# INITIAL CONSIDERATIONS IN THE DEVELOPMENT OF THE EARLY EXPERIENCE QUESTIONNAIRE (EEQ)

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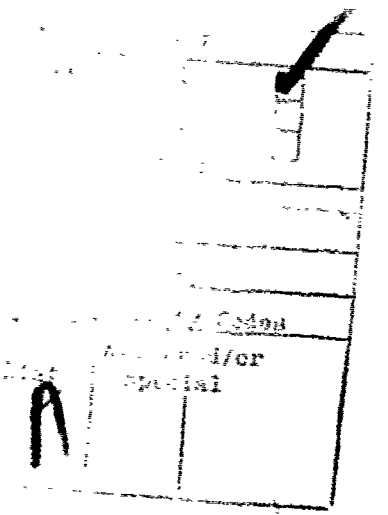

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# INITIAL CONSIDERATIONS IN THE DEVELOPMENT OF THE EARLY EXPERIENCE QUESTIONNAIRE (EEQ)

This Research Memorandum provides a technical background for initial developmental work on the Early Experience Questionnaire (EEQ) (PT #5012R). The report includes: (1) factors which prompted development of the EEQ, (2) steps taken to develop it, (3) initial field testing, (4) normative data presently available, (5) results of interviews with selected trainees who had responded to the instrument, and (6) preliminary data on the instrument's validity.

## HISTORICAL BACKGROUND

During the fall of 1973, the Secretary of the Army asked for a review of current Army standards for the admission of enlisted personnel. The purpose of the review was to determine whether changes could be made in these requirements to increase the numbers of men admitted into the service and yet, if possible, maintain and improve their caliber. The Secretary was particularly concerned that current standards relied too heavily upon cognitive factors. He also felt that some means of judgment should be found which would allow certain strengths (e.g., high motivation) to compensate for deficiencies (e.g., lack of formal education).

The US Army Research Institute for the Behavioral and Social Sciences (ARI), which is responsible for the research that underlies most of the standards currently being employed, responded to the Secretary's suggestions by undertaking two lines of research. The first was an attempt to determine the possible effects of balancing the current standards of age, education, mental aptitude, and criminal behavior. These selection factors were combined into a single index called "Military Aptitude Predictor" (MAP).

The second line of research was an exploration and development of additional instruments and procedures that might be added to the MAP to increase the breadth of phenomena legitimately included in the screening standards, thus making the standards less dependent upon cognitive factors. The EEQ (PT #5012R) was developed as a part of this latter research. It was to be a short, multiple-choice instrument which could be used to screen out, at the point of entry, men who had a high potential for experiencing adverse disciplinary actions early in their Army careers. It was based upon previous ARI research which has shown that preservice experiences are the best predictors of discipline failure in the first tour of service.[1/,2/,3/]

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1/ Dubuisson, A. U., and Sargent, B. Prediction of disciplinary behavior in a two-year follow-up sample. ARI Research Memorandum 65-7. 1965.

2/ Larson, E. E., and Kristiansen, D. M. Prediction of disciplinary offenses early in Army service. ARI Technical Research Note 210. 1969.

3/ Bell, D. B., Bolin, S. F., Houston, T. J., and Kristiansen, D. M. Predictions and self-fulfilling prophecies of Army discipline. Proceedings of the 81st Annual Convention of the American Psychological Association, 1973, 743-744.

## CONSTRUCTION OF THE EEQ

Most of the 25 items which appear in the EEQ are modifications of items found in one of three earlier ARI discipline-prediction instruments. These three were: the Personal History Form OA-1 (PT 3556),[4] the Background and Opinion Questionnaire 1 or BOQ-1 (PT 4647),[5] and the Background and Opinion Questionnaire 72 or BOQ-72 (PT 4877).[6] Table 1 shows which of the EEQ items were modified from each of these earlier instruments.

The scoring system used for each of the 25 EEQ items was dichotomous: 1, if the response was likely to be made by an individual who had a high probability of getting into trouble in the Army, and 0, if not. For all but two of the items, the scoring scheme was based upon previous research and empirically keyed. For those two new items, the scoring assumed that the failure to participate in sports or outside activities would work against success in the Army. The total scores could range from zero for lowest risk to 25 for highest risk.

