

**AMERICANS WHO SPIED AGAINST THEIR COUNTRY
SINCE WORLD WAR II**

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Preface

In the Stilwell Commission's 1985 report, *Keeping the Nation's Secrets*, concern was expressed over the increase in reported espionage cases in the 1980s and the lack of research information on espionage and personnel security that might have guided the Commission's deliberations. The Defense Personnel Security Research and Education Center (PERSEREC) was instituted to provide policy-makers with such research data. As part of a broader research agenda, PERSEREC has since constructed a database that permits analysis of espionage against the United States by its own citizens. This report details the results of that analysis.

Based on unclassified data only, the database covers the period 1945 to 1990 and consists of information on 117 spies' personal and job characteristics and on the characteristics of the espionage act itself. In addition to presenting an overall picture of the spies, the information is analyzed according to whether spies: were intercepted the first time they attempted espionage or actually transmitted information; were military or civilian; exhibited different characteristics over time, and volunteered or were recruited. In addition, motivation for espionage is examined.

The results will be of utility to Department of Defense (DoD) policy-makers in framing counterintelligence and security countermeasures and counterintelligence policy, to DoD component specialists who conduct counterintelligence and security countermeasures education, training, and security awareness programs, and also to many in government who are interested in understanding trends and themes in espionage. The research data are organized in this report at two levels of specificity: the summary of findings, and the actual research results. The latter are contained in a Technical Appendix, along with detailed tables and figures, and with footnotes containing vignettes of some of the spies' stories. In addition, the Appendix contains a description of the database variables.

Roger P. Denk
Director

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A special acknowledgment must be given to Katherine Herbig, BDM International, Inc., who initiated this project. It was she who designed the original project, began amassing the data and produced a preliminary report in February 1990. Chris Fitz, also of BDM International, Inc., conducted all the statistical analysis for the present report.

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Executive Summary

PERSEREC was asked to develop a database on all Americans involved with espionage against the United States since World War II. The goal of the project was to analyze the cases in terms of themes and trends that would further our understanding of the phenomenon of espionage. A search of open-source material found 117 individuals who were either convicted or prosecuted for espionage (or for attempting or intending to commit espionage) or for whom clear evidence of espionage existed even though they were not prosecuted. This latter category included defectors, and spies who died or committed suicide, or who were given immunity from prosecution. This unclassified study deals only with *caught* spies whose names surfaced in open-source materials. From the sources used, it is impossible to know how many more spies were caught committing espionage but were not prosecuted for various reasons, or how many have spied in the past and were not caught, or are spying at present and remain uncaught.

Three types of information were gathered: personal and job characteristics, and characteristics of the espionage itself. Analyses were conducted for the total sample of spies. In addition, four major comparisons were made: (a) spies intercepted the first time they attempted espionage vs. those who actually transmitted information; (b) military vs. civilian spies; (c) trends over the decades; and (d) spies who volunteered vs. those who were recruited by foreign intelligence or by family and friends. Apparent motivation was also examined.

Findings

1. Reported cases of espionage doubled from the 1950s to the 1970s and then doubled again in the 1980s.

This could be due to an absolute increase in espionage activity, but changes in policies within agencies responsible for investigating espionage could well have influenced the number of cases prosecuted and which, therefore, became public knowledge. The Carter administration's decision to prosecute espionage cases aggressively beginning in 1977 may be responsible for some of the increased numbers, along with improvements in counterintelligence practices.

The 1980s also saw a much higher percentage of spies who were intercepted the first time they attempted espionage. These data suggest that perhaps more people were attempting espionage and were simply inept or—equally likely—that counterintelligence has improved its procedures to such an extent that it is now able to intercept many aspiring spies.

2. The picture of espionage has changed over time in terms of motivation and volunteering vs. being recruited.

Money has become the major motive in recent years.

The number of known spies recruited by foreign intelligence decreased, while volunteering increased dramatically, especially during the 1980s.

3. The spies intercepted on their first espionage attempt were very different from those who successfully passed information.

Intercepted spies were younger, generally single, separated or divorced, and more likely to be junior enlisted military. They were also more likely to have volunteered and to have attempted espionage simply to acquire money.

Spies who successfully passed information were generally better educated, usually married, and more likely to be civilians. They were less likely to have volunteered and to have been motivated by money. Among the military, senior noncommissioned officers and warrant officers were the group who were most successful.

4. Many of the spies displayed behavior that violated the minimum security criteria as defined in government directives. Among these behaviors were excessive substance use (immoderate alcohol/illegal drug use), compulsive gambling, financial irresponsibility, and having foreign connections (e.g., close relatives).
5. Many spies operated alone, but 43% of the spies in the database acted with partners or as part of groups.

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Introduction

Background

The gathering of information by intelligence agents, especially in wartime, is an age-old strategy for gaining superiority over enemies. Intelligence officers, those individuals working for government intelligence agencies, are trained to serve their country by gathering information. This report concerns a different group—American spies who betrayed their country by providing (or attempting to provide) classified information to foreign powers. Specifically, we were concerned with American citizens who have been involved with espionage against the United States since 1945.

Our knowledge of Soviet espionage in the Cold War era began with the defection of Igor Sergeievitch Gouzenko, a cipher clerk in the Soviet Embassy in Ottawa. In September 1945 he defected to the Canadians with documents that eventually led to the arrest of Klaus Fuchs and, from there, to the apprehension of the Rosenbergs and their accomplices. The conviction of Harry Gold in 1950, the Rosenberg/Sobell trial of 1951, the perjury convictions of Alger Hiss and William Remington, and the two trials of Judith Coplon helped set the climate for Senator Joseph McCarthy's campaign to root out all Communist sympathizers in government and nongovernment arenas alike.

Only 12 American citizens were convicted of espionage during the 1950s. While the incidence of espionage convictions increased gradually during the 1960s and 1970s, it was during the 1980s that the pace of espionage against America grew to what Allen and Polmar (1988) term an espionage plague. This decade became known popularly as the decade of the spy. Ideology was supplanted by financial motivation and by other reasons such as disgruntlement, revenge, to please others, or thrills.

In 1985 the Stilwell Commission was established to investigate this 1980s espionage phenomenon. The commission was directed to review and evaluate security policies and procedures in the Department of Defense and to identify weaknesses in the Department's security programs. Among its recommendations (DoD Security Review Commission, 1985) was that research be conducted in the area of personnel security so that policy-makers could have data on which to base new policy initiatives. The Defense Personnel Security Research and Education Center (PERSEREC) was established in 1986 for this purpose.

One of PERSEREC's research efforts was to develop a database on all Americans involved with espionage against the United States since World War II. It was determined that the database should be unclassified in order to allow the widest possible dissemination of information to policy-makers and to others within the government interested in understanding trends and themes in espionage. A review of PERSEREC's preliminary work by the Assistant Deputy Under Secretary of Defense (Counterintelligence and Security) (ADUSD [CI&S]) generated a requirement in February 1991 to continue developing the database and provide documentation on findings from the data. The ADUSD (CI&S) acknowledged that the conclusions and recommendations drawn from the research would assist Department of Defense policy-makers in the protection of classified information. This report describes the results of the research project.

Review of Other Research

There has been no shortage of journalistic and biographical writing about individual American spies and their stories (e.g., Barron, 1987; Blitzer, 1989; Blum, 1987; Costello, 1988; Earley, 1988; Henderson, 1988; Kessler, 1990; Kneece, 1988; Lindsey, 1979; Nizer, 1973; Radosh & Milton, 1983; Wise, 1988). Also, several books have attempted to paint broad-brush pictures of the development of espionage in relatively recent history (e.g., Allen & Polmar, 1988; Andrew & Gordievsky, 1991; De Gramont, 1962; Kessler, 1988; Knightley, 1986; Lamphere & Shachtman, 1986; Palmer, 1977; Pincher, 1988; Seth, 1961; West, 1964). While these works provided context and illustration, they did not summarize information across cases.

Another commonly found category of writing on espionage is the compilation of case histories (e.g., Dobson & Payne, 1984; DODSI, 1990; Federal Bureau of Investigation, 1987; Maldon Institute, 1986; Naval Investigative Service Command, n.d.). Here spies and their circumstances were described as discrete cases. However, little or no attempt was made to put the cases together into an organizing framework or to compare and contrast them with each other. While there is much to learn from the individual life of the spy, this approach needs to be supplemented by aggregating information across cases to evaluate patterns and trends among spies.

Only three unclassified systematic attempts to effect some level of statistical synthesis were found. The first, produced by the Defense Intelligence Agency (Jepson, 1988), looked at 54 cases involving Department of Defense-affiliated persons convicted of espionage, of conspiracy to commit espionage, or of related unauthorized possession or passage of classified information. The cases dated from 1945 to December 1987. Jepson developed a chart comparing all the spies, listing such variables as duty assignment, age, education, marital status, years of federal service, dates of espionage, foreign intelligence agencies involved, motivation, volunteered or recruited, area of operation, payments, methods of operation, how discovered, materials compromised, and penalty. The report ended with a series of tables giving simple numerical counts for nine variables. Important findings included the fact that 63% of the spies in the study committed espionage for monetary gain; information was directed to Eastern Bloc intelligence services in 80% of the cases; all the individuals were male; 52% had high school diplomas and 19% had college degrees; 56% were married; 32% began spying before they were 26; and most were involved in espionage for only 2 years or less before being caught. For our purposes the study was limited because it covered only 54 cases, not all of which fit our definition of espionage. However, the case studies were of help in providing biographical data on the individuals and also in suggesting clues as to which variables should be included in our own database.

A second report (Crawford, 1988), produced by the U.S. Air Force Office of Special Investigations, abstracted the lives and espionage histories of 23 Air Force personnel who spied or attempted to spy since 1947. The goal was to determine if there were common characteristics which could be used by counterintelligence personnel to identify and neutralize espionage agents. Many variables were illustrated in tabular form. Among these were age when espionage began, years of federal service, foreign influence, career fields, education, and amount of money received for espionage. The author concluded that there are no absolute characteristics that could be used to profile potential spies. Like the Defense Intelligence Agency report, this study provided excellent information from the cases for inclusion in our database. Its limitation, from our perspective, was the fact that it dealt only with Air Force personnel.

The third work that attempted simple cross-case analysis was Sandia's report for the Department of Energy (Brown, 1988). The study reviewed 111 cases of espionage against the United States or its allies between 1950 and 1987. Of these, 92 were cases of American citizens prosecuted for espionage. The study examined several variables, paying detailed attention to motivation. Motivational factors were grouped into the following categories: revenge, greed, sense of adventure (ego), ideology, national pride, emotional or romantic involvement, disloyalty, entrapment and fear (blackmail, coercion). The study found a 70% rate of volunteering for espionage and the following commonalities: spies appear to be more intelligent than average, usually committed espionage for money, frequently are obsessed with espionage matters, are often involved with intelligence professions, and display serious character flaws. In the military, young people often enter the service with problems, cannot satisfy their needs because of low pay, may often be assigned to geographical regions where they might be vulnerable to recruitment, and have access to classified materials. Again, for our purposes, the study was limited, particularly as very few actual data were presented to back up the findings.

This analysis of the literature showed that previous efforts to describe the espionage population from unclassified sources were useful but limited. An unclassified, centralized database was needed that would include all publicly known cases of American espionage and would contain information on background, personal, occupational, situational and espionage-related variables. Creation of such a database would then allow analyses of these variables, resulting in a more comprehensive picture of espionage.

Methodology

Criteria for Including Cases

All American citizens allegedly involved in espionage between 1945 and 1990 for whom unclassified sources of information were available were reviewed. Sources consulted were newspaper and magazine articles, biographies of spies, general descriptive works on espionage, and other researchers' synopses of cases. Over 150 individuals were identified from these sources as potential espionage cases. Upon review of these cases, the following criteria for inclusion in the database were developed:

1. Individuals convicted of espionage or for attempting or intending to commit espionage
2. Individuals prosecuted for espionage but who committed suicide before the trial or sentencing could be completed
3. Individuals for whom clear evidence of espionage (actual or attempted) existed, even though they were not prosecuted. This category included cases involving defections, suicides, deaths, and those administratively processed (e.g., allowed to retire, given immunity, discharged from the military)¹

Cases were rejected if no clear evidence of *attempting* or *intending* to commit espionage was documented in open sources. For example, individuals with classified documents in their possession who were convicted of security violations but for whom there was no evidence of attempted or intended espionage were not included.

There are 117 individuals in the database. They include individuals with and without security clearances, and employed and unemployed people. The employed group include people in government service, military officers and enlisted personnel, civilian contractors, and others working in a variety of nongovernment-related jobs. Data are current as of June 1991. As new cases emerge, they will be added to the database.

Variable Selection and Coding

Three categories of information were gathered: personal, job and espionage characteristics. Within these categories, variables were selected that might be available from open sources and would provide a rich array of background data on spies. Included were personal and demographic information, aspects of the spies' job environment, their access to classified information, how they first got involved with espionage, and how their careers as spies evolved and ended. Information on whether they volunteered or were recruited (and by whom) was collected, as were their motivations for committing espionage.

Variables in the database that are subject to change over time were coded according to status at the time when espionage began. For example, marital status was coded according to whether people were married, separated, divorced or single when they started spying.

A list of the 56 variables documented in this study, and how they were coded in the database, appears at the end of the Technical Appendix. Some variables were included for identifying and

¹ All the administratively processed cases are represented in the database by pseudonyms, except for Ruth Greenglass whose name is so well known. Mrs. Greenglass was given immunity.

documentary purposes only and were not used for analysis. Some were qualifying descriptors for other variables, e.g., *foreign relative qualifier* provides details about the previous variable, *foreign relative*, which is just coded Yes, No or Unknown.

For most of the variables data are available for at least 110 of the 117 spies; the actual numbers are shown in Table 1 in the Findings. There are four variables for which there may be a greater amount of missing data and for which our confidence in their accuracy is lower because of the difficulty of obtaining information from open-source literature. These are *immoderate alcohol/illegal drug use*, *foreign relatives*, *sexual preference* and *payment received*.

Individuals were only coded as being involved with immoderate substance use and as having foreign relatives if there was definitive information from open sources; it is possible that there were more spies who would have been placed into those categories but for whom data were missing.

On the variable *sexual preference*, certain rules were applied. Individuals were coded as heterosexual if they were married, divorced or separated, or were single and interested in heterosexual relations. Individuals were put into an Unknown category if they were single and there was no evidence of either heterosexual or homosexual relationships. In cases where homosexuality was alleged, the individual was coded as Unknown.

For the variable *payment received*, it is extremely difficult, if not impossible, to know precisely how much a spy was paid. In many cases the amounts reported in open sources only reflect the U.S. government's best guess as to the amount received based largely on what could be proved in a court of law. The period of time covered by this report is 45 years and the value of the dollar has changed radically during that period. While it would be technically possible to convert all amounts received to current dollars, this would only compound the inaccuracy. Accordingly, monies supposedly received are reported in the original dollar amounts and then arranged into broad groups.

Limitations of the Study

Several points must be kept in mind when reviewing the analyses in this report.

This unclassified study deals only with *caught* spies whose names surfaced in open-source materials. From the sources used, it is impossible to know how many more spies were caught committing espionage but were not prosecuted for various reasons, or how many have spied in the past and were not caught, or are spying at present and remain uncaught.

The variables in this database describe only one part of the picture of caught spies. No background and clinical data were collected, such as psychological characteristics, value systems, family and socio-economic background, and later-life experiences. To acquire these kinds of data would involve a research study far beyond the scope of this project, including extensive clinical interviews and testing of individual spies.

Analyses

In conducting the data analyses, frequencies were first calculated for each of the personal, job and espionage characteristics. Next, each variable was explored in relation to the following four major areas of espionage interest:

1. Whether spies differed according to the length of their espionage career. This variable was coded into: (a) the first espionage attempt was intercepted, (b) espionage lasted less than 1 year, (c) espionage lasted 1-4.9 years, and (d) espionage lasted for 5 years or more. People in the latter three categories were termed *successful* spies in that they did successfully pass some information.
2. Whether there were differences between military and civilian spies.²
3. Whether spies exhibited different characteristics over time. Time was coded into the decades during which an espionage career *began*: (a) the *half-decade* 1945-1949,³ (b) 1950-1959, (c) 1960-1969, (d) 1970-1979 and (e) 1980 to present.⁴
4. How the spies were drawn into espionage: coded into (a) volunteers, (b) those recruited by family or friends, and (c) those recruited by foreign intelligence.

² Throughout this report, military is defined as *uniformed* military.

³ The database being designed to investigate espionage from the end of World war II, the half-decade 1945-1949 was selected as the starting point.

⁴ There is the possibility that spies will be discovered in the future who initiated their espionage in previous decades; the more recent the decade, the higher the probability. However, unless a large number of spies are uncovered the fundamental findings of this study will not change.

