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A Comparison of Moral Character Predictors of Military Performance

Janice H. Laurence

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This report compares self-reported moral data from the Educational and Biographical Information Survey with moral character data gathered currently as part of the Defense security clearance investigation and enlistment screening processes. The predictive relationships between such moral data and attrition status at 12 months is described by secondary education status and service. More specifically, three types of moral variables were used as predictors--Defense Central Index of Investigation (DCII) Status, moral waiver status, EBIS arrest scale score, and EBIS drug/alcohol scale score. Of the above variables, all except moral waiver status was found to be statistically related to attrition. A significantly higher proportion of recruits with a derogatory background (according to the DCII) left service before completing at least one year than did those with a clean DCII file. Recruits with high EBIS arrest or drug/alcohol scale score were more likely to leave Service prematurely than those with low scores.

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Foreword

Congress has urged the Department of Defense (DoD) and the Services to develop a strong foundation of empirical research upon which enlistment standards can be based. The particulars of these standards may be an important issue in planning for the coming decade when a dwindling supply of young people will be available as potential military accessions. At present, enlistees must meet minimum standards in terms of age, citizenship, physical and medical fitness, moral character, aptitude test scores, and educational level. While test scores and educational level have been shown to help predict military performance, current standards result in the acceptance of many persons who subsequently fail to complete their terms satisfactorily. As many as 15-20 percent of high school graduates and 30-40 percent of non-high school graduates are separated from service prior to completion of the first term because of failure to meet behavior or performance criteria.

This report was prepared by HumRRO's Manpower Analysis Program as part of a project monitored by the Office of Naval Research. That project, Predicting Military Performance from Educational and Biographical Information, capitalizes on a HumRRO-developed data base containing Educational and Biographical Information Survey (EBIS) responses for over 75,000 recent military applicants and recruits. As the individuals who took the EBIS (administered in 1983) move through their first terms of service, the predictive relationships between EBIS items and scales and various military performance measures are being analyzed.

This report compares self-reported EBIS moral data, with moral character data gathered currently as part of the enlistment screening process. The predictive relationships between such moral data and attrition status at 12 months is described.

This contract was performed under the technical supervision of Dr. Charles E. Davis, of ONR's Office for Personnel and Training Research. It was funded by the Directorate for Accession Policy, Office of the Assistant

Secretary of Defense (Force Management and Personnel), which also sponsored the development and administration of the EBIS under an earlier project.

Many individuals are gratefully acknowledged for their contributions to this report. Dr. W. S. Sellman, Director, Accession Policy, within the Office of the Assistant Secretary of Defense (Force Management and Personnel) and Dr. Anita Lancaster, Assistant Director for Accession Policy, provided guidance and suggestions throughout the project in addition to their valuable comments on a draft version of this report. Discussions with Dr. John Goral of the Naval Postgraduate School regarding personnel security data, policies, and procedures proved most useful in the preparation of this report. Access to personnel security data was provided by Mr. John Donnelly, Director, Counterintelligence and Investigative Programs within the Office of the Under Secretary of Defense for Policy. Thanks are due Mr. Peter Nelson of that office for expediting HumRRO's access to such data. Mr. William King of the Defense Manpower Data Center (West) deserves special appreciation for his untiring analytic and programming support. The support within HumRRO's Manpower Analysis Program -- under the management of Dr. Brian K. Waters -- proved invaluable. Particularly appreciated is the assistance of Dr. Barbara Means, who provided analytic guidance and comments on the draft report.

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Background

To evaluate and suggest possible improvements to education and moral standards for enlistment, the Department of Defense contracted with the Human Resources Research Organization to develop, administer, and analyze the Educational and Biographical Information Survey (EBIS). The EBIS was administered for research purposes to nearly 40,000 new recruits and 34,000 applicants across all Services in the Spring of 1983. The 34 questions on this survey yield 120 items of information, covering education credentials, high school behaviors, criminal offense data, alcohol and drug use, family background, and work history.¹

The Department of Defense has many hopes for the EBIS data. In addition to exploring the expanded use of biographical information into the military selection process, DoD hopes to refine its rather broad education standards and to validate its moral character standards. The present report compares the validity of EBIS "moral" items with that of moral character data gathered currently as part of enlistment screening for predicting first-term attrition. Specifically, recruits' scores on two scales -- a drug/alcohol use scale and an arrest scale -- developed from the EBIS were compared with moral waiver status and derogatory background information as reflected in the Defense Central Index of Investigation (DCII). The results will be presented following a brief review of moral character standards and a description of the DCII.

¹For a more comprehensive description of the EBIS and its development, see Means, B. & Perelman, L. P. (1984, June). Development of the Educational and Biographical Information Survey (FR-PRD-84-3). Alexandria, VA: Human Resources Research Organization.

Moral Enlistment Standards

As part of the enlistment screening process, applicants for military service submit to a review of their so-called moral character. Questions dealing with the commission of criminal offenses, drug or alcohol abuse, and sexual misconduct are asked by the recruiter and also appear on the enlistment application form (DD 1966). Moral standards are intended to assure enlistees (and their parents) that they will not be serving with offenders and those who have committed serious crimes. In addition, these standards are applied to reduce attrition by screening out persons thought to be potential serious disciplinary problems. Some applicants are found ineligible for enlistment on the basis of certain deviant backgrounds (e.g., psychotic disorder, alcoholism) or patterns of offenses. Other persons, whose past behavior patterns are deemed less serious, may apply for a moral waiver and if it is granted, may enlist.

There are eight general categories of moral waivers reported on a nationwide basis:

- Minor traffic offenses,
- 1 or 2 minor nontraffic offenses (e.g., disturbing the peace, loitering),
- 3 or more minor nontraffic offenses,
- nonminor misdemeanors (e.g., unlawful entry, indecent exposure),
- juvenile felony,
- adult felony,
- preservice drug abuse,
- preservice alcohol abuse.

The specific offenses or pattern of offenses which require the granting of a moral waiver before an applicant can enlist vary across Services. Consider traffic offenses for example. The Navy requires a waiver for applicants who have had four such offenses in one year and deems those with six offenses in one year ineligible; the Army and Air Force don't require a traffic offense waiver unless there were six or more offenses in one year; the Marine Corps requires a waiver for individuals with six or more traffic offenses in a lifetime.

