratings. Not only is there considerable difference between highest and lowest ranks, but the intermediate ranks show the same systematic differences, despite instructions on the Form 67-1 which direct the rating officer to compare and rate individuals by grade.

BRANCH BIAS

There seems to be a fairly consistent tendency for officers in certain branches (AG, VC, and CV) to secure the higher ratings. By comparison, the CH and OD branches have the lowest ratings.

ARMS VS SERVICES BIAS

It would appear, until a more detailed analysis proves otherwise, that no particular differences can be observed between the ratings of Arms and the Services.

COMPONENT BIAS

By comparison with previous findings, the present study indicates that the mean rating of non-Regular officers may be assumed to be well below that of Regular Army officers.

FURTHER GENERALIZATIONS

Continued use of Form 67-1, it would appear, would have produced rating trends very similar to those for Form 67.

SUGGESTED RESEARCH

Since 1815 the approach to the evaluation of officer efficiency has been the rating technique. Considerable research has been done to improve rating methodology including numerous modifications of graphic rating scales and checklist items. The newest approach to the appraisal of officer effectiveness is the forced choice technique which gives promise of overcoming some of the defects of the typical graphic rating scales. Until rater differences are reduced or eliminated, the methods of evaluation will not be as accurate as desired.

Suggested topics for further research are:

1. More objective methods of appraising officer effectiveness are desirable. Exploitation of forced choice technique and construction of objective criteria are suggested.

2. Projects which will investigate such factors as component, branch, rank, and echelon bias more precisely are needed.

3. The value of developing standard score norms for each grade, each branch, or each component, or for combinations thereof, deserves investigation. However, the advantages accruing from such a procedure may be offset by the operational problems involved.

4. Better methods of training and educating officers in the understanding and completion of rating forms may result in better evaluations. Previous findings indicate that brief training periods do not seem to affect significantly the validity of ratings. An investigation of the degree to which more extended training in rating methodology affects the validity of ratings seems appropriate.

PERSONNEL

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Statistical Research Associate: Abraham E. Birnbaum, Gloria E. Falk

COLLECTION OF DATA: July 1947 to September 1950

PREPARATION OF RESEARCH NOTE: 11 April 1952

REFERENCES

Reports of the Personnel Research Section, Personnel Research and Procedures Branch, The Adjutant General's Office, Department of the Army.

1. PRS Report 896. A trend study of officer efficiency ratings for the period 1921-1945. (In preparation)

APPENDIX A

STATISTICAL METHODS EMPLOYED FOR COMBINING DATA FOR THE
PERIOD JULY 1949 TO JUNE 1950

Means for the total group or the total period were obtained by the following formula:

$$M_T = \frac{N_1 (M_1) + N_2 (M_2) \dots + N_k (M_k)}{N_1 + N_2 \dots + N_k}$$

where:

M_T = the combined mean for the total group or the total period.

$N_1, N_2 \dots N_k$ = the number in each subgroup; and

$M_1, M_2 \dots M_k$ = the mean of each subgroup.

Sigmas for the total group or the total period were obtained by the following formula:

$$\sigma_T = \sqrt{\frac{N_1 (M_1^2 + \sigma_1^2) + N_2 (M_2^2 + \sigma_2^2) \dots + N_k (M_k^2 + \sigma_k^2)}{N_1 + N_2 \dots + N_k} - M_T^2}$$

where σ_T = the combined sigma for the total group or the total period;
and $\sigma_1, \sigma_2 \dots \sigma_k$ = the sigma of each subgroup.

Sheppard's correction for the error due to grouping was applied to the obtained sigmas. This formula is:

$$\sigma_c = \sqrt{\sigma_t^2 - \frac{i^2}{12}}$$

where σ_c = the corrected sigma;

σ_t = the obtained sigma; and

i = the magnitude of each class interval.

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