Findings

The six tables in this section provide a synopsis of the research results. The information is displayed as summary data rather than as absolute differences; the raw data are contained in the Technical Appendix. Table 1 here summarizes data for the total sample of spies. Each of the next four tables focuses on one major area of espionage interest (length of espionage, whether spies were military or civilian, trends over the decades, and whether spies volunteered or were recruited). The tables cross-reference the findings to the corresponding tables and figures in the Technical Appendix. Table 6 provides data on motivation over and above that contained in Tables 1 through 5.

The Technical Appendix presents the data variable by variable, providing a detailed compendium of information about many aspects of espionage. The Appendix is illustrated with footnotes containing descriptions of the lives and espionage careers of some of the spies. It also includes a discussion of the number of spies active in any given year, espionage pairs and groups and the role of families and spouses.

Summary of Characteristics of Spies at the Time Espionage Began

Table 1 shows that spies were predominantly male (108). They were also predominantly white (108), with minorities represented by seven blacks, one Asian-American and one American Indian. Thirty-five individuals were intercepted in their first effort to spy while 82 successfully passed at least some information: 20 for less than one year, 35 for 1-5 years, and 27 for more than 5 years. The numbers of individuals initiating espionage increased steadily over the decades and then doubled from 24 in the 1970s to 48 in the 1980s.

All the spies were American citizens, in accordance with the criteria for inclusion in the database; however, 15 were naturalized. While most (73) of the spies were volunteers, 17 were recruited by family or friends and 26 by foreign intelligence. Most individuals started their espionage at a young age (median age = 28.5). However, there was an extensive range—from 18 to 69. The largest number of spies (45) had just a high school education although there were 10 who had not completed high school. A considerable number (23) had at least some college, were college graduates (23) or had postgraduate education (13), including two with doctorates.

When they began espionage, 65 spies were married, 39 single and 11 separated or divorced. Of the 92 for whom sexual preference could be inferred, 86 were heterosexual and six were homosexual. For 25, sexual preference was unknown. Thirty-nine spies were known to have used alcohol immoderately or to have taken illegal drugs. Forty-one had foreign relatives.

Table 1. Characteristics of Spies

Characteristics	N cases with data	Appendix	
		Table	Figure
Gender	Male (108), female (9)		
Race	White (108), Black (7), other (2)		
Length of espionage (yrs)	Intercepted 05), < 1 (20), 1-5 (35), > 5 (27)	1	
Decade	40s (14), 50s (12), 60s (19), 70s (24), 80s (48)	3	
Citizenship	All U.S. (naturalized, 15)		
Volunteers/ recruits	Volunteers (73), family/friends (17), foreign intelligence service (26)	6	
Age (yrs)	Median (28.5), range (18 to 69)	9	
Education (yrs)	10 (10), 12 (45), 14 (23), 16 (23), 18 (13)	14	
Marital status	Married (65), single (39), separated/divorced (11)		
Sexual preference	Heterosexuals (86), homosexuals (6), unknown (25)		
Immoderate alcohol/illegal drug use	Alcohol (16), drugs (14), alcohol/drugs (9)	39	
Foreign relatives	Yes (41), no (25)	66	
Military/Civilian	Military (61), civilian (56)	117	
Agencies	Navy (33), Army (22), AF (21), DoD contractors (8), CIA (7), Manhattan Project (6), NSA (5), Marine Corps (4), others (7)	113	5
Occupation	Commun/intel (35), gen/tech (30), scientific/professional (24), support (18), other (9)	116	23
Post-employment	Some continued or started after job	117	28
Security clearance	Top secret (50), confid/secret (30), none (30)	110	
Military rank	E1-E3 (13), E4-E6 (30), E7-WO (11), officer (6)	60	
Where espionage began	U.S. (76), foreign (35)	111	34
Foreign country espionage began	W. Germany (14), U.K. (4), Austria (3)	35	35
Countries receiving information	USSR (83), E. Germany (7), Poland (4), Hungary (3), Czech (2). Also friendly nations.	117	38
Payment received	None (47), \$50-1 0K (21), 1 0K-1 00K (1 7), 1 00K+ (1 0)	95	8
Length of sentence (yrs)	0 (20), 1-9 (39), 10-19 (19), 20-40 (22), life (13), death (2)	115	39
Motivation (Primary)	Money (60), ideology (21), disgruntle/revenge (17), ingratiating (10), coercion (4), thrills (3)	115	42

There were 61 military and 56 civilian spies. For those in the military the largest number (30) came from the E4-E6 ranks. There were also 13 younger enlisted personnel (E1-E3s), 11 older E7s or warrant officers, and 6 officers.

The cases were distributed through many agencies, some of which employed both military and civilian workers, with the largest numbers coming from the Navy (33), followed by the Army (22) and the Air Force (21). There were also eight spies employed by DoD contractors, seven with the Central Intelligence Agency, five from the National Security Agency, six associated with the Manhattan Project in the 1940s, four from the Marine Corps, and seven from other agencies.

The occupational areas in which spies were working at the time they began espionage were Communications/Intelligence (35), General/Technical (30), Scientific/Professional (24) and Functional Support/Administration (18) fields.⁵ While most began and ended their espionage while working for the same agency, 26 spies either continued after leaving their place of employment or actually began spying after they had left their primary jobs, sometimes by defecting. The greatest number (50) had top secret clearances, although there were 30 with only confidential/secret clearances and another 30 with no clearances at all; the latter group acquired access to classified materials by various means, such as using go-betweens.

Seventy-six spies began their espionage in the United States compared to 35 abroad. If cases started abroad, the largest number began in West Germany (14), followed by the United Kingdom (4), Austria (3) and other nations (10). Information was meant for Eastern Bloc countries in 99 of the cases (USSR, East Germany, Poland, Hungary, and Czechoslovakia) and for other hostile nations in another four instances. Friendly or neutral nations were the targets for nine of the spies.

Information is available on the amount of money received for espionage for 95 of the spies. Almost half of these (47) received nothing, because they were discovered before they could be paid or because they acted from nonmercenary motives. Other spies were paid handsomely. For example, 17 received between \$10,000 and \$100,000, another seven between \$100,000 and \$1,000,000, and three were paid more than \$1,000,000.

The penalties for espionage have ranged from very short sentences, to life and multiple life, to execution. Just over half the spies (59) received either no sentence (20) or less than 10 years (39). There were 13 cases in which life sentences were given, some of which were multiple life.

Money was the most common primary motive (60 cases), followed by ideology (21), disgruntlement/revenge (17), ingratiating (spying in order to please or help someone) (10), coercion (blackmail by foreign intelligence) (4), and thrills/self-importance (3).

⁵ Communications/Intelligence: intelligence officer, radioman, cryptographer, radar/sonar/signal intelligence, communications analyst, translator
General/Technical: military instructor, driver, crewman, repairman, food service worker, guard, laboratory technician
Functional Support/Administration: personnel specialist, clerk, accountant, computer specialist, secretary, administrative assistant, messenger
Scientific/Professional: engineer, mathematician, political/economic analyst, chemist, military officer
Other: unemployed, student, businessman, retired

Summary of Data on Four Major Areas of Espionage Interest

The following four tables summarize differences among groups of spies.

Length of Espionage

In Table 2, length of espionage has been compressed into two categories: those 35 spies who were intercepted on their first attempt to commit espionage and the 82 who were successful in transmitting information.⁶

We will discuss the major characteristics of the two groups in turn. Where percentages are presented in Table 2, they represent the proportion of those individuals who, for a given variable, (a) were intercepted or (b) transmitted information. For example, of those intercepted, 70% were single, separated or divorced; of those who transmitted information, 67% were married. Some of the percentages have been specially calculated for inclusion in this table and will not be displayed directly in the Appendix tables.

Intercepted on First Attempt. This group of individuals were all white males, were mostly young (median age = 23), and had a high school education or slightly more (median years = 12). A high percentage were single, separated or divorced (70) when espionage was attempted. For those on whom we have information, almost half (49%) used alcohol immoderately and/or had taken illegal drugs, and 17% had foreign relatives.

Table 2. Comparison of Spies Who Were Intercepted Before They Could Transmit Information and Those Who Successfully Transmitted Information*

Characteristics	Intercepted	Transmitted Information	Appendix	
			Table	Figure
Number	35	82	1	
Gender	Males only	All 9 females		
Race	Whites only	All 9 non-whites		
Age (yrs)	Median = 23	Median = 31	10	
Education (yrs)	Median = 12	Median = 14	15	
Marital status	Single/separated/divorced (70%)	Married (67%)	16	
Immoderate alcohol / illegal drug use	49%	27%		
Foreign relatives	17%	44%	18	
Agencies	Military	Intelligence, others		5
Military agency	Dept. of Navy	Army, Air Force	20	
Military/civilian	Military (71%)	Civilian (56%)	2	
Military rank	Junior	Senior	30	
Security clearance	Confidential/secret	Top secret, or none		6
Occupation	General/technical	Communications/intelligence scientific/professional	24	
Where espionage began	U.S. locations	Foreign countries	36	
Volunteers/recruits	Volunteer	Recruited	4, 6	1
Decade	80s	No difference	4	
Motivation	Money	Ideology, money	42, 43	
Length of sentence	Shorter	Longer	40	

Note: Some of the entries in this table must be interpreted as *summary data* rather than absolute differences. For example, in discussing motivation, the entry *money* under Column 2 and

⁶ The tables in the Appendix contain a more detailed analysis of those who successfully transmitted information by the length of the espionage: (a) less than 1 year, (b) 1-4.9 years, and (c) 5 years or more.

ideology under Column 3 means that *in general* individuals who spied for money were more frequently intercepted before they could transmit information than those who spied for ideology.

*For this table, length of espionage has been compressed into two categories, those who were intercepted on their first attempt to commit espionage and those who were successful in transmitting information.

Those intercepted came almost entirely from the military agencies (33 of the 35), as compared to the intelligence community, DoD contractors and others. Within military agencies, 23 of the 33 intercepted were from the Department of the Navy (including both military and civilians). A large percentage (71) were actually uniformed personnel. The relationship between rank in military and being intercepted before being able to provide information is clear: 10 of the 13 E1-E3s were caught immediately compared to 13 of the 30 E4-E6s, and none of the 11 E7-warrant officers.

Of the 34 intercepted spies for whom clearance information is available, 10 had no clearance at all, 16 had confidential or secret clearances and 8 had top secret. Those with confidential or secret clearances represented only 15% of the 110 spies on whom we have clearance information but 47% of those intercepted. The General/Technical area contained the largest percentage of those intercepted (18 of 35) (51%) even though only 26% of the spies were working in this area.

A large number of intercepted spies began their espionage in the United States (28 out of the 35). Volunteers were intercepted to a much greater extent than those who had been recruited. While volunteers make up 63% of all the spies, 91% of those intercepted were volunteers. Given the increase in volunteering in the 1980s, it is consistent that of the 35 intercepted spies, 28 were caught in the 1980s.

Money motivation (either by itself or part of a multiple motivation) involved 52% of all the spies but 72% of those intercepted. There is no direct relationship between length of sentence and length of espionage, although sentences tended to be shorter for those who did not provide information.

Transmitted Information. The 82 individuals who successfully passed information consisted of males and females, whites, blacks, and other racial groups. Compared to those who were intercepted, they were generally older (median age = 31) and better educated (median years = 14). They were also more likely to be married (67%). They showed a lower incidence of immoderate alcohol or illegal drug use (27%), but a much higher percentage had foreign relatives (44).

There was a tendency for those working in intelligence agencies to have longer espionage careers, although there were successful spies from all agencies. Similarly, civilians were more successful (56% of those who transmitted information). The longer-term military spies were more likely to have been in the Army or Air Force. In fact, 20 out of the 23 Army spies transmitted information as did 14 of the 21 Air Force spies. Of those in uniform the most successful were the E7-warrant officers, all 11 passing information.

The largest number of successful spies held top secret clearances (42), although there were 20 without clearances. The Communications/Intelligence (27) and Scientific/Professional (22) areas contributed the greatest number of this group.

Of the 35 spies who started their espionage abroad, 30 successfully transmitted information. This rate of 85% is far higher than the 63% success rate for spies who began spying in the United States. Those who were recruited, either by family or friends or by foreign intelligence, were far more successful than volunteers; 40 of the 43 recruits transmitted information. The absolute number of successful spies detected did not vary greatly across decades.

Those who spied for ideology and ingratiation tended to be successful. While many motivated by money were caught the first time they attempted espionage, several pursued extensive espionage careers. Most successful spies received fairly long sentences, and several received multiple life terms. Two were executed, some defected, others were traded, and still others died or committed suicide prior to sentencing.

Military and Civilian Spies

Table 3 contains a comparison of the 61 military and 56 civilian spies. We will discuss the major characteristics of each of these groups in turn. Where percentages are presented in Table 3, they represent the proportion of those individuals who, for a given variable, were (a) military or (b) civilian. For example, among the military 73% were volunteers; among civilians 52%.

Military Spies. All military spies were male and they were relatively young, with a median age of 25. Their median level of education was high school. Forty-one percent of military personnel were intercepted the first time they attempted espionage. As we have already noted, junior military were frequently intercepted whereas senior NCOs were more successful.

Military spies were serving most often in Communications/Intelligence or General/Technical fields. A larger proportion of military personnel held security clearances, particularly at the confidential/secret levels. Volunteering was the primary recruiting source (73%). Of the 35 spies who began espionage in foreign countries 26 were in the military. Detected espionage by military personnel surged in the 1980s, accounting for 46% of all military spies.

Table 3. Characteristics of Military and Civilian Spies

Characteristics	Military	Civilian	Appendix Table
Number	61	56	
Gender	All males	Males and females	
Age (yrs)	Median = 25	Median = 33	11
Education (yrs)	Median = 12	Median = 15	
Length of espionage	Shorter (41 % intercepted)	Longer (18% intercepted)	2
Military rank	Senior more successful		
Occupation	Communications/intelligence/ general/technical	Scientific/professional communications/intelligence	25
Security clearance	More confidential/secret No difference for top secret	More with no clearance	
Volunteers/recruits	73% volunteers	52% volunteers	7
Where espionage began	Foreign countries	U.S. locations	34
Decade	80s	40s & 80s	5
Motivation	Money	Multiple, including more ideology, less money	44
Marital status	No practical difference		
Immoderate alcohol/ illegal drug use	No practical difference		
Length of sentence	No practical difference		41

Note: Entries in this table must be interpreted as *summary data* rather than absolute differences.

Sixty-eight percent of military spies were motivated by money, the other major motive being disgruntlement/revenge. There were no differences between military and civilian personnel in terms of marital status, immoderate alcohol or drug use, and length of sentencing.

Civilian Spies. Civilian spies included 47 men and 9 women. They were older (median age = 33) and had more education (median years = 15) than their military counterparts. Only 18% of this group were intercepted the first time they attempted espionage.

The largest percentage of civilians were serving as scientists and professionals (36), although, as with the military, a sizable percentage (23) were in the Communications/ Intelligence field. There was a larger proportion of civilians than military who spied without holding a security clearance. The percentage of civilians who were volunteers (52) was much lower than the military volunteers (73). A considerably higher percentage of civilians (21) were recruited by family and friends than military (8). Most civilians started their career while in the continental United States.

Civilian espionage was quite prevalent in the half-decade 1945-1949, less so in the 1950s and 1960s, and increased again in the 1970s and 1980s. Money motivated 38% of civilians, a considerably lower percentage than the military. Ideology was the second highest motive (24%), followed by ingratiation (15%) and disgruntlement/revenge (14%).

Trends Over the Decades

Table 4 contains information on espionage trends over the decades. Reported cases of espionage doubled from 12 in the 1950s to 24 in the 1970s and then doubled again to 48 in the 1980s. While the frequency of espionage quadrupled from the 1950s to the 1980s, the number of spies who actually transmitted information only doubled, from 10 in the 1950s to 20 in the 1980s. This phenomenon was caused by the much higher number of would-be spies who in the 1980s were intercepted before they could pass any information.

Spies were youngest in the half-decade 1945-1949 (median age = 27) and 1980s (median age = 24). There was not much change in education level over time, although the 1940s spies associated with the Manhattan Project were highly educated. Their wives were involved in the spying, resulting in the 1940s having a high percentage of female spies. An increasing number of cases involved single and separated individuals (3 in the 1940s, 9 in the 1970s, and 29 in the 1980s).⁷ The number of individuals using alcohol or drugs increased from 1 in the 1940s to 8 in the 1970s, and 23 in the 1980s. The percentage of people with foreign relatives went down over time (71 in the 1940s to 15 in the 1980s), although the actual numbers have not varied greatly. In the 1980s spies have increasingly been working in Communications/Intelligence (12 of 48) and Functional Support/Administration (20 of 48) fields.