The pattern of offenses for which each type of waiver may be given varies across Services as well. Table 1 summarizes these differences. The Services also differ in their classification of offenses as a felony or a misdemeanor. Currently the Marine Corps bases its classification on the size of the penalty for the particular offense imposed by the court; the Navy uses the offense classification of the state in which the offense was committed (and thus one state's felony could be another's misdemeanor); and the Army and Air Force use a set of guidelines developed by a 1966 Office of the Secretary of Defense study group for classifying typical offenses.

Within each of the Services, issues of recruit quality and the prevailing recruiting market may affect whether a waiver is granted to specific types of individuals and for specific offenses. That is, waivers may be granted more easily to high school diploma graduates and those scoring in or above the AFQT Category III (i.e., at or above the 31st percentile) level than to nongraduates and Category IV (10th through 30th percentiles) applicants. Moreover, during periods of high demand for enlistment opportunities, waivers may not be granted except for the most minor waiver categories.

Table 1

Moral Waiver Categories and Service Waiver Criteria

DoD Moral Waiver Category	S E R V I C E			
	Army	Navy	Air Force	Marine Corps
Traffic Offenses	6 or more in one year	4 or 5 in one year	6 or more in one year	6 or more in any period
Minor Nontraffic Offenses	2 or more	1 to 4	2 or more	1 to 10 ^a
Minor Misde- meanors	1 or more	1 to 2	1 or more	1 to 10 ^a
Juvenile felony ^b	1 or more	1 or more	1 or more ^c	1 or more
Adult felony	1 or more	1 or more	1 or more ^c	1 or more
Drug Abuse	For marijuana: Con- viction for posses- sion	For marijuana: Con- viction for posses- sion	For marijuana: Use with- in last 6 months or con- viction for possession	For marijuana: Use more than 10 times; Convic- tion for possession or trafficking
	For narcotics: Use within last 12 months or conviction for possession	For narcotics: Use over 12 months ago or pos- session conviction	For amphetamines, or barbiturates: Use	For narcotics and other drugs: Use or convic- tion for possession
	For other drugs: Use 6-12 months ago or conviction for pos- session	For other drugs: Use 6-12 months ago or possession conviction ^d	For other drugs: Not authorized	
Alcohol Abuse	Abuse leading to loss of job, arrest, or treatment	Alcohol-related convictions	Not authorized	Abuse leading to loss of job, arrest, or treatment.

^aNonfelony offenses of all types are now treated equally. The Marine Corps uses the total period of civil restraint and/or total fine for all nonfelony offenses combined as the criterion for determining waiver type.

^bFelony offense committed before age 18, regardless of whether it was tried in juvenile or adult court.

^cEffective July 1983, authorized only where conviction or adverse adjudication did not result in confinement, probation exceeding 6 months, or a fine or restitution over \$100.

^dIndividual programs may have stricter standards.

Note: Applicants with fewer offenses than are listed in the table may apply without waiver; those with more offenses are ineligible. Unless otherwise specified, standards refer to number of offenses committed in any period.

Because of all these differences in moral waiver criteria the percentage of recruits entering with the various types of waivers varies by year and Service. Between fiscal years 1980 and 1982, an average of 17 percent of recruits across DoD entered with a moral waiver. Within Services, the Navy and Marine Corps tend to have a higher proportion of recruits with waivers. In FY 1982 for example, the percentages of recruits who entered with waivers were: 52 percent for the Marine Corps, 26 percent for the Navy, 8 percent for the Army, and 5 percent for the Air Force. Most Marine Corps waiver types were minor traffic offenses and most Navy waivers were in the misdemeanor and drug abuse categories, reflecting most likely the substantial differences in criteria for issuing moral waivers and their categorization.²

Applicants are encouraged by recruiters to be truthful in divulging the derogatory information collected in the moral screening process. They are informed that once enlisted, they will be subjected to an Entrance National Agency Check (ENTNAC), which is likely to disclose any type of involvement the applicant had with law enforcement officials. ENTNACs are carried out for all new recruits. Automated data files (e.g., FBI files, Defense Investigation files) are tapped for evidence of derogatory past behaviors. If such evidence is uncovered, an expanded ENTNAC is performed to obtain details of the applicants' transgressions. If the past incident is considered serious enough and in violation of moral enlistment standards, the recruit may be dismissed from service for fraudulent enlistment.

²For a comprehensive description and evaluation of the moral screening process, see Means, B. (1983, November). Moral standards for military enlistment: Screening procedures and impact (FR-PRD-83-26). Alexandria, VA: Human Resources Research Organization.

Unfortunately detailed ENTNAC data are kept in hard-copy form. The lack of a uniform categorization of legal offenses and of automated ENTNAC data prevent the offense information from being compared directly with moral waiver and EBIS categories. Although the accuracy and predictive value of specific types of reports (e.g., theft arrests) cannot be assessed because of this limitation, the overall predictiveness of the presence versus the absence of derogatory ENTNAC information as uncovered through record checks can be compared with similar dichotomies for EBIS and moral waiver variables.

The DCII File

The Defense Central Index of Investigation (DCII) file contains Defense Investigative Service (DIS) category codes used in connection with all DIS personnel security investigations. Security clearances for military occupations are based upon ENTNACs or other, more in-depth background checks. Although the DCII does not contain specific information about offenses, the case category code indicates whether unfavorable information was uncovered. Table 2 contains selected examples and definitions of military DIS codes categorized as derogatory or nonderogatory for purposes of the present research.

TABLE 2

Examples and Definitions of Nonderogatory and Derogatory Defense
Investigative Service Case Category Codes

<u>Nonderogatory Codes</u>	
(1A1) Military 81	- Used for material pertaining to a member of the military service when background investigative coverage is required, and no prior background investigation or Special background investigation exists.
(1N2) Military 81, Hostage	- Used for material pertaining to a member of the military service when background investigative coverage is required and subject has close relatives residing in a Communist-controlled country.
<u>Derogatory Codes</u>	
(1G1) Military (Entrance) File NAC	- Used for material pertaining to a completed ENTNAC on a military enlistee which developed unfavorable information that did not require further clarification, expansion, or investigation. (Used when the only investigation requested was an ENTNAC).
(1N3) Military 81, Suitability	- Used for material pertaining to a member of the military service when background investigative coverage is required and information is present which tends to show that subject is unreliable and/or untrustworthy.