Because of the rather blunt wording of the EEQ questions, there was a possibility that some persons might find them offensive. Therefore, the completed EEQ was sent to the Office of the Judge Advocate General (OJAG) for review, in order to determine whether the questions constituted an illegal invasion of privacy or in some other way violated the rights of potential enlistees. The opinion rendered by OJAG was that although the questions did not present any legal difficulties, per se, they might be objectionable to some potential enlistees. OJAG suggested that the "sensitivity" of the questions be determined prior to making the instrument operational. This suggestion was incorporated into the procedures for administration of the EEQ during the first field trial on 4-8 March 1974.

## ADMINISTRATION OF THE EEQ

During that week, four teams of researchers from ARI visited four Army Training Centers (ATCs)--Ft Dix, Ft Jackson, Ft Ord, and Ft Leonard Wood--to: (1) administer the EEQ to a sample of new recruits, (2) determine through personal interviews the sensitivity of the questions, and (3) arrange for the collection of follow-up data which would be used to evaluate the predictive validity of the EEQ.

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4/ Rosenberg, N., Brown, E., and De Jung, J. Development of a background data questionnaire for identifying military delinquents. ARI Research Memorandum 58-10. 1958.

5/ Kristiansen, D. M., and Larson, E. E. Development of a background and opinion questionnaire for predicting military delinquency. ARI Research Memorandum 67-3. 1967.

6/ Bell, D. B., Kristiansen, D. M., and Houston, T. J. Development of the Background and Opinion Questionnaire 72. ARI Research Memorandum. In press.

Table 1

SOURCES OF ITEMS IN THE EEQ

| EEQ Item No. | OA-1 Item No. | BOQ-1 Item No. | BOQ-72 Item No. |
|---|---|---|---|
| 1 | 10 | 3 | 16 |
| 2 | - | - | - |
| 3 | - | - | - |
| 4 | 191 | 41 & 64 | 7 |
| 5 | 25 | - | - |
| 6 | 168 | 83 (36) | 12 |
| 7 | 53 | 62 | 6 |
| 8 | 108* | 42 | 19 |
| 9 | 45 | - | - |
| 10 | 35 | - | 23 |
| 11 | 73 | 61 | 10 |
| 12 | 91 | 23 | 2 |
| 13 | 117 | - | - |
| 14 | 99* | - | - |
| 15 | 119* | 97 | - |
| 16 | 113 | - | 24 |
| 17 | 129 | 24 | 20 |
| 18 | 80 | - | - |
| 19 | 94 | 101 | 22 |
| 20 | 84 | 43 | 21 |
| 21 | 104 | - | - |
| 22 | 15 (128*) | - | - |
| 23 | 4 | 81 | 15 |
| 24 | 228 | 4 | 25 |
| 25 | 137 | - | - |

Note.—Starred items (*) have been extensively modified.

The EEQ was administered to 1428 men who were being processed at the reception stations attached to the four ATCs: 310 at Ft Dix, 300 at Ft Jackson,[1/] 370 at Ft Ord, and 448 at Ft Leonard Wood. At all four locations, care was taken to present the EEQ as if it were already an operational instrument so that the response biases, if any, would be similar to those which might be obtained during normal operational conditions. Table 2 shows the distribution of the four mental categories on the Armed Forces Qualification Test, where known, for the men from the four installations. Although there were small differences among the distributions obtained from the four installations, these were not statistically significant.

1/ At Ft Jackson, which has a large number of insular Puerto Ricans, persons with Spanish surnames were excluded from taking the EEQ in order to reduce the confounding effect of having in the sample persons who did not have a good command of the English language.

Table 2

DISTRIBUTIONS OF AFQT CATEGORY BY POST FOR MEN GIVEN THE EEQ (n=1428)[a/]

| Mental Category | POST Dix (n=290) | Jackson (n=286) | Ord (n=330) | Wood (n=416) | Total (1322) |
|---|---|---|---|---|---|
| CAT I | 3.4 | 1.0 | 3.3 | 0.7 | 2.0 |
| CAT II | 20.6 | 20.0 | 21.2 | 25.9 | 22.3 |
| CAT III | 54.8 | 59.0 | 53.8 | 53.6 | 54.9 |
| CAT IV | 21.0 | 20.0 | 22.4 | 19.7 | 20.6 |
| | 100% | 100% | 100% | 100% | 100% |

a/ Mental category data were not available for 106 men.