⁷ Such matters as increasing substance use and the rising number of single or separated individuals among the spies may well mirror trends in the wider society and not be unique to people who commit espionage. However, for the purposes of the present report, no attempt was made to draw statistical comparisons between certain characteristics of spies and those of the general public. A longitudinal study of this nature poses methodological difficulties, especially given lack of data from the early cases. Comparison of a few variables is, however, an appropriate subject for future research.

Table 4. Trends over the Decades in the Characteristics of Spies

Characteristics	Trends	Table	Figure
Overall	Doubled from 1950s to 1970s Doubled again from 1970s to 1980s	3	
Length of espionage	Increasing % transmitting information Increasing % being intercepted	4	
Age	Younger in 40s, older in 50s. 60s and 70s, Younger in 80s	12	
Education	Earliest spies highly educated		
Gender	Highest % women in 40s		
Marital status	Single & separated in 80s		2
Immoderate alcohol/illegal drug use	Increasing		
Foreign relatives	Decreasing		4
Occupation	Increasing in Communications/intelligence and Functional support/administration	26	
Military agency	Earliest cases in Army and Air Force; increase in Navy cases in 80s	21	
Where espionage began	Overseas constant; increase in domestic, especially West Coast and areas other than East Coast	37	
Military/civilian	Increasing % of civilians since 1950s Increasing % of military in 1980s	5	
Military rank	Increasing number of junior personnel		
Volunteers/recruits	Increasing % of volunteers, decreasing % of foreign intelligence recruits	8	
Motivation	Increasing % for money; also increasing ingratiation and thrills in 70s and 80s	45	
Length of sentence	No practical difference		

Note: Entries in this table must be interpreted as *summary data* rather than absolute differences.

Within military agencies, Army and Air Force cases predominated in the earlier decades while the 1980s spies came mainly from the Navy. The number of cases starting overseas have remained relatively constant. Early espionage cases in the United States began primarily on the East Coast but expanded later to the West Coast and other domestic locations.

The number of civilian espionage cases have increased steadily, after the 12 cases in the 1940s associated with the Manhattan Project, from 2 in the 1950s to 20 in the 1980s, Military cases remained relatively steady throughout the 1950s, 1960s and 1970s (10, 12, and 9 respectively) and then increased to 28 in the 1980s. The number of volunteers has increased, from 5 in the 1940s to 38 in the 1980s, particularly among the junior military. Of the total 26 spies recruited by foreign intelligence, 17 were recruited before 1970. Eight of the 12 1950s spies (75%) were recruited by foreign intelligence compared to only 4 of the 48 1980s spies (8%).

Motivation has changed greatly, from primarily ideological in the 1940s to a money orientation. Seventeen of the 24 spies in the 1970s were motivated at least in part by money; by the 1980s this had jumped to 42 out of 48. Those who spied to please someone doubled from four in the 1970s to eight in the 1980s, and thrills/self-importance also increased in the same time period.

The Carter administration decision to prosecute espionage cases aggressively may be partially responsible for the huge increase in known espionage incidents in the 1980s. Previously, concern for protection of sources and methods often led to decisions not to prosecute detected offenders. Such changes in philosophy and practice will influence the number of cases prosecuted and, hence, the findings of this study.

Volunteer and Recruited Spies

Table 5 presents information on three groups of spies: (a) volunteers; (b) those recruited by family or friends, and (c) those recruited by foreign intelligence. Some of the percentages in this table have been specially calculated for the purposes of the table and will not be displayed directly in the Appendix tables.

Volunteers. The largest group of spies were volunteers (73). They were young (median age = 27), had slightly more than a high school education (median years = 13), and two were women. Five of the six homosexual spies in the database were volunteers, but made up only 7% of this volunteer group. The highest proportion of volunteers were working on the East Coast (27 out of 69) although there were 16 who volunteered while stationed in foreign countries. These spies were working predominantly in Communications/Intelligence or General/Technical fields (50 out of 73).

Table 5. Characteristics of Volunteer and Recruited Spies

Characteristics	Volunteers	Recruited by Family or Friends	Recruited by Foreign Intelligence	Table	Figure
Number	73	17	26		
Gender		Higher female			
Age (yrs)	Median = 27	Median = 27	Median = 32	13	
Education (yrs)	Median = 13	Median = 15	Median = 14		
Marital status			Married		3
Sexual preference: homosexuals	5	1	None		
Where espionage began	East coast	East coast	Foreign countries		7
Occupation	Comm/intell/gen tech	Scientific/Professional	Scientific/professional	27	
Military/civilian	Military	Civilian	Both	7	
Military rank	E1-E6		E7-WO & officers	31	
Military agency	Navy, AF		Army	22	
Naturalized	7%	12%	27%	17	
Foreign relatives	26%	35%	58%		
Length of espionage	44% intercepted shorter career	12% intercepted longer career	4% intercepted longer career		1
Decade	80s	40s, then 80s	Small decrease since 50s	8	1
Motivation	Money, disgruntlement / revenge	Ingratiation	Ideology, money	46	9
Length of sentence	Little difference				
Immoderate alcohol /illegal drug use	No practical difference				
Security clearance	No practical difference				

Note: Entries in this table must be interpreted as *summary data* rather than absolute differences.

Almost three quarters of the military spies were volunteers (44 out of 60) compared to about half the civilians (29 out of 56). Military personnel tended to come from the junior ranks (34 out of 43 were E-6 and below.) Volunteers were more likely to have been working for Navy or Air Force agencies. Only a small percentage (7) of volunteers were naturalized citizens. However, 26% had foreign relatives.

A much higher percentage of volunteers were intercepted before they could pass information (44); those who were successful had generally shorter careers than the recruits. Volunteering was highest in the 1980s (5 in the 1940s compared with 38 in the 1980s). Major motivators were money and disgruntlement/revenge.

Recruited by Family or Friends. The relatively small number of individuals recruited by family or friends (17) included five women, a higher number than for volunteers. Median age was the same as for volunteers but the median education (15 years) was higher. The most active location was the East Coast (8 of 15). The group contained a high percentage of scientists and professionals (35) and civilians (71).

Only 12% of this group were intercepted prior to passing information and they tended to have longer careers than volunteers. The most active decades were the 1940s and 1980s. As would be anticipated, ingratiating (42%) was the primary espionage motivator followed by money (29%) and ideology (25%).

Recruited by Foreign Intelligence. The median age (32) of the 26 individuals recruited by foreign intelligence was much higher than that for volunteers or those recruited by family or friends, as was the percentage who were married (78), and who started their espionage abroad (58). The largest percentage of these recruits were scientists and professionals (42). There were slightly more civilians than military in this group; if in the military, they tended to be senior enlisted or officers, and more often in the Army (11 of 23).

Half of all the 14 naturalized spies were recruited by foreign intelligence as were 15 of the 40 spies with foreign relatives. Of those recruited by foreign intelligence, therefore, 27% were naturalized and 58% had foreign relatives. Only a small percentage were detected in their first effort to pass information (4), and they were more likely to have had longer careers than volunteers and than spies recruited by family and friends. The number of identified spies recruited by foreign intelligence has decreased slightly each decade since the 1950s. The most common motives for these recruits were money (45%) and ideology (23%).

Motivation for Espionage

Motivation was coded according to the person's presumed motivation at the time espionage began. Table 6 shows the six categories into which the spies' motivations fell: money, ideology, disgruntlement/revenge, ingratiating, coercion, and thrills/self-importance. Motives were found alone or, in the case of 34 spies, in combination with other motives.

Table 6. Motivation for Espionage

Motivations Type	Primary Motive (%)		Appendix Table
Money	52	Higher among military and volunteers	44,46
		Increased dramatically in 80s	45
		61% of spies committed espionage for greed	
Ideology	18	Has decreased since 40s	45
		Higher among civilians	44
		Despite small numbers, generally have longer careers	43
Disgruntlement /Revenge	15	None in 40s, increased since then	45
		Primarily volunteers	46
Ingratiation	9	Mostly 70s and 80s	45
		Generally successful	43
		Mainly recruited by family/friends	46
Coercion	4	Coerced by foreign intelligence	46
Thrills/Self-Importance	3	Mostly in 70s and 80s	45

Money

For over half the spies money was the primary reason for espionage, and money also appeared frequently in combination with other motives. Money as a motive was most prevalent among military personnel and volunteers. The motive also increased in the 1980s. Whereas about half the spies were motivated to some extent by money in each decade from the 1950s through the 1970s, by the 1980s money had increased as a motive for 69% of the spies.

This motivation may have reflected a person's need for money (for example, to pay off debts), or simple greed, or some combination of both. Among the 78 individuals motivated by money, 16 spied because they had debts, 57 for greed, and 5 for a combination of debts and greed. At least 10 spies were frequent gamblers.

A second analysis of motivations was conducted: motives that changed over the course of espionage. Nine longer-term spies did in fact change their motives, in all cases in the direction of money. Thus, even where money was not the primary motive at the start of spying, once individuals became involved with espionage they expected to be paid for their work. Sixty-two out of the 115 spies for whom information is available were motivated at least partially by greed (53%). With the additional nine spies who later wanted money, a total of 71 spies finally committed espionage for greed (61%), which is close to Brown's result of 66% (Brown, 1988, p. 10).

Ideology

Ideology was the dominant motive in the 1940s (12 cases); there have only been nine cases since then. Civilians were far more likely than the military (19 vs. 2) to have started spying for ideological reasons. However, despite their small numbers, ideological spies remain a considerable threat since they generally have longer careers.

Disgruntlement/Revenge

Disgruntlement/revenge did not appear in the 1940s. It has become more prevalent in recent years and has been a primary motive in 15% of the cases. It has taken many different forms: disenchantment, extreme unhappiness with people and jobs, bitterness, frustration, disillusionment, and alienation.

While it is hard to anticipate to what extent disgruntlement will be a motive in the future, Crawford and Wiskoff (1988) point to one pool of individuals who might commit espionage for this reason. These are young enlisted personnel, with top secret or SCI access, discharged for unsuitability, who might seek revenge by trying to sell their newly acquired knowledge.

Although individuals who spied because they were disgruntled were primarily volunteers (17 out of 21), there have been three cases where disgruntled people were recruited by foreign intelligence.

Ingratiation

Ingratiation includes people who spied to help or please someone. It was the primary motive for 10 cases and the secondary motive for six.

Spies who committed espionage to please others tended to be successful (13 vs. 3 who failed). Twelve of the 16 ingratiation cases occurred after 1970. Ten cases were the result of recruitment by family or friends or foreign intelligence, and six volunteered.

In some instances individuals were drawn into espionage because of foreign relatives. In many ways, ingratiation is related to how spies perform their espionage in conjunction with other people, whether family, friends, associates, or intermediaries.

Coercion

Four spies in this database were coerced into espionage by foreign intelligence. Two were early spies (they began spying in 1953 and 1961 respectively), stationed in different embassies in Europe. The others were 1970s cases, one a former Soviet national working for the American military in West Germany and the other an American Air Force intelligence specialist; in both these cases the safety of loved ones was threatened.

Thrills/Self-importance

Only three spies committed espionage *solely* for thrills or to make themselves feel important; for some seven spies this motive appeared in combination with other, primary motives. The motive occurred among both military and civilian spies alike, and it is a comparatively recent phenomenon, 8 of the 10 cases having occurred in the last 20 years.

Implications

This section discusses implications of the research findings for counterintelligence and security countermeasures. The approach of this study was that there is no typical spy and, therefore, no set of characteristics that could be used to profile a spy. Instead, information on personal, job and espionage characteristics of spies was examined in the light of major categories of interest to personnel security and counterintelligence (intercepted vs. successful, military vs. civilian, trends over time, volunteers vs. recruits, and motivation). Rather than producing a profile, the data lead to a broader understanding of spies in the context of these categories.

The 1980s, so often called the decade of the spy, produced many young would-be spies who volunteered to commit espionage in exchange for money. The 1980s might well also be dubbed the decade of the *intercepted spy*, for 28 out of 48 spies (58%) during that 10-year period were intercepted the first time they tried to commit espionage. Even more impressive is the fact that of all the 35 spies intercepted since World War II, 28 were caught in the 1980s (Table 4, Technical Appendix).

The findings of this study could be used by the counterintelligence and security countermeasures communities as a starting point for estimating whether the techniques and technologies that caught spies in the 1980s will continue to serve successfully in the future. Despite the fact that many spies were intercepted before they could pass any information, inestimable damage was caused by such groups as the Walkers, Conrad and his cohorts, and other individuals such as Pelton and Chin. A continuing concern for supervisors and counterintelligence and security countermeasures personnel is the success and relative longevity of the careers of some of the volunteers and those recruited by foreign intelligence and by family or friends. This would suggest the need for a tighter scrutiny of long-standing employees by supervisors and security countermeasures personnel as well as additional security countermeasures.

Violation of Personnel Security Criteria

Data have been presented that show that many of the spies displayed behavior that violated the criteria for being granted and for maintaining clearance and access eligibility. These criteria are contained in Department of Defense Regulation 5200.2-R (DoD Personnel Security Program Regulation) and the Director of Central Intelligence Directive No. 1/14 (Minimum Personnel Security Standards and Procedures Governing Eligibility for Access to Sensitive Compartmental Information). Among these attributes were immoderate alcohol/illegal drug use, financial irresponsibility, nonconforming sexual behavior, and having foreign connections that might compromise a person. In certain instances these behaviors were directly related to the spies' espionage activities.

In addition, our findings that young spies in the 1980s tended to have financial and drug problems parallel those of a recent PERSEREC report by Wiskoff and Fitz (1991) on derogatory information uncovered during recent personnel security investigations. The researchers found pervasive drug and financial issues among young applicants for security clearances. Thus, Wiskoff and Fitz, like the present study, reaffirm the validity of some of these personnel security criteria.

Personnel Security Systems

The study findings have certain implications for the personnel security systems that protect the nation's secrets.

Granting Clearances

Screening is the first barrier in the system to disqualify people not meeting the criteria for clearances. Our data indicate that screening is definitely needed, particularly for certain subgroups from which spies are likely to come, such as young military personnel. It is essential that young military applicants continue to be carefully evaluated on all the criteria listed in the 5200.2-R and the Director of Central Intelligence Directive 1/14. This is especially true for financial matters, since other PERSEREC research indicates that finances are a constant problem among junior military personnel and, as the espionage database shows, debt and greed create serious temptations.

Most of the screening resources are devoted to those applying for top secret or higher access. Yet our database contained 30 spies who possessed no higher than confidential or secret clearances. Among these were spies, such as William Bell and Ruby Schuler, who caused considerable damage to the United States. While it is not practical to devote the same amount of resources to screening for lower- and higher-level clearances, at a minimum a comprehensive financial screening for confidential/ secret clearances should be established. For a relatively low investment, expanded automated credit checks could help identify some young people at risk.

Continuing Evaluation

Counterintelligence has been quite successful in recent years in intercepting the budding espionage careers of young, junior-rank individuals. However, the greater risk comes not from this group while they are young but from those who have held positions of trust for some years. These successful spies are generally older, better educated, married, have been on their jobs longer and, if in the military, senior enlisted personnel. Despite these risks, the security system invests most heavily at the *screening* stage and not on continuing evaluation.

Recently completed research examining continuing evaluation programs in the military services (Bosshardt, DuBois, & Crawford, 1991a, 1991b; Bosshardt, DuBois, Crawford & McGuire, 1991) has shown that current continuing evaluation programs are moderately effective. However, the research also indicates the need for improved programs to identify cleared individuals with significant personnel security problems as a means of reducing the probability of espionage.

Another research finding was the number of people who continued or who actually began espionage after leaving the job that provided them access (Table 28, Technical Appendix). While it may be difficult to monitor individuals once they leave an agency, financial checks could at least be conducted for some period, especially for those who had access to highly sensitive information. The question is whether there should be continued surveillance after individuals leave sensitive positions and whether techniques, such as financial checks, could identify individuals at risk for espionage.

In many instances spies could have been identified earlier if more systematic continuing assessment procedures had been in place. This would suggest reassessing the allocation of resources between screening and continuing assessment or at least of establishing a system of priorities for continuing evaluation.

Security Awareness

The press and the public have probably become indifferent to espionage as it plays out at the national level. Only sensational espionage cases appear to receive heavy media attention nowadays. For example, Sergeant Anzalone's 1991 conviction for attempted espionage was not given high visibility in the media. Yet, in daily work, awareness of security requirements has in the past led coworkers to report inappropriate behavior; and this in turn has resulted in the apprehension of several spies.

At the level of the workplace, information concerning past espionage such as is contained in this report and in other classified sources, could have utility in assisting security personnel promote greater security awareness. Knowledge of the findings about spies and the consequences of espionage could help people understand better the risks and punishments associated with espionage.