Social security numbers were used to link the DCII file to the EBIS file. The Defense Manpower Data Center (DMDC) Cohort, Master, and Loss files were also linked to both the EBIS and the DCII. The merging of these data bases enabled a comparison of attrition among EBIS recruits as predicted by EBIS moral items, moral waiver status, and DCII file categorization. Nine derogatory military DCII codes turned up for one or more recruits in the EBIS sample. (Appendix A lists and provides definitions for these codes as provided by the DIS manual.) With reference to the DCII file, EBIS recruits were categorized as having a derogatory or nonderogatory background. Those with a DoD civilian or industrial DCII code were not categorized. Individuals for whom the ENTNAC did not turn up any derogatory information are regarded as "clean" and have no ENTNAC-DIS investigation codes in the DCII file.³ Accordingly, such EBIS recruits were categorized as having a non-derogatory background. The details of this categorization will be given following a description of scales derived from the EBIS.

³J. Goral, Naval Postgraduate School. (personal communication, March 1985.)

EBIS Moral Item Scales

For the purpose of this report, two scales were derived from the EBIS, an arrest scale and a drug/alcohol use scale. These scales were not empirically derived, rather items were included on the basis of a content analysis.

The arrest scale consisted of 19 items covering the self-report of fines, arrests, or convictions for traffic violations, disorderly conduct, drunken driving, theft, assault/battery, misdemeanors, and felonies. The drug/alcohol use scale consisted of 13 items covering the use or frequency of use of alcohol, marijuana, cocaine, heroin, uppers, downers, and other drugs. Table 3 gives examples of items from the EBIS scales. (Appendices B & C contain all the items and codes used for these scales.)

For each item on the scales, an EBIS recruit received a score or code of "1" or "0." Thus, the score range was 0 to 19 for the arrest scale and 0 to 13 for the drug/alcohol use scale. As can be seen in Table 3 and Appendices B & C, items were either natural dichotomies or easily made dichotomies. Dichotomies were created by splitting positive and negative responses. That is, for each item all responses indicative of any degree of performance of the behavior were coded as "1" while negative responses were coded as "0".

TABLE 3

Examples and Scoring of EBIS Arrest and Drug/Alcohol Scale Items

Arrest Scale		
Item	Response Code	Score
29A ^a Have you ever been convicted or paid a fine for traffic violations (including parking tickets)?	01 Yes	= 1
	02 No	= 0
31D (Show below the largest number of convictions of <u>each</u> type you ever had in a single year.) Given a sentence of 4 months or longer	00	= 0
	01	= 1
	02	
	03	
	04	

Drug/Alcohol Use Scale		
Item	Response Code	Score
27E How old were you the first time you ever got drunk?	00 I never did this	= 0
	01 Age 14 or younger	= 1
	02 Age 15-17	
	03 Age 18 or older	
	04 Don't recall age	
34B Other than times when prescribed by a doctor, how many times have you <u>ever</u> used drugs or alcohol? Marijuana/Hashish	00 Never used this	= 0
	01 1-4 times	= 1
	02 5-9 times	
	03 10-24 times	
	04 25-49 times	
	05 50 times or more	

^a These are EBIS item and item branch numbers.

Comparison of Moral Waiver, DCII, and EBIS Scale Scores

To facilitate a comparison of attrition as predicted by moral waivers, DCII file codes, and EBIS moral items, all three predictor types were put on a comparable scale. Actually, all of these predictor variables were made dichotomous. Moral waiver status was defined as the presence or absence of a moral waiver at enlistment. For the DCII file, EBIS recruits were placed in either the derogatory or nonderogatory background group according to their case category codes. Recruits were also placed in dichotomous groups for the EBIS scales. For each scale the two groups were, high, defined as those scoring at or above one standard deviation above the mean and low, those who scored below that point. The criterion variable was dichotomous as well; that is, attrition versus still in service 12 months after enlistment.

The sample size for these analyses was 38,016 non-prior service, active duty recruits. This represents a subset of over 94 percent of the 40,387 new recruits who were administered the EBIS. Reasons for the sample size reduction included unrecognizable Social Security numbers, and the omission of prior service and reserve personnel. The decrease in sample size is traced in detail in Appendix D.

Chi-square analyses⁴ were performed on these data with alpha set at the .01 level. Since attrition and hence enlistment policies vary substantially by education group (i.e., high school diploma graduates vs. non-high school graduates), all analyses were run separately by education group in addition

⁴Because of the large number of χ^2 tests performed, the more conservative formula was used. That is, there was no correction for continuity.

to calculating statistics for the total EBIS recruit sample. This tactic was taken to examine potential differences in the predictive power of moral waivers, DCII file codes, and EBIS moral items within education groups (particularly within the relatively poorer performing nongraduate group). For the purposes of these analyses GED credential holders were categorized as nongraduates because of their similar military performance. Specifically, 18 sets of 2X2 chi squares were performed for the total EBIS sample and graduates and nongraduates separately as follows:

- DCII by Attrition
- Moral Waiver by Attrition
(By Service and DoD)
- Moral Waiver Type by Attrition
(Eight Types)
- EBIS Arrest Scale by Attrition
- EBIS Drug/Alcohol Use Scale by Attrition
- EBIS Arrest Scale by DCII
- EBIS Drug/Alcohol Scale by DCII

In addition to examining the relationship between moral waivers and attrition within education, chi-squares were run by Service as well. This was done because of the variation in moral waiver criteria and policies among Services. Because of the resultant small sample and individual cell sizes, this type of analysis is not reported by type of moral waiver but rather by the presence versus the absence of all waivers. A total of 54 chi-squares were thus run on these data.

Tables 4 through 22 show the frequencies and percentages for the above analyses. These analyses were performed to determine whether a statistically significant relationship existed between the various moral character data and 12-month attrition and whether there was a relationship between the self-report EBIS moral data and the "factually-based" DCII data.

Table 4
DCII and Attrition Status
for EBIS Recruits by Education Level

Education Level/ DCII Status	Attrition Status ^a			
	Still Active		Attrited	
	n	%	n	%
High School Graduate				
Nonderogatory	28,619	87.0	4,279	13.0
Derogatory	1,465	78.4	403	21.6
Total	30,084	86.5	4,682	13.5
Non-Graduate^b				
Nonderogatory	2,255	75.4	737	24.5
Derogatory	174	67.4	84	32.5
Total	2,429	74.7	821	25.3
Total				
Nonderogatory	30,374	86.0	5,016	14.0
Derogatory	1,639	77.1	487	22.9
Total	32,513	85.5	5,503	14.5

^a Twelve-month attrition

^b Non-graduates include GED credential holders.