PRELIMINARY NORMATIVE DATA FOR THE EEQ

Preliminary normative data for the total EEQ scores are available from one of the four installations, Ft Leonard Wood. Table 3 shows the frequency distribution of total scores for this post (expressed in the form of percent and cumulative percent).

Table 3

PERCENTAGE AND CUMULATIVE PERCENTAGE DISTRIBUTIONS OF EEQ SCORES FROM FT LEONARD WOOD (N=448)

| EEQ Scores | Percent | Cumulative Percent |
|---|---|---|
| 17-25 | 0.0 | - |
| 16 | 0.2 | 0.2 |
| 15 | 0.7 | 0.9 |
| 14 | 1.3 | 2.2 |
| 13 | 1.1 | 3.3 |
| 12 | 4.2 | 7.5 |
| 11 | 3.8 | 11.3 |
| 10 | 5.6 | 16.9 |
| 9 | 7.8 | 24.7 |
| 8 | 14 1 | 38.8 |
| 7 | 13.8 | 52.6 |
| 6 | 14.7 | 67.3 |
| 5 | 13.4 | 80.7 |
| 4 | 9.4 | 90.1 |
| 3 | 6.0 | 96.1 |
| 2 | 2.9 | 99.0 |
| 1 | 0.9 | 100.0 |
| 0 | 0.0 | - |

Note.—Highest EEQ scores indicate highest rank

## POST-ADMINISTRATION INTERVIEWS

Of the men who had taken the EEQ 223 were randomly selected for individual interviews to learn their reactions to the instrument. These interviews followed a fixed format and occurred within 24 hours of the administration of the EEQ. First, the man was asked if he remembered taking the EEQ and, if so, whether he had had any problems in answering any of the questions, or if he had any other reactions to the instrument. Regardless of what the man said to the first question, he was then asked to examine the instrument and to indicate whether any of the questions had bothered him or if he wanted to skip any of them for any reason. If the response to either of these two questions indicated that the individual being interviewed had experienced problems with the EEQ, that response was noted. Often it was necessary to ask additional questions to clarify the nature of the problem reported. Finally, all comments were classified into one of 5 categories: (1) sensitive--the item was too personal, a possible invasion of privacy, possibly incriminating, or in some other way objectionable, (2) the item was redundant or irrelevant, (3) the wording of the item did not make clear the nature of the information being sought, (4) the wording of the item failed to provide a complete range of choices, or (5) the item unduly taxed the memory of the respondent to furnish the information requested.

The interviews yielded two types of data: (1) whether or not each individual considered any part of the EEQ to be objectionable, and (2) the category of comments given. The first type of data was useful in estimating the proportion of persons who might object to one or more features of the instrument, were it to become operational in its present form. The second type of data was useful in showing how the instrument might be improved. For both of these types of data, the analyses made use of the 5 categories listed above.

Ninety-eight persons had one or more types of objection to the questionnaire:[8/] 29 of the 233 men (12.4%) considered one or more of the questions to be sensitive, 53 (22.7%) considered at least one question to be redundant or irrelevant, 18 (7.7%) considered the wording of one or more questions unclear, 27 (11.6%) thought the range of choices was too narrow on at least one question, and 7 (3.0%) thought at least one question was too difficult to remember. On the basis of this analysis, it would appear that the instrument, as presently used, would be regarded as sensitive. However, these results were obtained under circumstances which would not be likely to be encountered once the instrument became operational. Here a person showed each man the instrument and asked him to examine it for problems. In the free recall situation--when the respondents were asked for comments prior to being shown the instrument--only 4.7% of the men expressed any comments which could be labeled "sensitive". Since the free recall situation is closer to the operational conditions, it might be argued that the 4.7% rate is a more realistic figure in assessing how sensitive the EEQ is.