Position Vulnerability Assessment

This research provides support for the concept that much of the risk of espionage is associated with the type and location of the job a person fills. The espionage data show that there are indeed differential risks of espionage associated with overseas assignments, types of occupation, and rank. In the past, primary attention was given to the qualities of *individuals* that might make them susceptible to espionage. Jobs themselves carry their own vulnerabilities; some are more sensitive than others. For example, in the aftermath of the 1986 scandal at the Moscow Embassy involving Sergeant Clayton Lonetree, the Marine Corps changed its assignment procedures. Whereas in the past inexperienced guards had been assigned to Eastern Bloc posts, the policy was modified to permit only Marines with a previous embassy tour to be sent to sensitive posts.

PERSEREC is conducting research to develop procedures for defining jobs in terms of their vulnerability. It is anticipated that the research will assist the counterintelligence community to think of espionage risk in terms of both people and jobs. In addition, the position vulnerability information will help Department of Defense agencies exercise discretion in assigning people to certain jobs and continually assessing the people occupying those positions.

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Technical Appendix

Introduction

The Findings section of this report has presented summaries of the research data on overall characteristics of the spies, the four major areas of espionage interest, and motivation for espionage. The Results section of this Technical Appendix presents a more detailed analysis and in a slightly different sequencing.

In Section I, data are first presented for each of the four areas of espionage interest, and for combinations of these areas. For example, we provide information for length of espionage, then for military and civilian spies, and then for a crosstabulation of length of espionage by military and civilian spies. This is followed by other combinations of the four areas of espionage interest.

Following this, the spies' personal (Section II), job (Section III) and espionage (Section IV) characteristics are discussed. For each variable, frequency distributions are presented, followed by crosstabulations of that variable with some or all of the four areas of espionage interest. Section V discusses the number of spies active in any given year while Section VI presents data on the spies' primary and multiple motivations for espionage. The last section (VII) describes the various pairs and groups with which spies were involved when conducting their espionage.

In addition to the statistical reporting, footnotes are provided with short descriptions from actual cases. Read as counterpoint to the main text, these notes should provide the reader with some sense of the people and circumstances behind the statistics.

The last section of this Appendix contains a description of the database variables.

Results

I. Major Areas of Espionage Interest

Length of Espionage

While the dates when espionage began and ended were available for many individuals, in some cases they were impossible to establish precisely. Accordingly, the four categories are working estimates of the length of espionage. The first category—*intercepted*—is defined as being intercepted the first time espionage was attempted and before any information could be transmitted to a foreign organization. The other three categories represent different lengths of espionage careers: less than one year, 1-4.9 years, and 5 years or more.

Table 1 shows that 29.9% of the 117 spies were intercepted the first time they attempted espionage. Of the others, 17.1% spied for less than 1 year, 29.9% for up to 5 years, and 23.1% for 5 years or more.

Table 1. Length of Espionage

Length of Espionage	%	N
Intercepted First Time Attempted Espionage	29.9	35
Less than 1 Year	17.1	20
1 - 4.9 Years	29.9	35
5 Years or More	23.1	27
Total	100.0	N = 117

Military and Civilian¹

Cases of espionage were almost equally split between members of the military and civilians. Among the 61 military spies, 52 were enlisted personnel, 3 warrant officers, and 6 officers.² The 56 civilians were in the federal civil service, contractors in private industry, and in the private sector; some were unemployed.

Table 2 shows that the length of espionage was quite different for military personnel and civilians. Forty-one percent of the military spies failed in their first attempts to spy compared to only 17.9% of civilians. Civilians' espionage careers were longer than the military's. For example, 69.7% of civilians conducted espionage for more than one year as compared to only 37.7% of the military.

¹ Please note that for this report military is defined as *uniformed* military.

² The warrant officers were John Walker Jr., Joseph Helmich, Jr., and James Hall III. Stephen Baba, the youngest officer, was a junior electronics material officer in the Navy in the early 1980s (Jepson, 1988, p. 11); the most senior officer-spy was William H. Whalen, who conducted espionage from December 1959 to March 1961 while on active duty in the Army as a lieutenant colonel. His last assignment before retirement in 1960 was with the Joint Chiefs of Staff (Jepson, 1988, p. 35; Allen & Polmar, 1988, p. 200).

Table 2. Length of Espionage by Military and Civilian

Length of Espionage	Military		Civilian	
	%	N	%	N
Intercepted First Time Attempted Espionage	41.0	25	17.9	10
Less than 1 Year	21.3	13	12.5	7
1 - 4.9 Years	18.0	11	42.9	24
5 Years or More	19.7	12	26.8	15
Total (N=117)	100.0	61	100.0	56

Decade in which Espionage Began

The number of espionage cases has increased in the three most recent decades. In Table 3 it can be seen that 14 people, several of whom were associated with the Rosenberg group, began their espionage in the half-decade 1945-1949. In the decade 1950-1959 the cases decreased to 12. The 1960s saw an increase to 19, the 1970s to 24, and the 1980s a dramatic increase to 48. (One recent spy began his espionage career in 1990: for ease of computation he has been included in the 1980s decade.³)

Table 3. Decade in Which Espionage Began

Decade	%	N
1945-1949 (half-decade)	12.0	14
1950-1959	10.3	12
1960-1969	16.2	19
1970-1979	20.5	24
1980-1990	41.0	48
Total	100.0	N = 117

Table 4 illustrates the low rate of failure for the first four decades and then the sudden jump in the 1980s; in that decade, 28 would-be spies were intercepted the first time they tried to spy. The table also demonstrates how the percentages of spies with careers of one year or more decreased over the decades: 92.8% between 1945 and 1949, 75.0% in the 1950s, 63.1% in the 1960s, 62.5% in the 1970s, and 27.1% in the 1980s. Thus, espionage careers seem to be getting shorter over time. Of course, if in the future a number of long-term spies are discovered, the percentages could change, especially for the 1980s.

³ Charles Anzalone, a Marine corporal, was the last person to have been convicted of espionage as of June 1991, the cut-off date for this report. He was a wireman at the Marine corps Air station in Yuma, Arizona. In November 1990 he called the soviet Embassy in Washington to offer himself as a spy under the pretext of asking about a college scholarship; he was deeply in debt (Tessler, 1991).

Table 4. Decade in Which Espionage Began by Length of Espionage

Length of Espionage	1945-1949		1950-1959		1960-1969		1976-1979		1980-1990	
	%	N	%	N	%	N	%	N	%	N
Intercepted First Time Attempted Espionage	7.1	1	16.7	2	5.3	1	12.5	3	58.3	28
Less than 1 Year	0	0	8.3	1	31.6	6	25.0	6	14.6	7
1 - 4.9 Years	57.1	8	25.0	3	36.8	7	33.3	8	18.8	9
5 Years or More	35.7	5	50.0	6	26.3	5	29.2	7	8.3	4
Total	100.0	14	100.0	12	100.0	19	100.0	24	100.0	48

The rash of spies in the 1980s who attempted espionage but were caught immediately is impressive. What we cannot determine from our database is why this should be—whether those trying to sell secrets were less competent than before, whether our counterespionage efforts have become so successful that we are beginning to catch more spies before they can get started, or a combination of both. The Carter administration's decision to prosecute espionage cases aggressively may be partially responsible for the huge increase in known espionage incidents in the 1980s. Previously, concern for protection of sources and methods often led to decisions not to prosecute certain detected offenders. Such changes in philosophy and practice will influence the number of cases prosecuted.

Table 5 shows how the number of military cases was low in the 1940s and fairly constant in the 1950s, 1960s and 1970s; however, the number increased strikingly in the 1980s. Civilian cases predominated in the 1940s, dropped during the 1950s and 1960s, and increased again in the 1970s and 1980s.

Table 5. Decade in Which Espionage Began by Military and Civilian

Decade	Military		Civilian	
	%	N	%	N
1945-1949	3.3	2	21.4	12
1950-1959	16.4	10	3.6	2
1960-1969	19.7	12	12.5	7
1970-1979	14.8	9	26.8	15
1980-1990	45.9	28	35.7	20
Total (N=117)	100.0	61	100.0	56

Volunteer and Recruited Spies

Most spies (62.9%) volunteered to commit their espionage, as depicted in Table 6. There were two categories of recruits: those recruited by family or friends (14.7%) and those recruited by foreign intelligence (22.4%).

Table 6. Volunteer and Recruited Spies

Volunteers and Recruits	%	N
Volunteers	62.9	73
Recruited by Family or Friends	14.7	17
Recruited by Foreign Intelligence	22.4	26
Total (Missing = 1)	100.0	N = 116

Volunteers had considerably less success in their espionage attempts than recruits. For example, Figure 1 shows that 43.8% of the volunteers were caught before they could provide information compared to the 11.8% recruited by family or friends and the 3.9% recruited by foreign intelligence.⁴ In addition, recruits' espionage careers continued for much longer than those of volunteers. Of those recruited by foreign intelligence, 42.3% had careers which lasted for more than 5 years. Those recruited by family or friends also had longer careers, with more than half (52.9%) spying between 1 and 5 years.

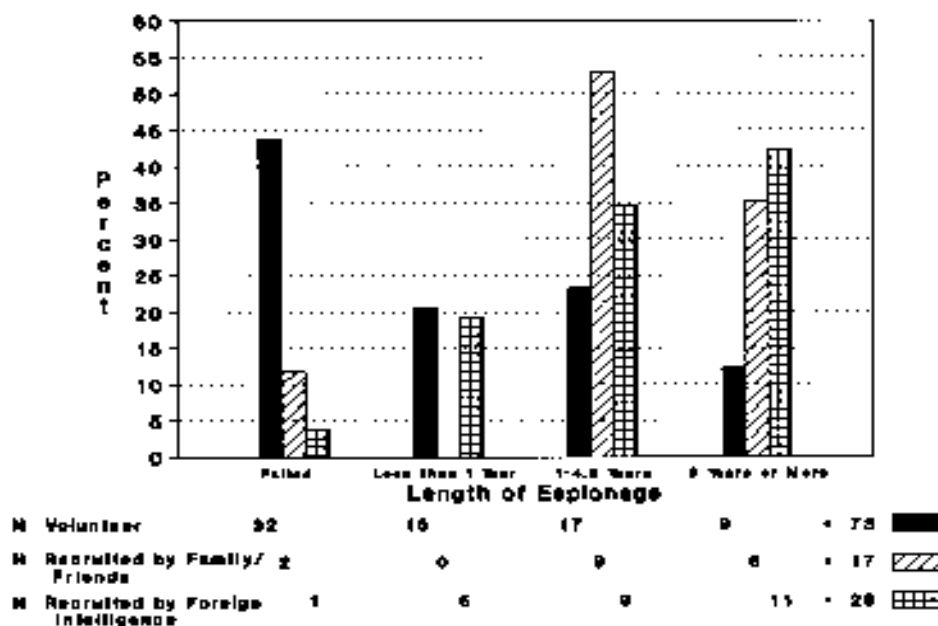


FIGURE 1. Volunteer and Recruited Spies by Length of Espionage

⁴ Volunteers are more vulnerable to early detection because, to volunteer, they generally must take some form of action that risks their being noticed or reported to authorities. As an example, a Navy petty officer stationed at the Naval Air Station, Moffett Field, California, Robert Ellis, contacted the Soviet Consulate in San Francisco with an offer to sell classified documents. His efforts were intercepted immediately and he was eventually sentenced to 3 years in prison (DODSI, 1990, p. 8).

Recruits, on the other hand, are sometimes given guidance, support and training--by family or friends or by foreign intelligence services. William Bell, a project manager at Hughes Aircraft, was slowly eased and guided into espionage by his recruiter, Marian Zacharski, a Polish intelligence officer. (DODSI, 1990, p. 5). And we know that the Soviets gave the Air Force's Robert Thompson extensive training in Germany in espionage methods and tradecraft; this induction occurred in 1957 at the beginning of his spying career which ended in 1963 (Jepson, 1988, p. 32; Crawford, 1988, p. 160).

Table 7 shows that 73.3% of military spies volunteered compared to 51.8% of civilians. Almost three times as many civilians were recruited by family or friends as were military (21.4% vs. 8.3%). Eleven military and 15 civilian spies were recruited by foreign intelligence.

Table 7. Volunteer and Recruited Spies by Military and Civilian

Volunteers and Recruits	Military		Civilian	
	%	N	%	N
Volunteers	73.3	44	51.8	29
Recruited by Family or Friends	8.3	5	21.4	12
Recruited by Foreign Intelligence	18.3	11	26.8	15
Total (N=116, Missing = 1)	100.0	60	100.0	5

Looking at volunteering and recruitment by decade, Table 8 indicates that 52.1% of all the volunteers volunteered during the 1980s. The percentage recruited by family or friends was high in the second half of the 1940s (accounted for mainly by the Rosenberg group), dipped in the 1950s and 1960s, and rose again throughout the 1970s and 1980s. In our database the number of spies successfully recruited by foreign intelligence has actually decreased since the 1950s. It is possible, of course, that such spies have simply not been caught. Volunteering has increased noticeably from 3 in the 1950s to 38 in the 1980s.⁵

Table 8. Volunteer and Recruited Spies by Decade in Which Espionage Began

Decade	Volunteers		Recruited by Family or Friends		Recruited by Foreign Intelligence	
	%	N	%	N	%	N
1945-1949	6.9	5	35.3	6	11.5	3
1950-1959	4.1	3	5.9	1	30.8	8
1960-1969	16.4	12	0	0	23.1	6
1970-1979	20.5	15	23.5	4	19.2	5
1980-1990	52.1	38	35.3	6	15.4	4
Total (N=116, Missing=1)	100.0	73	100.0	17	100.0	26

⁵ Of interest is the fact that of the people recruited by a family member or friend, the recruiter himself was originally a *volunteer* in 15 out of the 17 cases. In the other two cases, Sadag Dedeyan's recruiter, a cousin, had been recruited and trained by the KGB; similarly, James Harper, Jr., Ruby Schuler's recruiter (also coworker and, later, husband) was himself a recruit.

On the other hand, of the 26 spies we know were recruited by foreign intelligence, only three went on to recruit others: Zoltan Szabo recruited Clyde Conrad; Conrad in turn is believed to have hired "at least a dozen people" to help him in his espionage (DODSI, 1990, p. 25); and James Harper, Jr. went on to recruit Ruby Schuler.

II. Personal Characteristics

Gender

Over 92% of the spies have been men. The nine women, all of whom were civilians, spied for relatively long periods of time, i.e., seven were involved in espionage for between 1 and 5 years, and two for 5 years or more. There were four women spies in the second half of the 1940s, three of whom were associated with the Rosenberg spy ring. The other five cases were spread over the 1960s, 1970s and 1980s. Two of the women were volunteers, five recruited by family or friends, and two recruited by foreign intelligence.⁶

Race

Ninety-three percent of the spies were white. There were seven blacks, one American Indian, and one Asian-American, all of whom successfully conducted espionage.⁷ Seven were volunteers, one recruited by foreign intelligence and one recruited by a friend. Of the blacks, five were military.

Age When Espionage Began

The age when espionage began was available for all but one of the spies. Age was grouped as follows: less than 20 years, and then in 5-year groupings from age 20 to age 45, and 45 and older.

Espionage started at ages ranging from as young as 18 to as old as 69.⁸

⁶ The two women volunteers were Mrs. Ahadi (pseudonym) and Ethel Rosenberg. The women recruited by family or friends were Joan Cohen, Ruth Greenglass, Anne Henderson-Pollard, Ruby Schuler and Sharon Scranage. And those recruited by foreign intelligence were Judith Coplon and Svetlana Tumanova.

⁷ Nelson Drummond was the first black to be convicted of espionage. Joining the Navy in 1947 at the age of 18, he was assigned to London in 1957 where he was recruited by the Soviets. The Soviets seem to have been aware of his gambling and financial problems before they approached him. Assigned to duty in the United States in 1958, Drummond continued his espionage from his various East Coast duty stations until he was caught in 1963 (Jepson, 1988, p. 17; Allen & Polmar, 1988, pp. 55-56).

The American Indian was Clayton Lonetree, the Marine guard at the American Embassy in Moscow in the mid-1980s. His romantic, and later sexual, relationship with a female KGB officer led to his introduction to the woman's "Uncle Sasha." Lonetree shared information with these two Soviet intelligence officers and in 1987 was convicted of espionage and 12 related counts (DODSI, 1990, p. 22). Larry Wu-Tai Chin, the Asian-American, was the spy with the longest career, some 33 years. He was originally recruited by Chinese intelligence in China in 1942. He came to the United States in 1961, and eventually joined the CIA where he had access to classified documents by virtue of his job as a translator. He was arrested in 1985 (Allen & Polmar, 1988, pp. 372-377).

⁸ One of the youngest spies to attempt espionage was Francis Pizzo, who was 18 years old. In 1985 he helped Michael Tobias, a young sailor aboard the *USS Peoria* in San Diego, who had stolen cryptographic cards from the ship. Their joint espionage spree involved a nocturnal visit to the Soviet Consulate in San Francisco in an aborted attempt to sell the cards (the consulate was closed), a telephone call to the Secret Service in San Diego to sell the cards back to the government at a cut rate to get money for Michael Tobias to desert, and a hitch-hiking journey around Central California which ended with their arrest in San Francisco (DODSI, 1990, p. 16).