Table 5
Moral Waiver and Attrition Status
for EBIS Recruits by Education Level

Education Level/ Moral Waiver Status	Attrition Status ^a			
	Still Active		Attrited	
	n	%	n	%
High School Graduate				
No Waiver	24,330	86.6	3,750	13.4
Waiver	5,754	86.1	932	13.9
Total	30,084	86.5	4,682	13.5
Non-Graduate^b				
No Waiver	1,817	74.0	640	26.0
Waiver	712	77.2	181	22.3
Total	2,429	74.7	821	25.3
Total				
No Waiver	26,147	85.6	4,390	14.4
Waiver	6,366	85.1	1,113	14.5
Total	32,513	85.5	5,503	14.5

^a Twelve-month attrition

^b Non-graduates include GED credential holders.

Of the following variables, DCII status, moral waiver status, EBIS arrest scale score, and EBIS drug/alcohol scale score, all except moral waiver status was found to be statistically related to attrition. A significantly higher proportion of EBIS recruits (both education groups combined) with a derogatory background (according to the DCII) left service before completing at least one year than did those with a clean DCII file, $\chi^2(1, N=38,016)=129.4$ (See Table 4.) As can be learned from Tables 6 and 7, recruits with high EBIS arrest or drug/alcohol scale scores were more likely to leave service prematurely than those with low scores, $\chi^2(1, N=38,016)=6.9$ and $\chi^2(1, N=38,016)=14.0$, respectively. Though statistically significant, the strength of the relationship between these variables and attrition was rather low. In order from the highest to lowest effect size were DCII status ($\phi=.06$), EBIS drug/alcohol scale score ($\phi=.02$) and EBIS arrest scale score ($\phi=.01$.)

Though the relationships among DCII status, moral waiver status and attrition found for the total EBIS recruit sample, were consistent across education groups, this was not the case for the two EBIS scales. That is, though the relationship between the arrest scale score and attrition was significant for the total EBIS sample, significant relationships were not found among either high school graduates or non-high school graduates. Needless to say, there appears to be greater variance among the total EBIS recruit sample than in either education group separately. For the EBIS drug/alcohol use scale, a significant relationship was found for nongraduates, $\chi^2(1, N=3,250)=8.7$, as well as for the total sample.

Table 6
EBIS Arrest Scale Score and Attrition Status
for EBIS Recruits by Education Level

Education Level/EBIS Arrest Scale Score	Attrition Status ^a			
	Still Active		Attrited	
	n	%	n	%
<u>High School Graduate</u>				
Low	27,270	86.6	4,203	13.4
High	2,814	85.5	479	14.5
Total	30,084	86.5	4,682	13.5
<u>Non-Graduate^b</u>				
Low	2,092	74.8	704	25.2
High	337	74.2	117	25.8
Total	2,429	74.7	821	25.3
<u>Total</u>				
Low	29,362	85.7	4,907	14.3
High	3,151	84.1	596	15.9
Total	32,513	85.5	5,503	14.5

^a Twelve-month attrition

^b Non-graduates include GED credential holders.

Table 7
EBIS Drug/Alcohol Scale Score and Attrition Status
for EBIS Recruits by Education Level

Education Level/EBIS Drug/Alcohol Scale Score	Attrition Status ^a			
	Still Active		Attrited	
	n	%	n	%
<u>High School Graduate</u>				
Low	27,507	96.6	4,238	13.4
High	2,577	95.3	444	14.7
Total	30,084	86.5	4,682	13.5
<u>Non-Graduate^b</u>				
Low	2,157	75.6	697	24.4
High	272	68.7	124	31.3
Total	2,429	74.7	821	25.3
<u>Total</u>				
Low	29,564	95.7	4,935	14.3
High	2,349	33.4	568	16.6
Total	32,513	85.5	5,503	14.5

^a Twelve-month attrition

^b Non-graduates include GED credential holders.

Although the relationship between attrition and all moral waivers combined was not statistically significant, significant relationships resulted for specific waiver types. As evidenced in Table 8, high school graduate recruits with waivers for minor traffic offenses were more likely to be attrition cases than those without such moral waivers, $\chi^2(1, N=34,756) = 21.6$. A similar relationship was found between minor traffic offense waivers and attrition among both education groups combined, $\chi^2(1, N=38,016) = 25.9$. For the total EBIS recruit sample, adult felony, -- $\chi^2(1, N=38,016) = 4,482.6$ -- and preservice drug abuse -- $\chi^2(1, N=38,016) = 8.1$ -- waivers were significantly related to attrition as well, though inversely (See Tables 13 and 14). A significant positive relationship between preservice alcohol abuse waivers and attrition was found for nongraduates, $\chi^2(1, N=3,250) = 16.5$ (See Table 15). No significant relationships were found between attrition and the remaining four waiver types: one or two minor nontraffic offenses (Table 9), three or more minor nontraffic offenses (Table 10), nonminor misdemeanors (Table 11), and juvenile felony (Table 12).

Because moral waiver policies vary by Service, the relationship between moral waiver status and attrition was examined within Service as shown in Tables 16 through 19. Unfortunately, because of very small resultant cell sizes, these analyses were not performed by waiver type but rather for all waivers combined. A statistically significant relationship between all moral waivers and attrition was found for the Army only (See Table 16). For the total EBIS Army sample and for high school graduates, those with moral waivers were less likely to leave service prior to completing at least 12 months of their term, $\chi^2(1, N=17,181) = 10.8$ and $\chi^2(1, N=15,428) = 10.3$ respectively.

Table 8
Minor Traffic Offense Waiver and Attrition Status
for EBIS Recruits by Education Level

Education Level/ Moral Waiver Status	Attrition Status ^a			
	Still Active		Attrited	
	n	%	n	%
High School Graduate				
No Waiver	28,636	86.7	4,382	13.3
Waiver	1,448	82.8	300	17.2
Total	30,084	86.5	4,682	13.5
Non-Graduate^b				
No Waiver	2,318	75.1	768	24.9
Waiver	111	67.7	53	32.3
Total	2,429	74.7	821	25.3
Total				
No Waiver	30,954	85.7	5,150	14.3
Waiver	1,559	81.5	353	18.5
Total	32,513	85.5	5,503	14.5

^a Twelve-month attrition

^b Non-graduates include GED credential holders.