8/ Some of the 98 individuals who made comments had more than one type of objection to the EEQ and therefore appear more than once in this analysis.

The interviews yielded 188 adverse comments, which were classified as follows: 41 sensitive, 75 redundant, 25 unclear, 40 choices, and 7 taxing memory. Table 4 shows how each of these classes of comments were distributed across the 25 items of the EEQ.

Examination of the data in Table 4 indicates that a relatively few items on the EEQ were responsible for generating most of the adverse comments. For example, 40% of the sensitivity comments were elicited by three items: #7 running away from home, #13 being in juvenile court, and #18 knowledge of how to hot wire a car. This finding would indicate that modification or elimination of relatively few items would greatly reduce the adverse reactions to the EEQ. However, the instrument cannot be modified without data on item validity which are not yet available.

## PRELIMINARY DATA ON THE VALIDITY OF THE EEQ

At the time of the administration of the EEQ, arrangements were made to collect follow-up data on the 1428 men who were tested. At each post the procedure was basically the same. ARI furnished a follow-up rating form which was to be completed by a member of the training cadre (usually the platoon sergeant) most familiar with the trainees' performance during the seven weeks since the test. The information requested included both the rater's opinion of how well the trainee had performed and the objective data, e.g., whether the trainee had completed training, been discharged, gone AWOL, or been punished under any provision of the Uniform Code of Military Justice (UCMJ). Since the purpose of the EEQ was to predict which men should be eliminated from service at the point of entry, the analysis focused upon the objective data on failure in BCT: early discharge and punishment under the provisions of the UCMJ.

At one of the posts, Ft Leonard Wood, arrangements were made to have an ARI representative on site to help with collection of the follow-up data. Those data have been analyzed and constitute the sample for the present analysis. Although a follow-up form was completed for all 448 men in the sample, only the 444 men who were nonprior service (NPS) enlistees are reported here. At the time the data were collected, 17 of these men (3.8% of the NPS enlistees) had been discharged from the service: 8 were found to be unsuitable or unfit and were therefore discharged under TRADOC Regulation 635-1, 4 were given medical discharges under AR 600-200-5, 3 had been dropped from the rolls for being AWOL over 30 days, and 2 had been discharged because their enlistments were fraudulent.

Of the remaining 427 men, 26 had experienced some form of adverse disciplinary action. The majority of these men had been punished for not being where they were supposed to be: 14 for "failure to repair" and 6 for being AWOL. The remaining 6 were given Article 15s for other offenses.

Table 4

PERCENT AND FREQUENCY OF NEGATIVE COMMENTS BY ITEM ON THE EEQ (n=188)[a]