Waldo Dubberstein is by far the oldest spy, having started his espionage at the age of 69. (The next two oldest, incidentally, were William Bell, 57, and Edwin Moore II, 56.) Dubberstein, former CIA and DIA employee, was charged with selling military secrets to Libya. He committed suicide the day after being charged (DODSI, 1990, p. 7).

However, as Table 9 shows, espionage is mostly a young person's crime; 54.3% of the individuals in the database started espionage before the age of 30. The median age for the total sample is 28.5.⁹

Table 9. Age Espionage Began

Age	%	N
< 20	5.2	6
20-24	28.4	33
25-29	20.7	24
30-34	13.8	16
35-39	12.1	14
40-44	12.1	14
45 +	7.8	9
Total (Missing = 1)	100.0	N =116

Table 10 compares the age at which espionage began by length of espionage career. The median age of those intercepted (22.9) is considerably lower than for those who succeeded in spying for longer periods of time (29.2 to 32.9). Also, almost half (48.6%) of those caught before passing information were 20-24 years old.

Table 10. Age Espionage Began by Length of Espionage

Age	Intercepted First Time Attempted Espionage		Less than 1 Year		1 - 4.9 Years		5 Years or More	
	%	N	%	N	%	N	%	N
< 20	17.1	6	0	0	0	0	0	0
20-24	48.6	17	15.0	3	20.6	7	22.2	6
25-29	8.6	3	25.0	5	23.5	8	29.6	8
30-34	8.6	3	15.0	3	8.8	3	25.9	7
35-39	5.7	2	25.0	5	8.8	3	14.8	4
40-44	8.6	3	15.0	3	20.6	7	3.7	1
45 +	2.9	1	5.0	1	17.6	6	3.7	1
Total	100.0	35	100.0	20	100.0	34	100.0	27
Median	22.9		29.2		32.8		32.9	

N = 116 Missing=1

⁹An example of a young spy being caught in his first (and only) effort at espionage is 18-year-old Brian Slavens, a security guard at the Marine Corps' Modified Advanced Undersea Weapons Command, Adak Island, Alaska. In the late summer of 1982 Slavens deserted his post and visited the Soviet Embassy in Washington, offering to sell information about the Adak Island installation. He then proceeded to his home and told his sister what he had done. Promptly his father reported the desertion (and presumably the espionage attempt) to the FBI (DODSI, 1990, p. 6).

Comparing the age that espionage began for military and civilian spies, Table 11 shows that the military began their espionage at a younger age than civilians, although of course incidents of spying were distributed across the entire length of careers for both groups. The largest number of military espionage cases were found in the age range 20-24 (38.3%); for civilians it was 25-29 (21.4%). The median age for military was 25.3 and for civilians 32.6, a difference most probably due to the earlier age at which military personnel start their careers and to their early access to sensitive information.¹⁰

Table 11. Age Espionage Began by Military and Civilian

Age	Military		Civilian	
	%	N	%	N
< 20	8.3	5	1.8	1
20-24	38.3	23	17.9	10
25-29	20.0	12	21.4	12
30-34	13.3	8	14.3	8
35-39	13.3	8	10.7	6
40-44	6.7	4	17.9	10
45 +	0	0	16.1	9
Total (N=116, Missing=1)	100.0	60	100.0	56
Median	25.3		32.6	

Looking at the age that espionage began over time, Table 12 shows that in the half-decade 1945-1949 the median age was 27.0. This increased into the low 30s for the next three decades. In the 1980s the median age fell to 24.1, primarily due to the striking number of cases in the 20-24 age group.

Table 12. Age Espionage Began by Decade

Decade	<20	20-24	25-29	30-34	35-39	40-44	45+	Median
1945-1949	1	4	4	2	2	0	1	27.0
1950-1959	0	1	2	4	3	2	0	33.3
1960-1969	0	2	6	4	2	4	1	31.4
1970-1979	0	6	4	2	4	4	4	32.0
1980-1990	5	20	8	4	3	4	3	24.1

¹⁰ Russell Brown was only 21 years old when he found himself with access to classified information. Stationed aboard the USS Midway, he had a Secret clearance. He stole classified documents from a burn bag in the electronic warfare center of the ship. He then passed these documents to his friend, James Wilmoth, a food service worker on the same ship, who was subsequently arrested by Naval Investigative Service agents in Yokosuka, Japan, for attempting to sell classified documents to a Soviet agent (DODSI, 1990, p. 28)

As for the age that volunteers and recruits began their espionage, Table 13 shows that those recruited by foreign intelligence tended to be older (median 32.0) than both volunteers (27.3) and those recruited by family or friends (27.6). The largest number of those recruited by foreign intelligence were between 25 and 29 years old (38.5%), and the largest group of volunteers were between 20 and 24 (36.1%).

Table 13. Age Espionage Began by Volunteer and Recruited Spies

Age	Volunteers		Recruited by Family or Friends		Recruited by Foreign Intelligence	
	%	N	%	N	%	N
<20	6.9	5	5.9	1	0	0
20-24	36.1	26	29.4	5	7.7	2
25-29	12.5	9	23.5	4	38.5	10
30-34	16.7	12	11.8	2	7.7	2
35-39	12.5	9	11.8	2	11.5	3
40-44	11.1	8	5.9	1	19.2	5
45 +	4.2	3	11.8	2	15.4	4
Total (N=116, Missing=1)	100.0	72	100.0	17	100.0	26
Median	27.3		27.6		32.0	

Education

Information on education level was coded as follows:

- 10 years = less than high school
- 12 years = high school diploma
- 14 years = some college
- 16 years = undergraduate degree
- 18 years = postgraduate education or degree

Table 14 indicates that 39.5% of the spies ended their education at the high school level. There were 10 spies who did not complete high school (8.8%), and 36 (31.6%) with college degrees or postgraduate education.¹¹

Table 14. Years of Education

Years of Education	%	N
10	8.8	10
12	39.5	45
14	0.2	23
16	20.2	23
18	11.4	13
Total (Missing=3)	100.0	N = 114

¹¹ Those spies with education *beyond* the college degree were Stephen Baba, Judith Coplon, Harry Gold, Samuel Morison, and Jonathan Pollard. The spies with master's level degrees were Morris Cohen, Lt. Crocker (pseudonym), Edward Howard, Ronald Humphrey, and Morton Sobell. Waldo Dubberstein and Karel Koecher held Ph.D.s

Overall, those with longer espionage careers had more years of education. Table 15 shows that the average years of education for those who were intercepted in their first attempt was 12.7 whereas for those with careers of 5 years or more the average was 14.5.

Table 15. Education by Length of Espionage

Length of Espionage	N	Average Years of Education
Intercepted First Time Attempted Espionage	35	12.7
Less than 1 year	20	13.6
1 - 4.9 years	34	14.3
5 years or more	25	14.5
Total (Missing=3)	N = 114	100.0

Civilian education (15.2 years) was considerably higher than the military's (12.4 years). Volunteers had the lowest average years of education (13.4). Those recruited by foreign intelligence had 14.1 years and those recruited by family or friends 14.7.

Marital Status

Of the 115 spies on whom marital information is available, 65 were married, 39 were single, and 11 were separated or divorced at the time espionage began. For several of the longer-term spies, marital status changed during the course of espionage.¹²

The data in Table 16 indicate that married people spied for far longer than did singles or those who were separated or divorced. (Because of the small number of separated or divorced cases, these percentages should be treated with caution.)

Table 16. Marital Status by Length of Espionage

Length of Espionage	Married		Single		Separated/Divorced	
	%	N	%	N	%	N
Intercepted First Time Attempted Espionage	15.4	10	43.6	17	54.5	6
Less than 1 Year	16.9	11	20.5	8	9.1	1
1 - 4.9 Years	35.4	23	25.6	10	18.2	2
5 Years or More	32.3	21	10.3	4	18.2	2
Total (n=115, Missing=2)	100.0	65	100.0	39	100.0	11

¹² For example, in the early 1950s Army Sergeant Robert Johnson, several months after agreeing to work with the KGB, married his German mistress (Jepson, 1988, p. 23); John and Barbara Walker divorced in 1976 while Walker's espionage career was in full swing (Earley, 1988, p. 172); and James Harper, Jr. in 1980 married his accomplice, Ruby Schuler, while they were both fully involved in espionage (Jepson, 1988, p. 20).

Only 15.4% of married spies were caught on their first attempt. By contrast, 43.6% of the singles and 54.5% of those separated or divorced were caught. The careers of almost 67.7% of married spies lasted beyond one year.

There were no great differences between the military and civilian spies with regard to marital status.

Figure 2 shows that by decade the actual numbers of married spies increased only slightly over time, from 12 in the 1940s to 17 in the 1980s. The large increase was in the number of spies who were single or separated when they began their espionage: from 3 in the 1940s to 29 in the 1990s.

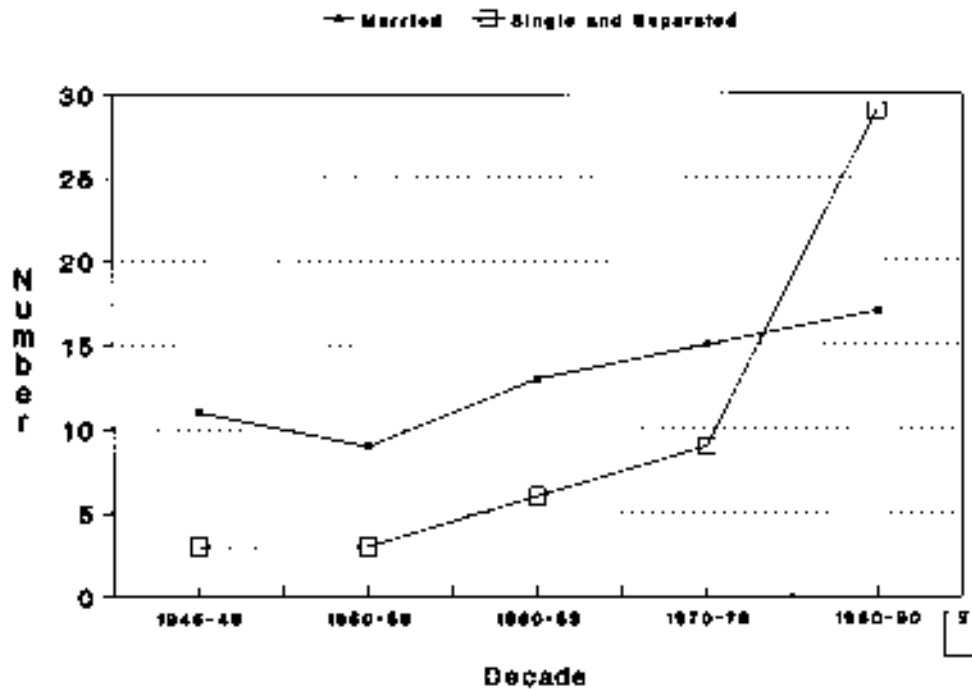


FIGURE 2. Marital Status by Decade in Which Espionage Began

Figure 3 shows that a higher percentage of single people (74.4) and those separated or divorced (72.7) were volunteers compared to married people (53.1). On the other hand, married spies (31.2%) were recruited by foreign intelligence to a greater extent than singles (10.3%) and those separated or divorced (18.2%).

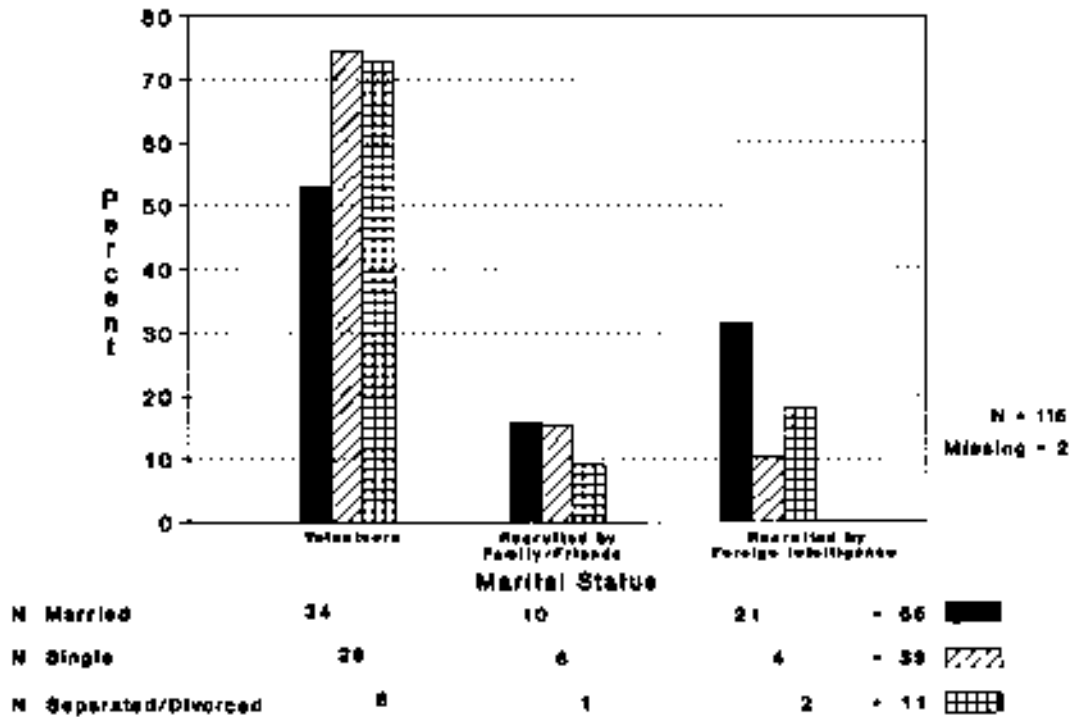


FIGURE 3. Marital Status by Volunteer and Recruited Spies

Of the 92 spies for whom sexual preference can be inferred, 86 were heterosexual and six homosexual. Four of the homosexuals were in the military. None had been recruited by foreign intelligence.¹³ Five were volunteers and one was recruited by a heterosexual friend.¹⁴

Citizenship

The database contains only American citizens. One hundred and two were citizens at birth and 15 were naturalized. Table 17 shows that seven of the naturalized citizens were recruited by foreign

¹³ Raymond DeChamplain, an Air Force master sergeant whose espionage occurred in the early 1970s in Bangkok, claimed to have been coerced. But Crawford (1988, p. 122) indicates that the evidence shows that DeChamplain volunteered his services in order to acquire money to pay off debts. DeChamplain, incidentally, was the only married homosexual. His Thai bride left him a few weeks after their marriage (Crawford, 1988, p. 121).

¹⁴ The recruited spy, Army Sergeant James Mintkenbaugh, was recruited into espionage in the early 1950s by a heterosexual friend, Sergeant Robert Johnson. The Soviets, at first angered that Johnson had recruited someone without their approval, used Mintkenbaugh to spot other homosexuals in the American community in West Berlin (Jepson, 1988, p.23).

intelligence (50.0%), a much higher rate than for citizens at birth (18.6%). In only two of the seven cases do we see a direct connection between being recruited for espionage and the fact that the individual was naturalized.¹⁵

Table 17. Citizenship by Volunteer and Recruited Spies

Volunteers and Recruits	Citizen at Birth		Naturalized Citizen	
	%	N	%	N
Volunteers	66.7	68	35.7	5
Recruited by Family or Friends	14.7	15	14.3	2
Recruited by Foreign Intelligence	18.6	19	50.0	7
Total (N=116, Missing=1)	100.0	102	100.0	14

Other Personal Characteristics

Because they are important considerations within the government's personnel security regulations, the following two personal characteristics are discussed, even though the data are incomplete. Data on use of alcohol and drugs and on foreign relatives are difficult to obtain from open-source literature. There may be additional people who used alcohol or drugs or who had foreign relatives, but such evidence was not encountered in the literature.

Immoderate Alcohol/Illegal Drug Use. Thirty-nine individuals used drugs or alcohol to the extent that mention was made of their habits in open sources. In other words, use was probably more than just social. Fourteen used drugs, 16 alcohol, and nine a combination of both. Forty-one percent of these individuals were intercepted in their efforts to commit espionage compared to 24% of the other 78 on whom no information is available. There were six spies for whom drugs or alcohol played a pivotal role in their espionage lives.¹⁶

The cases consisted of 20 civilians and 19 military personnel. The incidence of immoderate alcohol/illegal drug use was relatively flat during the 1940s, 1950s and 1960s, as it was in the population at large. It rose in the 1970s, and then increased rapidly in the 1980s. There did not appear to be a relationship between using alcohol and drugs and whether an individual volunteered or was recruited.

¹⁵ Larry Chin and Karel Koecher were both recruited in their countries of origin and sent to the United States with an expectation of long-term espionage service to their mother countries. For two others (Zoltan Szabo and Svetlana Tumanova), there may have been a connection, but we have insufficient information to make a judgment.