Table 9
One or Two Minor Non-Traffic Offenses Waiver and Attrition Status
for EBIS Recruits by Education Level

Education Level/ Moral Waiver Status	Attrition Status ^a			
	Still Active		Attrited	
	n	%	n	%
High School Graduate				
No Waiver	29,394	86.6	4,560	13.4
Waiver	90	30.4	22	19.6
Total	30,084	86.5	4,682	13.5
Non-Graduate^b				
No Waiver	2,417	74.8	415	25.2
Waiver	12	66.7	6	33.3
Total	2,429	74.7	821	25.3
Total				
No Waiver	32,481	85.5	5,475	14.4
Waiver	102	78.5	28	21.5
Total	32,513	85.5	5,503	14.5

^a Twelve-month attrition

^b Non-graduates include GED credential holders.

Table 10

Three or More Minor Non-Traffic Offenses Waiver and Attrition Status
for EBIS Recruits by Education Level

Education Level/ Moral Waiver Status	Attrition Status ^a			
	Still Active		Attrited	
	n	%	n	%
High School Graduate				
No Waiver	29,574	86.6	4,592	13.4
Waiver	510	85.0	90	15.0
Total	30,084	86.5	4,682	13.5
Non-Graduate^b				
No Waiver	2,367	74.7	802	25.3
Waiver	62	76.5	19	23.5
Total	2,429	74.7	821	25.3
Total				
No Waiver	31,941	85.6	5,394	14.4
Waiver	572	34.0	109	16.0
Total	32,513	85.5	5,503	14.5

^a Twelve-month attrition

^b Non-graduates include GED credential holders.

Table 11

Non-Minor Misdemeanor Waiver and Attrition Status
for CoIS Recruits by Education Level

Education Level/ Moral Waiver Status	Attrition Status ^a			
	Still Active		Attrited	
	n	%	n	%
High School Graduate				
No Waiver	27,891	86.4	4,381	13.6
Waiver	2,187	87.9	301	12.1
Total	30,084	86.5	4,682	13.5
Non-Graduate^b				
No Waiver	2,168	74.1	756	25.9
Waiver	261	80.1	45	19.9
Total	2,429	74.7	821	25.3
Total				
No Waiver	30,065	85.4	5,137	14.6
Waiver	2,448	47.0	366	13.0
Total	32,513	85.5	5,503	14.5

^a Twelve-month attrition

^b Non-graduates include GED credential holders.

Table 12
Juvenile Felony Waiver and Attrition Status
for EBIS Recruits by Education Level

Education Level/ Moral Waiver Status	Attrition Status ^a			
	Still Active		Attrited	
	n	%	n	%
<u>High School Graduate</u>				
No Waiver	30,035	86.5	4,670	13.5
Waiver	19	30.3	12	19.7
Total	30,084	86.5	4,682	13.5
<u>Non-Graduate^b</u>				
No Waiver	2,421	74.7	820	25.3
Waiver	8	88.9	1	11.1
Total	2,429	74.7	321	25.3
<u>Total</u>				
No Waiver	32,456	85.5	5,490	14.5
Waiver	57	81.4	13	18.6
Total	32,513	85.5	5,503	14.5

^a Twelve-month attrition

^b Non-graduates include GED credential holders.

Table 13
Adult Felony Waiver and Attrition Status
for EBIS Recruits by Education Level

Education Level/ Moral Waiver Status	Attrition Status ^a			
	Still Active		Attrited	
	n	%	n	%
<u>High School Graduate</u>				
No Waiver	30,048	86.5	4,577	13.5
Waiver	36	37.8	5	12.2
Total	30,084	86.5	4,582	13.5
<u>Non-Graduate^b</u>				
No Waiver	2,426	74.7	321	25.3
Waiver	3	100	0	0
Total	2,429	74.7	321	25.3
<u>Total</u>				
No Waiver	32,474	85.5	5,498	14.5
Waiver	39	88.5	5	11.1
Total	32,513	85.5	5,503	14.5

^a Twelve-month attrition

^b Non-graduates include GED credential holders.

Table 14
Preservice Drug Abuse Waiver and Attrition Status
for EBIS Recruits by Education Level

Education Level/ Moral Waiver Status	Still Active		Attrition Status ^a	
	n	%	n	%
<u>High School Graduate</u>				
No Waiver	29,297	86.4	4,593	13.6
Waiver	787	89.8	89	10.2
Total	30,084	86.3	4,682	13.5
<u>Non-Graduate^b</u>				
No Waiver	2,326	74.3	796	25.5
Waiver	103	30.5	25	19.5
Total	2,429	74.7	821	25.3
<u>Total</u>				
No Waiver	31,523	85.4	5,389	14.6
Waiver	890	88.6	114	11.4
Total	32,513	85.5	5,503	14.5

^a Twelve-month attrition

^b Non-graduates include GED credential holders.

Table 15
Preservice Alcohol Abuse Waiver and Attrition Status
for EBIS Recruits by Education Level

Education Level/ Moral Waiver Status	Still Active		Attrition Status ^a	
	n	%	n	%
<u>High School Graduate</u>				
No Waiver	30,047	86.5	4,678	13.5
Waiver	37	90.2	4	9.3
Total	30,084	86.5	4,682	13.5
<u>Non-Graduate^b</u>				
No Waiver	2,425	80.9	820	19.1
Waiver	4	90.0	1	20.0
Total	2,429	74.7	821	25.3
<u>Total</u>				
No Waiver	32,472	85.5	5,498	14.5
Waiver	41	39.1	5	10.9
Total	32,513	85.5	5,503	14.5

^a Twelve-month attrition

^b Non-graduates include GED credential holders.

Table 16
Moral Waiver and Attrition Status
for EBIS Recruits by Education Level
(ARMY)

Education Level/ Moral Waiver Status	Still Active		Attrition Status ^a	
	n	%	n	%
<u>High School Graduate</u>				
No Waiver	11,682	83.7	2,291	16.3
Waiver	1,273	86.9	192	13.1
Total	12,955	84.0	2,473	15.0
<u>Non-Graduated^b</u>				
No Waiver	1,161	71.8	457	29.2
Waiver	98	72.6	37	27.4
Total	1,259	71.8	494	29.2
<u>Total</u>				
No Waiver	12,843	82.4	2,738	17.6
Waiver	1,371	85.7	229	15.3
Total	14,214	82.7	2,967	17.3

^a Twelve-month attrition

^b Non-graduates include GED credential holders.