| Item | Classification of Comments: Sensitive % | Sensitive Freq | Irrelevant-Redundant % | Irrelevant-Redundant Freq | Wording is Unclear % | Wording is Unclear Freq | Incomplete Range of Choices % | Incomplete Range of Choices Freq | Hard to Remember % | Hard to Remember Freq |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. Bank Account | - | - | 4.0 | 3 | 4.0 | 1 | - | - | - | - |
| 2. Organized Sports | - | - | - | - | 4.0 | 1 | 2.5 | 1 | - | - |
| 3. After School Activities | - | - | - | - | 12.0 | 3 | 2.5 | 1 | - | - |
| 4. Childhood Dislikes | 2.4 | 1 | 2.7 | 2 | 4.0 | 1 | 30.0 | 12 | 14.3 | 1 |
| 5. School Failures | 2.4 | 1 | 1.3 | 1 | 4.0 | 1 | 2.5 | 1 | 57.1 | 4 |
| 6. Obeying Strict Rules | 4.9 | 2 | 2.7 | 2 | 12.0 | 3 | - | - | - | - |
| 7. Run Away from Home | 17.1 | 7 | 4.0 | 3 | 4.0 | 1 | - | - | - | - |
| 8. Smoking | - | - | 9.3 | 7 | - | - | 2.5 | 1 | - | - |
| 9. Intact Family | 7.3 | 3 | 6.7 | 5 | - | - | 5.0 | 2 | - | - |
| 10. Arrests | 7.3 | 3 | 6.7 | 5 | - | - | - | - | - | - |
| 11. Full-time Work | - | - | 2.7 | 2 | - | - | 7.5 | 3 | - | - |
| 12. Suspension from School | 4.9 | 2 | 1.3 | 1 | - | - | - | - | - | - |
| 13. Juvenile Court | 12.2 | 5 | 4.0 | 3 | 8.0 | 2 | - | - | - | - |
| 14. Buying Clothes | - | - | 2.7 | 2 | - | - | - | - | - | - |
| 15. Skipping School | 2.4 | 1 | 4.0 | 3 | 4.0 | 1 | - | - | - | - |
| 16. Jail | 4.9 | 2 | 1.3 | 1 | 8.0 | 2 | - | - | - | - |
| 17. Hitch-hiking | 4.9 | 2 | 6.7 | 5 | 4.0 | 1 | 2.5 | 1 | - | - |
| 18. Hot Wiring a Car | 14.6 | 6 | 8.0 | 6 | - | - | - | - | - | - |
| 19. Gang Fights | 7.3 | 3 | 8.0 | 6 | - | - | - | - | - | - |
| 20. Tattooed | - | - | 13.3 | 10 | 4.0 | 1 | - | - | - | - |
| 21. Losing Teeth | - | - | 5.3 | 4 | 16.0 | 4 | - | - | 28.6 | 2 |
| 22. Supporting Parents | 2.4 | 1 | 1.3 | 1 | - | - | 2.5 | 1 | - | - |
| 23. Being fired from a Job | - | - | 1.3 | 1 | 8.0 | 2 | - | - | - | - |
| 24. Stationed Near a City | - | - | 2.7 | 2 | - | - | 2.5 | 1 | - | - |
| 25. Why did you join the Army? | 4.8 | 2 | - | - | 4 | 1 | 40.0 | 16 | - | - |
| TOTAL | 100% | 41 | 100% | 75 | 100% | 25 | 100% | 40 | 100% | 7 |

a/188 comments were made by 98 men (or 42% of 233 men interviewed).

If all of these forms of early failures are combined, the failure rate would be 9.7% of the NPS sample. With this percentage in mind, the cutting score for the EEQ was set so that the high-risk group, i.e., those scoring 12 or more on the instrument (see Table 3), was roughly equal to that percent. Table 5 shows how well the EEQ predicted early failure at Ft Leonard Wood.

Table 5

PREDICTIVE VALIDITY OF THE EEQ (N=444)

| Analysis Group | End-of-cycle performance, in percent | | | Chi-Square | Tetrachoric Correlation |
|---|---|---|---|---|---|
| | Early Failure | Non-Failure | Total | | |
| High risk (n=33) 7.4% of sample | 21.2 | 78.8 | 100 | 5.42 | .30 |
| Reduced risk (n=411) 92.6% of sample | 8.8 | 91.2 | 100 | | |

The analysis in Table 5 shows that the degree of relationship is in the moderate range. Its relationship with the criterion might be even higher if such demographic factors as age at entry and educational attainment were added to it such as occurs in the BOQ-72.[9/] However, the EEQ does not appear to be a useful screening device in isolation. For example, the data in Table 5 show that if high risk individuals were eliminated from service, 79% of those eliminated would not have experienced early failure, and there would still be quite a few men left who would fail.

Perhaps the inefficiency of the EEQ against an early failure criterion can be better seen by converting the rates to men per thousand. If that comparison is used, the number of men eliminated becomes 74 per 1,000 with 16 of these men being early failures and 58 being "good" men. What is less apparent in Table 5 is that 81 of the 926 men remaining would also be early failures.

However, the critical analyses remain to be done. First, data must be analyzed from the other posts to see whether those early indications are cross-validated. Also, testing must be done with an AFEES population to determine whether the instrument is predictive with that group. And finally, determination must be made as to whether the EEQ adds any predictive validity to the screening power of the MAP.

9/ Bell et al., in press.

## References


Bell, D. B., Bolin, S. F., Houston, T. J., and Kristiansen, D. M. Predictions and self-fulfilling prophecies of Army discipline. Proceedings of the 81st Annual Convention of the American Psychological Association, 1973, 743-744.

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