¹⁶ Examples of these are Daulton Lee, who was in fact a drug dealer as well as a drug user and the money he earned from espionage was often plowed back into his drug business (Lindsey, 1979). Ruby Schuler was a chronic alcoholic, and the Pollards used their espionage earnings to support, among other things, a heavy drug habit. A lesser known spy whose drinking was very much part of his espionage was George French, a World War II and Korean War flying hero and by the mid-1950s a captain in the Air Force. He fell to gambling and then, as debts piled up, to heavy drinking. His debts eventually led him to throw a letter over the fence of the Soviet Embassy, offering his services to the Russians. The letter was intercepted by an FBI agent (De Gramont, 1962, pp. 442).

Foreign Relatives. Information on whether a spy had foreign relatives was available for 66 of the spies. Of these, we know that 41 had foreign relatives and that 25 did not. Whether there is an actual connection between simply having a foreign relative and committing espionage is not easy to determine. Several people in the database were born abroad, had married foreigners, or had a foreign family background.¹⁷

Despite these reservations, all spies with any kind of foreign relative were included in the analysis. Table 18 shows that these spies were much less likely to fail in their espionage (14.6%) than those with no foreign relatives (40.0%) and the unknowns (38.8%). Length of espionage was also greater for those with foreign relatives; 68.3% had careers which lasted longer than one year as compared to 36.0% of those with no foreign relatives and 46.9% of the unknowns.

Table 18. Foreign Relatives by Length of Espionage

Length of Espionage	Foreign Relatives					
	Yes		No		Unknown	
	%	N	%	N	%	N
Intercepted First Time Attempted Espionage	14.6	6	40.0	10	38.8	19
Less than 1 Year	17.1	7	24.0	6	14.3	7
1 - 4.9 Years	29.3	12	16.0	4	34.7	17
5 Years or More	39.0	16	20.0	5	12.2	6
Total (N=115, Missing=2)	100.0	41	100.0	25	100.0	49

¹⁷ For example, Herbert Boeckenhaupt, a 1960s Air Force spy, who was born abroad, was naturalized at a young age; Walter Perkins, also Air Force, who committed espionage in 1971, was married to a Japanese woman at the time; and many spies had parents who were immigrants from Eastern Europe who had been escaping repressive regimes or simply trying to make better lives. Thomas Mortati's Italian immigrant parents were unlikely to have had much to do with his 1980s espionage. And it was an affair with a Polish woman that led to foreign service officer Irving Scarbeck's 1961 espionage in Warsaw, not the fact that he had a West German wife.

Spies with foreign relatives are shown in Figure 4. Beginning with 71.4% in the 1940s, they had fallen to 14.6% by the 1980s. However, in terms of absolute numbers, the rates remained fairly constant.

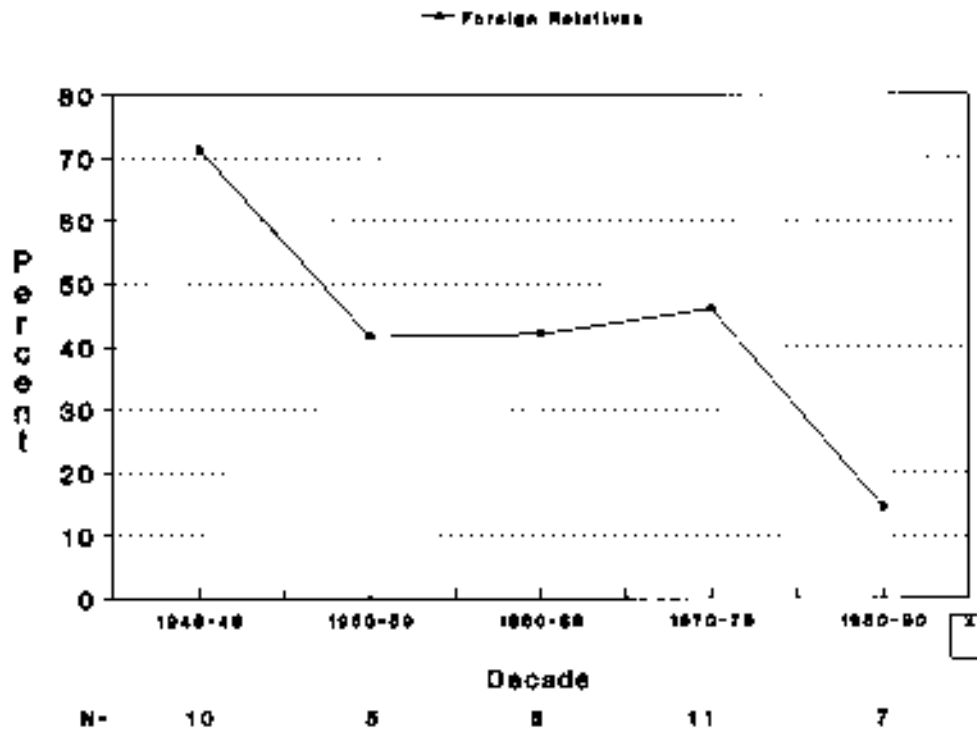


FIGURE 4. Foreign Relatives by Decade in Which Espionage Began

Table 19 indicates that spies with foreign relatives were much more likely to have been recruited by foreign intelligence (37.5%) than those with no foreign relatives (16.0%) and the unknowns (14.3%). Of the 15 spies with foreign relatives who were recruited by foreign intelligence, an obvious connection can be made for only four between the recruitment and having foreign relatives. For the 19 volunteers with foreign relatives, there was a relationship to espionage in only five cases.¹⁸ There are a few cases in which a foreign relative or loved one may have been the precipitating cause of espionage.¹⁹

Table 19. Foreign Relatives by Volunteer and Recruited Spies

Volunteers & Recruits	Foreign Relatives					
	Yes		No		Unknown	
	%	N	%	N	%	N
Volunteers	47.5	19	80.0	20	67.4	33
Recruited by Family or Friends	15.0	6	4.0	1	18.4	9
Recruited by Foreign Intelligence	37.5	15	16.0	4	14.3	7
Total (N=114, Missing=3)	100.0	40	100.0	25	100.0	49

¹⁸ Specialist Fifth Class Leslie Payne is an extreme example of such volunteers in that his wife allegedly participated in his espionage as a courier. Payne was stationed with the U.S. Army in West Germany in 1974 when he attempted to pass classified documents to a foreign government, probably East Germany, using his East German-born wife as an intermediary (Jepson, 1988, p. 28).

¹⁹ For example, Stephen Baba, a Naval officer, committed espionage in 1981 as part of a crime rampage in order to get money to send to his Filipina fiancée in the Philippines (Jepson, 1988, p. 11). And in some situations, foreign family connections may have provided an environment that might have contributed to conflicts of loyalty. Mrs. Ahadi (pseudonym) was born of Syrian parents, raised a strict Moslem, married a naturalized Egyptian, and was strongly anti-Jewish. She committed espionage on behalf of the United Arab Republic (Crawford, 1988, pp. 86-88)

III. Job Characteristics

Agencies Responsible for Information

Figure 5 illustrates which military or civilian agencies were responsible for the information that spies compromised or tried to compromise. The figure also shows whether individuals working for these agencies were in uniform or were civilian. Categories are included for contractors working for the government and for spies associated with the Manhattan Project.²⁰ Some individuals committed espionage after they had left the organization from which the information was taken; for the purposes of this analysis, all such people are included under their former organizations.²¹

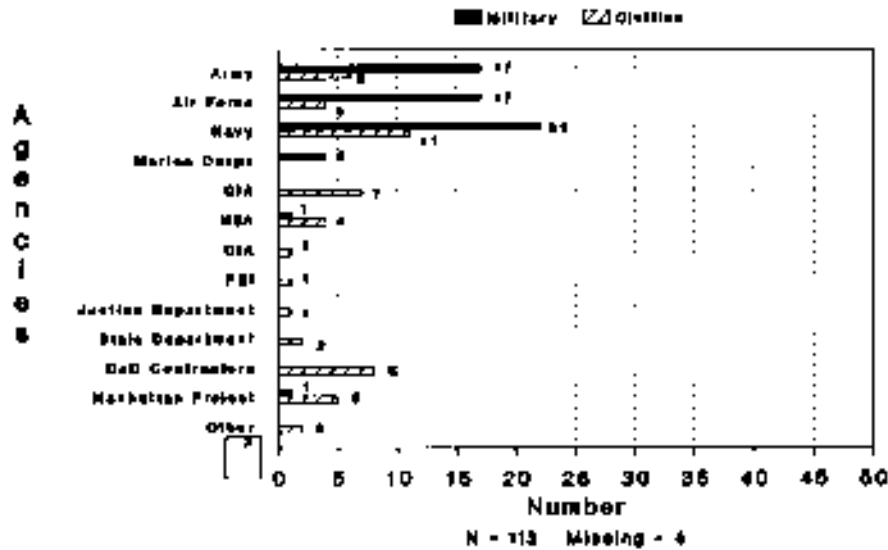


FIGURE 5. Agencies Responsible for Information by Military and Civilian Agencies

The greatest number of espionage cases were within military agencies. The Navy had the most cases of uniformed spies (22), followed by the Air Force and the Army with 17 each. The Navy also had the most civilians (11) while there were 8 contractors and 7 civilians from CIA.

Detailed analyses were conducted only for the military agencies (uniformed personnel and civilians combined) because the sample sizes in the other agencies were too small for analysis. The Navy and Marine Corps were combined under Navy for these analyses (Tables 20-22).

²⁰ The information being passed in the incident that led to the Rosenbergs' and others' convictions came from Los Alamos, New Mexico, where work on the development of an atom bomb, the Manhattan Project, was being conducted.

²¹ Examples of such military people were Craig Kunkle and Ronald Wolf (former Air Force). To illustrate with Wolf's story, he was discharged from the Air Force in 1981 for financial irresponsibility. In March 1989 he contacted an FBI undercover agent, thinking him to be a Soviet, and offered him top secret information (Everback, 1990).

Civilians included such cases as Ronald Pelton, a former NSA employee, and David Barnett, Edward Howard, Waldo Dubberstein and Edwin Moore II--all former CIA employees when they committed espionage. Pelton resigned from NSA in 1979 after 14 years, intending to set up a business. When this failed and he filed for bankruptcy, he went to the Soviet Embassy in Washington in early 1980; until 1983 when he was caught, he provided the Soviets with classified information from memory (Jepson, 1988, P. 28).

Table 20 shows the number of cases for the military agencies by length of espionage. While the numbers were small, there were some clear trends. The most striking contrast was that, despite the publicity given to the successful Walker ring, most of those in the Navy failed (62.2%) whereas the Army had the highest percentage (43.5%) of spies whose espionage careers lasted more than 5 years.

Table 20. Military Agencies by Length of Espionage

Length of Espionage	Military Agencies					
	Army		Air Force		Navy	
	%	N	%	N	%	N
Intercepted First Time Attempted Espionage	13.0	3	33.3	7	62.2	23
Less than 1 Year	21.7	5	38.1	8	5.4	2
1 - 4.9 Years	21.7	5	14.3	3	21.6	8
5 Years or More	43.5	10	14.3	3	10.8	4
Total (N=81)	100.0	23	100.0	21	100.0	37

Table 21 presents the cases for the military agencies by decade. The Navy, in that it had very few cases until the 1980s, differ greatly from the Army and Air Force. The Navy's 30 cases in the 1980s were more than either the Army cases (23) or Air Force cases (21) totaled across all decades.

Table 21. Military Agencies by Decade in which Espionage Began

Decade	Military Agencies					
	Army		Air Force		Navy	
	%	N	%	N	%	N
1945-1949	8.7	2	4.8	1	0	0
1950-1959	30.4	7	14.3	3	2.7	1
1960-1969	21.7	5	28.6	6	8.1	3
1970-1979	17.4	4	23.8	5	8.1	3
1980-1990	21.7	5	28.6	6	81.1	30
Total (N=81)	100.0	23	100.0	21	100.0	37

In terms of volunteering and recruitment, Table 22 indicates that foreign intelligence recruited far more spies from the Army (47.8%) than the other services. This explains in large part why Army spies were seen as successful in Table 20. It is also interesting to note the high incidence of volunteering in the Air Force and Navy, and of recruitment by family or friends among Navy spies.

Table 22. Military Agencies by Volunteer and Recruited Spies

Volunteers & Recruits	Military Agencies					
	Army		Air Force		Navy	
	%	N	%	N	%	N
Volunteers	47.8	11	85.0	17	75.7	28
Recruited by Family or Friends	4.3	1	0	0	16.2	6
Recruited by Foreign Intelligence	47.8	11	15.0	3	8.1	3
Total (N=81, Missing = 1)	100.0	23	100.0	20	100.0	37

Occupational Categories

The jobs held by spies when they began their espionage were coded according to the following categories:

- **Communications/Intelligence**, e.g., intelligence officer, radioman, cryptographer, radar/sonar/signal intelligence, communications analyst, translator
- **General/Technical**, e.g., military instructor, driver, crewman, repairman, food service worker, guard, laboratory technician
- **Functional Support/Administration**, e.g., personnel specialist, clerk, accountant, computer specialist, secretary, administrative assistant, messenger
- **Scientific/Professional**, e.g., engineer, mathematician, political/economic analyst, chemist, military officer
- **Other**, e.g., unemployed, student, businessman, retired

Each of the first four occupational categories had sizable numbers of spies, as Table 23 indicates.

Table 23. Occupational Categories of Spies

Category	%	N
Communications/Intelligence	30.2	35
General/Technical	25.9	30
Functional Support/Administration	15.5	18
Scientific/Professional	20.7	24
Other	7.8	9
Total (Missing=1)	100.0	N = 116

Table 24 shows that scientists and professionals have the longest espionage careers; only 8.3% were intercepted before providing information, and 75.0% successfully conducted espionage for one year or more. People in the Functional Support/Administration category also had reasonably lengthy spying careers. Those in the General/Technical fields had a high rate of failure (60.0%) and, if they did continue beyond the first attempt, much shorter careers.

Table 24. Occupational Category by Length of Espionage

Length of Espionage	Communications / Intelligence		General/ Technical		Functional Support/ Administration		Scientific/ Professional		Other	
	%	N	%	N	%	N	%	N	%	N
Intercepted First Time Attempted Espionage	22.9	8	60.0	18	11.1	2	8.3	2	55.6	5
Less than 1 Year	22.9	8	16.7	5	16.7	3	16.7	4	0	0
1 - 4.9 Years	25.7	9	16.7	5	33.3	6	45.8	11	44.4	4
5 Years or More	28.6	10	6.7	2	38.9	7	29.2	7	0	0
Total (N=116, Missing=1)	100.0	35	100.0	30	100.0	18	100.0	24	100.0	9

Most of the military spies were working in the General/Technical (39.3%) and Communications/Intelligence (36.1%) fields, as indicated in Table 25, whereas civilian spies were found primarily in the Scientific/Professional (35.7%) and the Communications/Intelligence (23.2%) areas.

Table 25. Occupational Category by Military and Civilian

Occupational Category	Military		Civilian	
	%	N	%	N
Communications/Intelligence	36.1	22	23.2	13
General/Technical	39.3	24	10.7	6
Functional Support/Administration	18.0	11	12.5	7
Scientific/Professional	6.6	4	35.7	20
Other	0	0	16.1	9
Total (N=117)	100.0	61	100.0	56

Table 26 shows how spies' jobs changed over the decades. The number of spies in the Communications/Intelligence category began to increase with the 1960s. In Functional Support/Administration jobs, there was a massive jump from 2's and 3's for the first four decades to 20 in the 1980s.²²

Table 26. Occupational Category by Decade in Which Espionage Began

Occupational Category	1945-1949	1950-1959	1960-1969	1970-1979	1980-1990
	N	N	N	N	N
Communications/Intelligence	1	3	11	8	12
General/Technical	0	4	1	6	7
Functional Support/Administration	2	3	2	3	20
Scientific/Professional	8	1	5	4	6
Other	2	1	0	3	3
Total (n=116, Missing=1)	13	12	19	24	48

The largest group recruited by foreign intelligence were the scientists and professionals (42.3%), as Table 27 indicates. They were also the largest group recruited by family or friends (35.3%). People working in Communications/Intelligence were predominantly volunteers (27 out of 34), as were those in the General/Technical area (23 out of 30).