Table 17
Moral Waiver and Attrition Status
for EBIS Recruits by Education Level
(NAVY)

Education Level/ Moral Waiver Status	Still Active		Attrition Status ^a	
	n	%	n	%
<u>High School Graduate</u>				
No Waiver	4,783	88.3	504	11.2
Waiver	1,866	90.1	204	9.3
Total	6,649	89.2	308	10.3
<u>Non-Graduated^b</u>				
No Waiver	472	81.2	109	18.8
Waiver	331	84.4	61	16.6
Total	303	82.5	170	17.5
<u>Total</u>				
No Waiver	5,255	88.1	713	11.9
Waiver	2,197	89.2	255	10.3
Total	7,452	88.4	978	11.6

^a Twelve-month attrition

^b Non-graduates include GED credential holders.

Table 18
Moral Waiver and Attrition Status
for EBIS Recruits by Education Level
(MARINE CORPS)

Education Level/ Moral Waiver Status	Attrition Status ^a			
	Still Active		Attrited	
	n	%	n	%
<u>High School Graduate</u>				
No Waiver	888	81.9	196	18.1
Waiver	1,898	82.0	416	18.0
Total	2,786	82.0	612	18.0
<u>Non-Graduate^b</u>				
No Waiver	73	65.2	39	34.8
Waiver	135	65.2	72	34.8
Total	208	65.2	111	34.8
<u>Total</u>				
No Waiver	961	80.4	235	19.6
Waiver	2,033	80.6	488	19.4
Total	2,994	80.5	723	19.5

^a Twelve-month attrition

^b Non-graduates include GED credential holders.

Table 19
Moral Waiver and Attrition Status
for EBIS Recruits by Education Level
(AIR FORCE)

Education Level/ Moral Waiver Status	Attrition Status ^a			
	Still Active		Attrited	
	n	%	n	%
<u>High School Graduate</u>				
No Waiver	7,587	90.7	778	9.3
Waiver	107	90.7	11	9.3
Total	7,694	90.7	789	9.3
<u>Non-Graduate^b</u>				
No Waiver	159	77.6	46	22.4
Waiver	0	--	0	--
Total	159	77.6	46	22.4
<u>Total</u>				
No Waiver	7,746	90.4	824	9.6
Waiver	107	90.7	11	9.3
Total	7,853	90.4	835	9.6

^a Twelve-month attrition

^b Non-graduates include GED credential holders.

A few of the results described above seem rather counterintuitive to say the least. Recruits who entered the Army with a moral waiver and recruits who entered any of the Services with either an adult felony or preservice drug abuse waiver were more likely to remain in the military than those without such waivers.

Several hypotheses might be offered to explain these apparent anomalies. The lower attrition rates for persons with such moral waivers may be indicative of a system which works. That is, the background review required for the granting of a waiver (especially for preservice drug use and adult felonies) may indeed weed out the potentially unsuccessful servicemembers and admit those who are truly deserving of donning a Service uniform. On the other hand, the higher attrition rates for those recruits with minor traffic offense waivers and alcohol abuse waivers might reflect the feeling that such transgressions are not terribly incriminating and therefore the screening for such persons is not as serious an endeavor.

With the few exceptions mentioned, the above results generally do not show a significant relationship between moral waiver status and attrition. These findings, however, are not necessarily indicative of ineffective moral standards. Perhaps, many of those who would have left Service prematurely were already screened out by the application of moral enlistment standards. Table 20 presents the number and percentage of recruits who "attrited" by DCII status and moral waiver status. For example, for those recruits who did not have a moral waiver and whose DCII file was clean, 4,054 or 14 percent left service prior to completing one year. This table shows that of those with a nonderogatory DCII record, roughly the same percentage (i.e. 14

percent) attrited regardless of moral waiver status. For those with a derogatory DCII record, proportionately more recruits without a moral waiver left service prior to completing at least one year, (25 percent) than did those with a waiver, (19 percent.) These relationships held within education groups and are particularly noticeable for non-high school graduates. Actually, a slightly greater proportion (25 percent) of nongraduates without a moral waiver and with a clean DCII record left service prematurely compared to nongraduates with waivers and a clean DCII (23 percent). For nongraduates with derogatory DCII information, a much greater proportion of those without waivers were attrition cases, (42 percent) than were those with a waiver, (19 percent). These findings suggest that the moral waiver process is an effective screening tool.

Table 20
Twelve-Month Attrition Among EBIS Recruits by
Education Level, Moral Waiver, and DCII Status

Education Level/ DCII Status	Moral Waiver Status			
	No Waiver		Waiver	
	n	% Attrition	n	% Attrition
<u>High School Graduate</u>				
Nonderogatory	3,479	12.9	300	13.4
Derogatory	271	23.2	132	18.9
<u>Non-Graduate</u>				
Nonderogatory	575	25.0	162	23.4
Derogatory	65	41.7	19	18.6
<u>Total</u>				
Nonderogatory	4,054	13.9	962	14.4
Derogatory	336	29.3	151	18.9

It is interesting to note that both the arrest and drug/alcohol scales were significantly related to DCII file status as well (See Tables 21 and 22). That is, those with a high arrest or drug/alcohol scale score were much more likely to have a derogatory DCII record than those with a low score, $\chi^2(1, N=38,016)=1044.3$ and $\chi^2(1, N=38,016)=22.6$, respectively. For the arrest scale, significant relationships were found for both education groups separately as well: high school graduates $\chi^2(1, N=34,766)=973.5$ and nongraduates $\chi^2(1, N=3,250)=67.9$. For the drug/alcohol use scale a statistically significant relationship with DCII status was not found for nongraduates but was found for graduates, $\chi^2(1, N=34,766)=24.6$. These relationships with the DCII file, though again low ($\phi=.17$ for the arrest scale and $\phi=.02$ for the drug/alcohol scale), lend some credence to the self-reported EBIS data. The fact that the relationship between the EBIS scales and DCII status is not very strong yet both are positively related to attrition may suggest that both sources of "derogatory" information on recruits' backgrounds add unique elements to predicting military performance.

Table 21
EBIS Arrest Scale Score and DCII Status
for EBIS Recruits by Education Level

Education Level/ EBIS Arrest Scale Score	DCII Status			
	Nonderogatory		Derogatory	
	n	%	n	%
<u>High School Graduate</u>				
Low	30,166	95.9	1,307	4.2
High	2,732	83.0	561	17.0
Total	32,898	94.6	1,868	5.4
<u>Non-Graduate^a</u>				
Low	2,518	93.5	178	6.4
High	374	82.4	80	17.6
Total	2,992	92.1	258	7.9
<u>Total</u>				
Low	32,784	95.7	1,485	4.3
High	3,106	82.9	641	17.1
Total	35,890	94.4	2,126	5.6

^a Non-graduates include GED credential holders.

Table 22
EBIS Drug/Alcohol Scale Score and DCII Status
for EBIS Recruits by Education Level

Education Level/EBIS Drug/Alcohol Scale Score	DCII Status			
	Nonderogatory		Derogatory	
	n	%	n	%
<u>High School Graduate</u>				
Low	30,098	94.8	1,547	5.2
High	2,800	92.7	221	7.3
Total	32,898	94.5	1,368	5.4
<u>Non-Graduate^a</u>				
Low	2,527	92.0	227	8.0
High	365	92.2	31	7.8
Total	2,992	92.1	258	7.9
<u>Total</u>				
Low	32,725	94.6	1,374	5.4
High	3,165	92.5	252	7.4
Total	35,890	94.4	2,125	5.6

^a Non-graduates include GED credential holders.

Conclusions

Aside from assuring recruits and their parents that they will not be serving with the "bad elements" of society, moral character information does appear to improve the selection process above and beyond the more informal screening at the time of initial contact with recruiters. The fact that DCII file status and EBIS arrest and drug/alcohol scale scores were found to be statistically related to attrition substantiates the importance of moral screening.

Though the actual strength of the relationship was low between these particular moral character variables and attrition, more precise moral variables may prove to be better predictors of serious disciplinary problems. Improved moral screening practices and procedures may be one vehicle which could increase the selection ratio within the nongraduate pool--bringing in more (if warranted) of those who would be successful and thus minimizing the gross prescreening of nongraduates. Perhaps specific past offense data (e.g., automated ENTHAC data) and future empirically derived EBIS or other biodata scales might show a stronger relationship to attrition and other military performance variables.

Generally the improvement of so-called "moral character" predictors would be welcome in the wake of the recent upsurge in threatening spy activities (e.g., the 1985 Walker spy case). Biodata inventories, such as the EBIS may lend themselves to purposes beyond screening in successful performers in the military. Such data may also be helpful within the overworked and troubled security clearance system.

Appendix A

Definitions of Derogatory Military Defense Investigative Service Case Category Codes for EBIS Recruits

-
- (1G1) Military (Entrance) File IAC - Used for material pertaining to a completed ENTNAC on a military enlistee which developed unfavorable information that did not require further clarification, expansion, or investigation. (Used when the only investigation requested was an ENTNAC.)
- (1G2) Military (Standard) File NAC - Used for material pertaining to a completed NAC on a member of the military service which developed unfavorable information that did not require further clarification, expansion, or investigation. (Used when the only investigation requested was a NAC.)
- (1K1) Military (Entrance) ENAC - Used for material pertaining to a completed ENTNAC on a military enlistee which developed information that requires additional inquiries to determine if that information has investigative merit. (Used when the only investigation requested was on ENTNAC.)
- (1K2) Military (Standard) ENAC - Used for material pertaining to a completed NAC on a member of the military service which developed information that requires additional inquiries to determine if that information has investigative merit. (Used when the only investigation requested was a NAC.)
- (1N3) Military BI, Suitability - Used for material pertaining to a member of the military service when background investigative coverage and information is present which tends to show that subject is unreliable and/or untrustworthy.
- (1PC, 1P3) Military SBI, Suitability - Used for material pertaining to a member of the military service when background investigative coverage is required in accordance with DCID 1/14 and information is present which tends to show that subject is unreliable and/or untrustworthy.
- (1V1) Military ENAC, Security - Used for material pertaining to a completed NAC on a member of the military service which developed information that reflects adversely on subject's loyalty or indicates subversive affiliations and requires additional investigation to substantiate or disprove the allegation(s). (Used when the only investigation requested was a IAC.)
- (1V3) Military ENAC, Suitability - Used for material pertaining to a completed NAC on a member of the military service which developed information that tends to show that subject is unreliable and/or untrustworthy and requires additional investigation to substantiate or disprove the allegation(s). (Used when the only investigation requested was a NAC.)

Source: Defense Investigative Service (1981, January 30.) The manual for personnel security investigations (DISM 20-1.) Attachment 8.

Appendix B

EBIS Arrest Scale Items and Scoring

Item	Response Code	Score
Q29A Have you ever been convicted or paid a fine for traffic violations (including parking tickets)?	01 Yes	= 1
	02 No	= 0
Q29B (Show below the <u>most</u> parking violations you <u>ever</u> had in a single year.)	00 None	= 0
	01 One	= 1
	02 Two	
	03 Three	
	04 Four	
	05 Five	
Q29C (Show below the <u>most</u> non-parking violations you <u>ever</u> had in a single year.)	06 Six or more	= 1
	00 None	
	01 One	
	02 Two	
	03 Three	
	04 Four	
Q30 Have you ever been arrested for any of the following offenses?	05 Five	= 1
	06 Six or more	
	01 No arrest/conviction	
	02 Arrest only	
	03 Conviction	
Q30A Unauthorized use of vehicle	01 No arrest/conviction	= 0
	02 Arrest only	= 1
	03 Conviction	
Q 30B Disorderly conduct	01 No arrest/conviction	= 0
	02 Arrest only	= 1
	03 Conviction	
Q 30C Drunken driving	01 No arrest/conviction	= 0
	02 Arrest only	= 1
	03 Conviction	
Q 30D Drug-related offense	01 No arrest/conviction	= 0
	02 Arrest only	= 1
	03 Conviction	

Appendix B (cont.)