Table 27. Occupational Category by Volunteer and Recruited Spies

Occupational Category	Volunteers		Recruited by Family or Friends		Recruited by Foreign Intelligence	
	%	N	%	N	%	N
Communications/Intelligence	37.0	27	17.6	3	15.4	4
General/Technical	31.5	23	11.8	2	19.2	5
Functional Support/Administration	12.3	9	23.5	4	19.2	5
Scientific/Professional	9.6	7	35.3	6	42.3	11
Other	9.6	7	5.9	1	3.9	1
Total (n=116, Missing=1)	100.0	73	100.0	17	100.0	26

²² The following are examples of the Functional Support/Administration breed of spies in the 1980s. Michael Allen retired from the Navy in 1972 after 22 years and began to run a bar in the Philippines. In 1982, he went to work as a civilian photocopy clerk at the Communications Station, Cubi Point Naval Air Station. Having access to classified information by virtue of his job, he passed materials to the Philippine national military police to curry favor for his business endeavors (Jepson, 1988, p. 11).

Randy Jeffries, in 1985 a messenger for a stenographic company that produced transcripts of classified Congressional hearings, attempted, instead of destroying documents, to sell them to the Soviets (DODSI, 1990, p. 19).

In 1986 Bruce Ott was a clerk at Beale Air Force Base, with access to classified information on the SR-71 Blackbird reconnaissance aircraft. He offered his services as a long-term mole to people he thought were Soviet agents but turned out to be undercover agents (DODSI, 1990, p. 19; Crawford, 1988, pp. 146-150).

Employment and Post-Employment Espionage

Table 28 is a matrix showing the spies' employment status when espionage began and ended. For example, 91 individuals began and ended their espionage while working on the same job. Among those who started their espionage on the job, seven continued spying after the job either as retirees or doing other jobs.²³ Another five who began on the job continued after they defected to Eastern Bloc countries.²⁴ Nine began and ended their spying after having left their primary job, generally using information obtained while in their position.²⁵ One individual who began spying after he left his primary job subsequently rejoined the same organization.²⁶ Others who began espionage after leaving their job ended their spying by defecting or committing suicide.²⁷

Table 28. Employment and Post-Employment Espionage

Began Espionage	Ended Espionage					Total
	On Job	After Job	Rejoined Job	Defection	Suicide	
On Job	91	7	5	1	1	104
After Job	0	9	1	2	1	13
Total	91	16	1	7	2	117

²³ One example is James Mintkenbaugh, a sergeant in the U.S. Army in Germany in the mid-1950s and recruited by his friend Sergeant Robert Johnson. Mintkenbaugh left the service in 1956 but continued to work for the Soviets as a civilian until he was implicated by Johnson in 1965 (Jepson, 1988, p. 23; Allen & Polmar, 1988, p. 59).

²⁴ Glenn Souther joined the Navy in 1975 and left active service in 1982, having been a photographic specialist. He became a Russian language major in college. While in school, he was assigned as an active reservist with the Naval Fleet Intelligence Center in Norfolk where he had access to classified information. He disappeared suddenly in May 1986 after having been questioned by the FBI and defected to the Soviet Union where he was granted asylum in 1988 (Kessler, 1990).

²⁵ William Kampiles, for example, who had been a CIA employee from March to November 1977, resigned from the agency after receiving notification of poor performance. He traveled to Greece, contacted a Soviet military attaché, and sold a KH-11 reconnaissance satellite manual for \$3,000 (Allen & Polmar, 1988, p. 202).

²⁶ David Barnett worked for CIA from 1958 until 1970, at which time he resigned to set up a business in Jakarta. By 1976 he was heavily in debt. He contacted the KGB and spied for them until he was arrested in 1980, having rejoined CIA as a contract employee in 1979 (DODSI, 1990, p. 4).

²⁷ An example of a defector was Victor Hamilton, an NSA Arabic-speaking specialist on the Near East, who defected to the Soviet Union in 1962. He had been discharged from NSA in 1959 for psychiatric reasons. On vacation in Prague in 1962, he entered the Soviet Embassy and requested asylum (Allen & Polmar, 1988, p. 68). One of the suicides was Larry Chin, retired from the CIA but still employed as a contractor, who had spied for the People's Republic of China for 33 years. He was found guilty of espionage, but killed himself in his jail cell before sentencing could occur (DODSI, 1990, p. 17; Allen & Polmar, 1988, pp. 372-377).

Security Clearance Level

There were 30 spies with no clearance²⁸ at the time they began spying (27%), 30 with confidential/secret (27%) and 50 with top secret (46%). Of those with no clearances, five had had access in previous jobs.

Figure 6 shows that individuals with confidential/secret clearances were much more likely to fail (53.3%) than those with no clearance (33.3%) or those with top secret (16.0%). Those with no clearance had longer careers, followed by those with top secret.

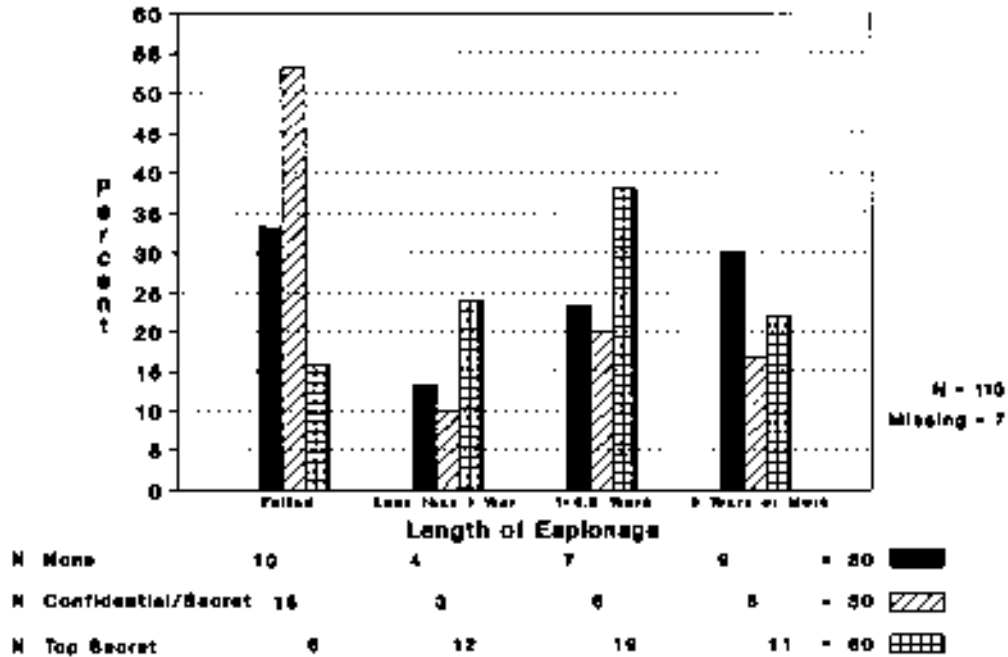


FIGURE 6. Security Clearance Level by Length of Espionage

²⁸ Several of the early spies had no clearances. For instance, Harry Gold, a biochemist, was convicted in part for his courier role in transferring atomic information from David Greenglass to the Rosenbergs (Allen & Polmar, 1988, pp. 51-52).

But spying without clearances has continued in more recent times, with such cases as James Sattler, who worked as a foreign policy analyst at the Atlantic Council of the United States and was often involved in discussions on NATO with Council members, all with high level security clearances (Allen & Polmar, 1988, p. 345). And James Wilmoth, a very recent case (1989), used a friend's secret clearance to gain access to classified information aboard USS *Midway* (DODSI, 1990, p. 28).

Although both military and civilian spies had about the same percentage of top secret clearances (46.4% military and 44.4% civilians), Table 29 shows that the military had a greater percentage with confidential/secret (37.5%). On the other hand, there were more civilians with no clearances (38.9%).

Table 29. Security Clearance Level by Military and Civilian

Clearance Level	Military		Civilian	
	%	N	%	N
None	16.1	9	38.9	21
Confidential/Secret	37.5	21	16.7	9
Top Secret	46.4	26	44.4	24
Total (N=110, Missing=7)	100.0	56	100.0	54

There was no clear relationship between clearance level and whether an individual volunteered or was recruited. And approximately the same percentage of clearance-holders and non-clearance-holders were recruited by foreign intelligence.

Military Rank and Years of Military Service

Military Rank. Table 30 shows the ranks of the 60 military personnel for whom information was available. Senior enlisted personnel are the most successful spies. Almost 77% of E1-E3s who tried espionage were caught immediately. All the E7s and up and warrant officers had relatively long espionage careers.

Table 30. Rank by Length of Espionage

Length of Espionage	Rank							
	E1-3		E4-6		E7-WO		Officer	
	%	N	%	N	%	N	%	N
Intercepted First Time Attempted Espionage	76.9	10	43.3	13	0	0	33.3	2
Less than 1 Year	7.7	1	26.7	8	27.3	3	16.7	1
1 - 4.9 Years	7.7	1	16.7	5	18.2	2	33.3	2
5 Years or More	7.7	1	13.3	4	54.5	6	16.7	1
Total (N=60, Missing=1)	100.0	13	100.0	30	100.0	11	100.0	6

As mentioned earlier, overall 73.3% of the military spies volunteered to commit espionage. Table 31 breaks this down by rank, showing that 84.6% of E1-E3s and 79.3% of E4-E6s volunteered. The senior enlisted and warrant officers volunteered at a considerably lower rate (54.5%). Thus, most volunteering occurred among the more junior ranks.

Table 31. Rank by Volunteer and Recruited Spies

	Rank							
	E1-3		E4-6		E7-WO		Officer	
Volunteers & Recruits	%	N	%	N	%	N	%	N
Volunteers	84.6	11	79.3	23	54.5	6	50.0	3
Recruited by Family or Friends	7.7	1	10.3	3	9.1	1	0	0
Recruited by Foreign Intelligence	7.7	1	10.3	3	36.4	4	50.0	3
Total (N=60, Missing=1)	100.0	13	100.0	29	100.0	11	100.0	6

Four of the 11 senior enlisted and warrant officers were recruited by foreign intelligence, as were three of the six officers.

Years of Military Service Prior to Espionage. Data on time in service prior to committing espionage were available for 31 of the 61 military personnel. Table 32 shows, as one would expect given the information on rank, that military personnel with fewer years of service tended to fail, whereas those with longer service had successful spying careers.²⁹

Table 32. Years of Military Service Prior to Espionage

Years of Military Service	N	Intercepted	Provided Information
Less than 1 Year	5	4	1
1 - 4 Years	11	7	4
5 - 8 Years	6	3	3
More than 8 Years	9	2	7
Total	31	16	15

²⁹ A handful of spies took to espionage very soon after joining the military. Edward Buchanan, for example, joined the Air Force in February 1985 and attempted his espionage in May. He wrote and telephoned the East German Embassy in Washington. Having trouble getting them to respond, he called the Soviet Consulate in San Francisco, and subsequently wrote the Soviet Embassy in Washington. In fact, Buchanan had no clearance and no access, and was trying to pass only unclassified information. He claimed he wanted to get his foot in the door with the Soviets against the time he would have a top secret clearance (Crawford, 1988, pp. 101-105).

At the opposite extreme, others came to espionage very late in their military careers. Consider the case of James Wood, an Air Force technical sergeant with an unblemished military record of some 15 years. Wood worked in the Air Force Office of Special Investigations (AFOSI). He stockpiled classified documents and in March 1973 made arrangements to meet with the Soviets in New York. On this first meeting he was apprehended attempting to pass documents (Jepson, 1988, p. 37).

IV. Espionage Characteristics

First Espionage Contact

In their initial espionage attempts, spies made contact with individuals or organizations in several ways. These are categorized in Table 33. Of the 113 spies on whom such information is available, 39 did not need to make contact because they were recruited. Of the others, 23 approached a person they thought to be a foreign agent (but who often turned out to be an undercover agent). Thirty-seven began by contacting an embassy or agency in person, or by telephoning or writing. Nine used other people (go-betweens) as couriers.³⁰ The Other category contains five individuals whose first act of espionage was to defect or those who intended to commit espionage but were caught before they could make a contact.³¹

Table 33. First Espionage Contact

First Espionage Contact	%	N
Were Recruited	34.5	39
Contacted Foreign Agent	20.4	23
Contacted Foreign Embassy/Agency	32.7	37
Used Go-betweens	8.0	9
Other	4.4	5
(Missing=4)	100.0	N = 113

Job Location Where Espionage Began

Espionage started in many different locations—within the United States or in other countries. Table 34 shows that, overall, 31.5% of the cases began abroad. Within the United States the largest percentage of cases started on the East Coast (37.8%). Almost 54% of civilian spies were on the East Coast when they began spying, whereas 44.1% of the military began abroad.

Table 34. Locations of Espionage Initiation by Military and Civilian

Locations	Military		Civilian		Total	
	%	N	%	N	%	N
Foreign Countries	44.1	26	17.3	9	31.5	35
U.S. East Coast	23.7	14	53.9	28	37.8	42
U.S. West Coast	15.3	9	19.2	10	17.1	19
U.S. Other	16.9	10	9.6	5	13.5	15
Total (N=111, Missing=6)	100.0	59	100.0	52	100.0	111

³⁰ Such a person was Ronald Humphrey, a program evaluator for the U.S. Information Service. In 1978 he used a go-between, David Truong, to ferry classified documents to the Vietnamese in an effort to obtain release from Vietnam of his common-law Vietnamese wife and her children (DODSI, 1990, p. 2).

³¹ An example of those who really intended to commit espionage but were caught before they could make the appropriate contact is Hans Wold, an Intelligence Specialist Third Class on the *USS Ranger* in San Diego, who in 1983 was picked up by the Naval authorities in the Philippines for being absent without leave. Investigators found in Wold's possession an undeveloped film containing photographs which he admitted taking and which he said he intended to sell to the Soviets (DODSI, 1990, p. 8).

A further breakdown of espionage locations outside the United States is shown in Table 35. Of these 35 cases, 14 began spying in West Germany, with its large contingent of Americans with military duties.³²

Table 35. Locations of Espionage Initiation Outside the United States

	N
West Germany	14
United Kingdom	4
Austria	3
France, Japan, South Korea, Soviet Union	2 each
Ghana, Indonesia, Italy, Poland, Philippines, Thailand	1 each
Total	35

Table 36 presents data on where the espionage began by length of espionage. Those who began spying overseas or on the East Coast had much more successful spying careers than those who began on the West Coast or at other U.S. locations. Only 14.3% of overseas spies were caught the first time they attempted espionage. By contrast, 52.6% of those from the West Coast and 60.0% of those from other domestic locations were caught immediately.

Table 36. Locations of Espionage Initiation by Length of Espionage

Length of Espionage	Locations							
	Foreign Countries		U.S. East Coast		U.S. West Coast		U.S. Other	
	%	N	%	N	%	N	%	N
Intercepted First Time Attempted Espionage	14.3	5	21.4	9	52.6	10	60.0	9
Less than 1 Year	25.7	9	16.7	7	5.3	1	20.0	3
1-4.9 Years	28.6	10	35.7	15	36.8	7	13.3	2
5 Years or More	31.4	11	26.2	11	5.3	1	6.7	1
Total (N=111, Missing=6)	100.0	35	100.0	42	100.0	19	100.0	15

Where espionage began within the United States may well be a function of when the particular act of espionage began. Table 37 indicates that not much espionage occurred on the West Coast until the 1970s (the Soviet Consulate opened in San Francisco in 1971). Cases of espionage starting overseas have remained relatively constant across the decades. On the other hand, in the United States the early espionage cases began mostly on the East Coast; by the 1980s, there was very little difference in the locations where spying began.

³² Clyde Conrad and James Hall III are the most famous cases. Conrad, while a sergeant in the U.S. Army in Germany, spied for some 10 years, allegedly recruiting others to help in transferring classified information to the Hungarians. He was arrested in 1988 (DODSI, 1990, p. 25). Hall was a warrant officer in the Army, also in Germany. In the 6 years from 1982 to 1987, he sold top secret documents to East Germany and USSR using an accomplice (DODSI, 1990, p. 27).

Table 37. Locations of Espionage Initiation by Decade in Which Espionage Began

Locations	1945-1949	1950-1959	1960-1969	1970-1979	1980-1990
	N	N	N	N	N
Foreign Countries	3	8	7	7	10
U.S. East Coast	6	3	9	11	13
U.S. West Coast	0	0	1	5	13
U.S. Other	2	1	1	1	10
Total (N=111, Missing=6)	11	12	18	24	46

A final look at where espionage began is contained in Figure 7. The data show that of those recruited by foreign intelligence, 57.7% began their spying abroad, 27.0% on the East Coast, 11.5% on the West Coast and 3.8% in other domestic locations. The largest percentage of volunteers began spying while located on the East Coast (39.1%), as did those recruited by family or friends (53.3%).