Item	Response Code	Score
Q 30E Theft	01 No arrest/conviction 02 Arrest only 03 Conviction }	= 0 = 1
Q 30F Assault/Battery	01 No arrest/conviction 02 Arrest only 03 Conviction }	= 0 = 1
Q 31A This question is about <u>misdemeanors</u> . (misdemeanors usually do not have jail sentences of more than one year.) Have you ever been convicted of a misdemeanor? (Fines, suspended sentences, and probations should be counted as convictions.)	01 Yes 02 No	= 0 = 1
Q 31R Number fines with no sentence (see 31A for stem)	00 None 01 One 02 Two 03 Three 04 Four }	= 0 = 1
Q 31C Number sentences under four months (see 31A for stem)	00 None 01 One 02 Two 03 Three 04 Four }	= 0 = 1
Q 31D Number sentences over four months (see 31A for stem)	00 None 01 One 02 Two 03 Three 04 Four }	= 0 = 1
Q 32A Questions 32 & 33 are about <u>felonies</u> . (Felonies usually carry jail sentences of over a year.) Have you ever been <u>arrested or convicted</u> of a felony as an <u>adult</u> (age 18 or older)?	01 Yes 02 No	= 1 = 0

Appendix B (cont.)

Item	Response Code	Score
(Show below the total number of times <u>each</u> of these happened to you since age 18)		
Q 32B Arrests with no conviction	00 None	= 0
	01 One	= 1
	02 Two	
	03 Three	
	04 Four	
Q 32C Sentences under 1 year	00 None	= 0
	01 One	= 1
	02 Two	
	03 Three	
	04 Four	
Q 32D Sentences over 1 year	00 None	= 0
	01 One	= 1
	02 Two	
	03 Three	
	04 Four	
Q 33A Have you ever been convicted of a felony when you were under 18?	01 Yes	= 1
	02 No	= 0
Q 33B Number of juvenile felonies	00 None	= 0
	01 One	= 1
	02 Two	
	03 Three or more	

Appendix C

EBIS Drug/Alcohol Scale Items and Scoring

Item	Response Code	Score
Q26 Has drinking ever led to your loss of a job, arrest or treatment for alcoholism?	01 Yes 02 No	= 1 = 0
Q27 How old were you the first time you ever:		
Q27E Got drunk	00 Never did this 01 Age 14 or younger 02 Age 15-17 03 Age 18 or older 04 Don't recall age	= 0 = 1
Q27F Used marijuana	00 Never did this 01 Age 14 or younger 02 Age 15-17 03 Age 18 or older 04 Don't recall age	= 0 = 1
Q27G Used hard drugs	00 Never did this 01 Age 14 or younger 02 Age 15-17 03 Age 18 or older 04 Don't recall age	= 0 = 1
Q 30 Have you ever been arrested for any of the following offenses?		
Q 30C Drunken driving	01 No arrest/conviction 02 Arrest only 03 Conviction	= 0 = 1
Q 34 Other than times when prescribed by a doctor, how many times have you ever used drugs or alcohol?		
Q 34A Alcohol	00 Never used this 01 1-4 times 02 5-9 times 03 10-24 times 04 25-49 times 05 50 times or more	= 0 = 1

Appendix C (cont.)

Item	Response Code	Score
Q 34B Marijuana	00 Never used this	= 0
	01 1-4 times	= 1
	02 5-9 times	
	03 10-24 times	
	04 25-49 times	
	05 50 times or more	
Q 34C Heroin	00 Never used this	= 0
	01 1-4 times	= 1
	02 5-9 times	
	03 10-24 times	
	04 25-49 times	
	05 50 times or more	
Q 34D Cocaine	00 Never used this	= 0
	01 1-4 times	= 1
	02 5-9 times	
	03 10-24 times	
	04 25-49 times	
	05 50 times or more	
Q 34E Uppers	00 Never used this	= 0
	01 1-4 times	= 1
	02 5-9 times	
	03 10-24 times	
	04 25-49 times	
	05 50 times or more	
Q 34F Downers	00 Never used this	= 0
	01 1-4 times	= 1
	02 5-9 times	
	03 10-24 times	
	04 25-49 times	
	05 50 times or more	
Q 34G Other narcotics	00 Never used this	= 0
	01 1-4 times	= 1
	02 5-9 times	
	03 10-24 times	
	04 25-49 times	
	05 50 times or more	
Q 34H Other drugs	00 Never used this	= 0
	01 1-4 times	= 1
	02 5-9 times	
	03 10-24 times	
	04 25-49 times	
	05 50 times or more	

Appendix D

Description of the Reduction in EBIS Recruit Sample Size

40,387	Original number of recruits in the EBIS sample																
112	Unrecognizable Social Security Numbers																
91	Members of reserve units																
99	On the 1983 Cohort File but not on the DMDC Master/Loss File (91 are listed as Navy personnel thus it is likely that most are members of the Naval Reserve.)																
356	Prior-Service Personnel																
<u>1,703</u>	No Fiscal Year 1983 Cohort File records																
	<table border="1" style="margin-left: 20px;"> <tr> <td>10</td><td>on FY 84 Cohort File</td></tr> <tr> <td>12</td><td>on FY 82 Cohort File</td></tr> <tr> <td>8</td><td>on FY 81 Cohort File</td></tr> <tr> <td>5</td><td>on FY 80 Cohort File</td></tr> <tr> <td>2</td><td>on FY 79 Cohort File</td></tr> <tr> <td>2</td><td>on FY 78 Cohort File</td></tr> <tr> <td>817</td><td>On DMDC FY 1974-1984 Loss File or on Master File but not on FY 1978-1984 Cohort Files</td></tr> <tr> <td>847</td><td>No DMDC matches. One reason may be a wrong Social Security Number given on the EBIS</td></tr> </table>	10	on FY 84 Cohort File	12	on FY 82 Cohort File	8	on FY 81 Cohort File	5	on FY 80 Cohort File	2	on FY 79 Cohort File	2	on FY 78 Cohort File	817	On DMDC FY 1974-1984 Loss File or on Master File but not on FY 1978-1984 Cohort Files	847	No DMDC matches. One reason may be a wrong Social Security Number given on the EBIS
10	on FY 84 Cohort File																
12	on FY 82 Cohort File																
8	on FY 81 Cohort File																
5	on FY 80 Cohort File																
2	on FY 79 Cohort File																
2	on FY 78 Cohort File																
817	On DMDC FY 1974-1984 Loss File or on Master File but not on FY 1978-1984 Cohort Files																
847	No DMDC matches. One reason may be a wrong Social Security Number given on the EBIS																
38,026	Usable active duty non-prior service recruit records on the EBIS file																
<u>- 10</u>	Non-military DIS case category codes																
38,016	EBIS recruit records used in the present study																

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