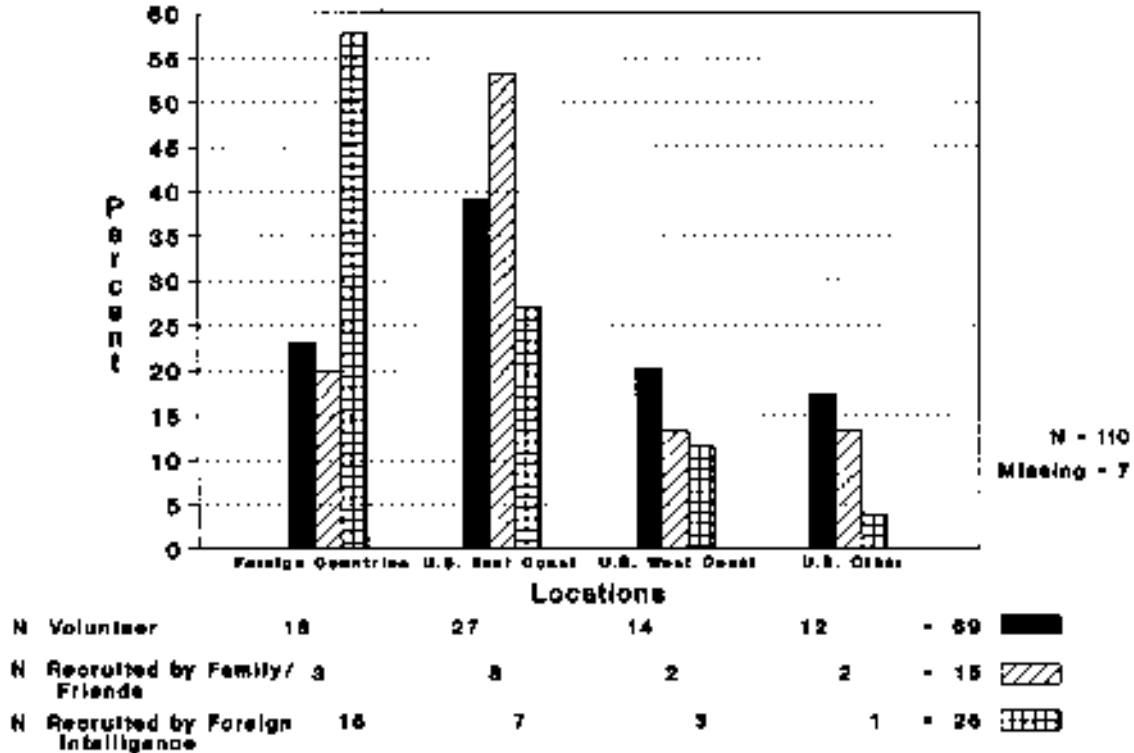


FIGURE 7. Locations of Espionage Initiation by Volunteer and Recruited Spies

Countries Receiving or Intended to Receive Information

The countries that received information or to which spies intended to transmit information are listed in Table 38. Not surprisingly during the Cold War period, the intended country was generally the Soviet Union (83 of 117 cases). For another 16 cases the information was intended for Warsaw Pact countries (East Germany, Poland, Hungary and Czechoslovakia), from which it most likely was

shared with the USSR. Thus, 84.6% of the cases were intended to ultimately benefit the USSR. For five of the spies no receiving country was recorded, because we simply did not know it, the people were apprehended before they could make the transfer, or the spies thought they were giving the information to a source other than a foreign country.³³ Four close allies of the United States gained information from espionage in at least one instance: Great Britain, Holland, Israel and the Philippines.

Table 38. Countries Receiving or Intended to Receive Information

	N
USSR	83
East Germany	7
Poland	4
Hungary	3
Czechoslovakia, Israel, S. Africa	2 ea
China, Egypt, Ghana, Great Britain, Holland, Libya, North Korea, North Vietnam, Philippines	1 ea
Other	5

Payment

It is extremely difficult, if not impossible, to know precisely how much a spy was paid. In many cases the amounts reported in open sources only reflect the U.S. government's best guess as to the amount received based largely on what could be proved in a court of law. The period of time covered by this report is 45 years and the value of the dollar has changed radically during that period. While it would be technically possible to convert all amounts received to current dollars, this would only compound the inaccuracy. Accordingly, monies supposedly received are reported here in broad groupings.

Information is available on 95 spies, as Figure 8 indicates. Almost half (47) received nothing because they were discovered before they could be paid or because they acted from nonmercenary motives. Other spies were paid handsomely. For example, 17 received between \$10,000 and \$100,000, another seven between \$100,000 and \$1,000,000, and three were paid more than \$1,000,000. In most cases where large sums were involved, the money was paid over long periods of time.³⁴ A few spies were paid reasonably large sums of money over short periods of time.³⁵

³³ Lee Madsen attempted to sell classified drug-related information to someone he thought was a member of an organized crime narcotics group. He also offered to sell monthly narcotics intelligence reports. A Navy yeoman assigned to the Inter-agency strategic warning Staff at the Pentagon, Madsen was arrested in 1979 (Jepson, 1988, p. 25).

³⁴ The seven spies who were paid between \$100,000 and \$1,000,000 were William Bell James Hall III, James Harper, Jr., Joseph Helmich, Jr., Edward Howard, Karel Koecher, and Jerry Whitworth. Larry Chin, Clyde Conrad and John Walker, Jr. were each paid \$1,000,000 or more.

³⁵ Jonathan Pollard received more than \$50,000 in cash and gifts over 18 months.

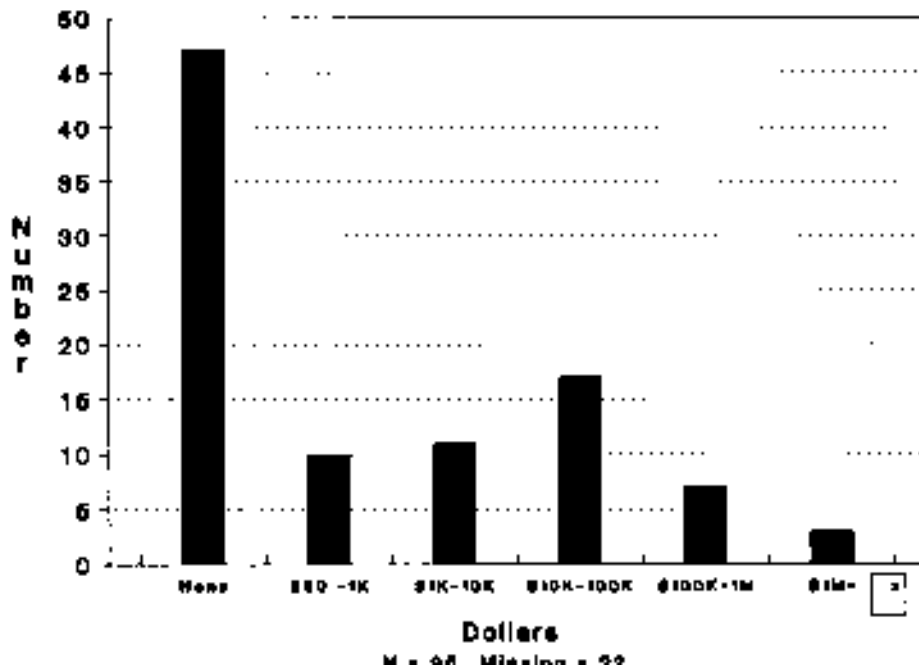


FIGURE 8. Estimate of Money Received

Length of Sentence

The penalties for espionage have ranged from very short sentences, to life and multiple life, to execution. In many cases, potentially long sentences have been reduced by plea bargaining based on the degree of cooperation and the circumstances of the case, and some serious cases were not prosecuted at all because of the need to protect sources and methods. Table 39 reflects the initial sentencing of the spies (some of these sentences were later reduced). Just over half the spies received either no sentence (17.4%) or less than 10 years (33.9%). Of those receiving no sentence, some were administratively processed³⁶ and some given immunity;³⁷ others defected,³⁸ and still others died or committed suicide.³⁹ There were 13 cases in which life sentences were given, some of which were multiple life.⁴⁰ The Rosenbergs received the death sentence.

³⁶ Mrs. Ahadi (pseudonym) was allowed to retire on medical grounds, a psychiatric examination having shown she was suffering from a minor psychological disorder. As a civilian working for the Air Force in the late 1960s, she was observed removing classified materials from her office and passing them to a courier for transmittal to the United Arab Republic (Egypt) (Crawford, 1988, pp. 86-88).

³⁷ Ruth Greenglass, for example, was not charged with espionage. She was granted immunity in exchange for her husband's evidence against the Rosenbergs (Dobson & Payne, 1984, p. 149).

³⁸ The defectors were Victor Hamilton, Edward Howard, William Martin, Bernon Mitchell, Glenn Rohrer, James Sattler, and Glenn Souther.

³⁹ Ruby Schuler died before ever being convicted. Larry Chin, Waldo Dubberstein, Jack Dunlap and Norman Rees committed suicide.

⁴⁰ Those with original sentences of life or multiple-life were Thomas Cavanagh, Clyde Conrad, Nelson Drummond, George French, George Gessner, James Harper, Jr., Joseph Helmich, Jr., Daulton Lee, Ronald Pelton, Jonathan Pollard, Arthur Walker, John Walker, Jr., and Jerry Whitworth.

Table 39. Length of Sentence

Length of Sentence	%	N
0	17.4	20
0.5 - 2 years	8.6	10
2.5 - 4 years	7.8	9
5 years	9.6	11
6 - 9 years	7.8	9
10 - 19 years	16.5	19
20 - 29 years	9.6	11
30 - 40 years	9.6	11
Life	11.3	13
Death	1.7	2
Total (Missing=2)	100.0	N = 115

It is of interest to note that for those who spied for countries friendly or neutral to the United States, sentences were generally less severe, ranging from 2 years to 10 years, with only one life sentence.

As can be seen in Table 40, there is no direct relationship between length of sentence and length of espionage. For those who failed in their espionage attempt, about half (18) received sentences of 6 months to 10 years, but there were also two who received life.⁴¹ The most frequent sentences for spying for less than one year was either 0.5-4 years or 20-40 years. For longer-term spies, sentences were more severe, but there was also a higher percentage of those who received no sentence. This is because of the long-term spies who committed suicide, defected, were traded or were handled administratively.

Table 40. Length of Sentence by Length of Espionage

Length of Sentence	Intercepted		Less than 1 Year		1 - 4.9 Years		5 Years or More	
	%	N	%	N	%	N	%	N
0	5.7	2	10.0	2	22.2	8	33.3	8
0.5 - 4 years	22.9	8	30.0	6	8.3	3	8.3	2
5 - 9 years	28.6	10	10.0	2	22.2	8	0.0	0
10 - 19 years	25.7	9	15.0	3	16.7	6	4.2	1
20 - 40 years	11.4	4	30.0	6	11.1	4	33.3	8
Life/Death	5.7	2	5.0	1	19.4	7	20.8	5
Total (N=115, Missing=2)	100.0	35	100.0	20	100.0	36	100.0	24

⁴¹ These were French (see note 16, p. A-29) and Thomas Cavanagh, who in 1984 was arrested for attempting to sell classified documents on Stealth aircraft technology. Cavanagh was an engineer for Northrop Corporation. Recently separated from his wife and in deep financial trouble which he knew would affect his ability to acquire a higher level of clearance, he contacted the Soviets. The approach was intercepted by the FBI and Cavanagh found himself selling secrets to undercover agents posing as Soviets (DODSI, 1990, p. 13).

The sentences for military and civilian spies did not differ greatly, as we see in Table 41. Caution must be used in making this comparison, however, because no adjustments have been made for the seriousness of the espionage, which obviously should bear a relationship to length of sentence. A higher percentage of civilian spies received no sentence (25.5) than military spies (10.0). At least half of the spies (military, 50.0% and civilians, 52.8%) either received no sentence or received less than 10 years. Since more of the military cases were detected before any information was passed, it would be expected that sentences would generally be lighter. It should also be noted that most military sentences for espionage include other penalties such as a dishonorable discharge and reduction in rank.

Table 41. Length of Sentence by Military and Civilian

Length of Sentence	Military		Civilian	
	%	N	%	N
0	10.0	6	25.5	14
0.5 - 4 years	20.0	12	12.7	7
5 - 9 years	20.0	12	14.6	8
10 - 19 years	16.7	10	16.4	9
20 - 40 years	21.7	13	16.4	9
Life/Death	11.7	7	14.6	8
Total (N=115, Missing=2)	100.0	60	100.0	55

Analysis of length of sentence by whether a spy volunteered or was recruited showed only slight differences. Approximately the same percentages of spies received no sentences as life sentences. There was a slight trend toward longer sentences for those recruited by relatives or friends, although this finding must be viewed with caution because of the small sample size.

There were no discernible trends in severity of sentence over time.

V. Active Spies by Year

Figure 9 shows the number of spies known to be active in a given year. This includes those who started and ended their espionage during the year (including those who attempted espionage and were caught), those who started and continued espionage into subsequent years, and those who were continuing an espionage career from the previous year or years. How long defectors were active after they defected is not known; we have, therefore, arbitrarily coded defectors as continuing to spy for one year from the date of their defection.

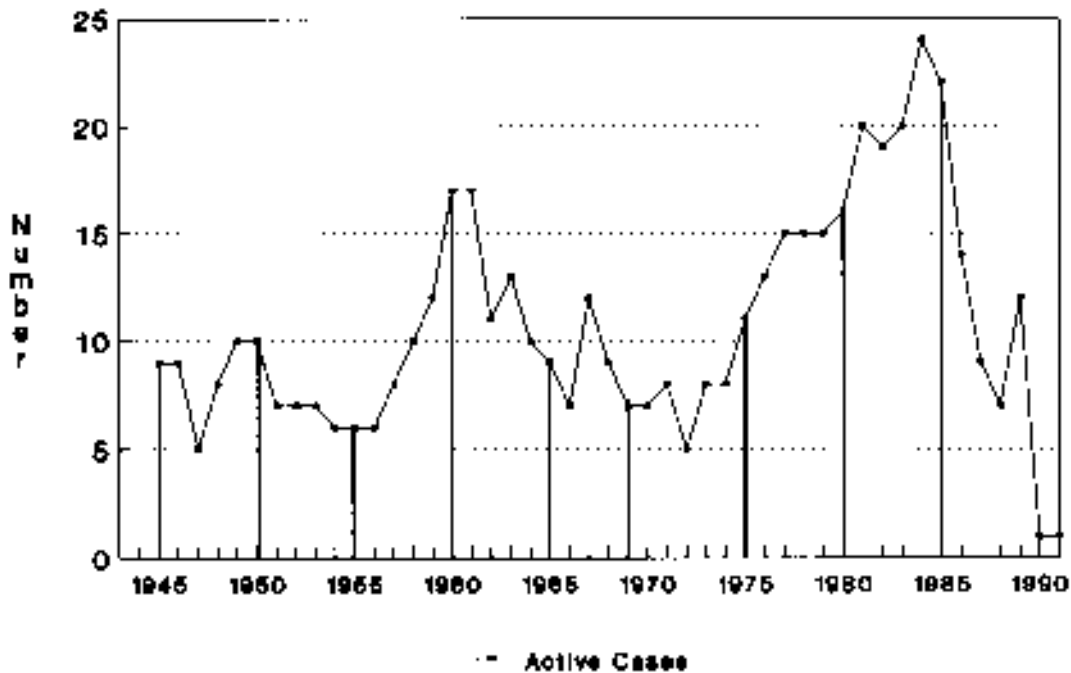


FIGURE 9. Active Spies by Year

Two peaks of espionage activity stand out in Figure 9: one in the early 1960s and the other in the 1980s, especially between 1981 and 1985. As has been pointed out elsewhere in this report, the interception rate (catching spies before they can provide information) was higher during the 1980s than in the 1960s. Thus, while there appear to be more spies in the 1980s, many of these were in fact caught before they could do any damage.

The dip in the mid-60s to mid-70s may have been due to the cautious practices of prosecutors and policy-makers, practices that changed around 1977 in favor of more aggressive prosecutions. The dip after 1985 is difficult to interpret at the present time. It may reflect the fact that there are actually more spies who have not yet been caught, it may represent a reduction in the number of spies, or it may be due to a combination of both.

VI. Motivation for Espionage

What makes people spy is one of the most-asked questions regarding espionage and it is often the most difficult to answer. Motivations are rarely simple, and it is hard to capture the complexities of spies' motives without clinical interviews. For example, people may appear to spy for money, but this can mask much more complicated motives such as a need to control, to win affection, to impress others.

This said, the variable *motivation* was coded according to the person's presumed motivation at the time espionage began, acknowledging that of course motives can change over time. The motives were grouped into the six categories displayed in Table 42—money, ideology, disgruntlement /revenge, ingratiation, coercion, and thrills/self-importance.

Table 42. Motivation for Espionage

Motivation	Primary		Multiple	
	%	N	%	N
Money	52.2	60	52.0	78
Ideology	18.3	21	14.0	21
Disgruntlement/Revenge	14.8	17	14.0	21
Ingratiation	8.7	10	10.7	16
Coercion	3.5	4	2.7	4
Thrills/Self-importance	2.6	3	6.7	10
Total (N=115, Missing=2)	100.0	115	100.0	150*

*More than the number of spies because there were 34 spies with multiple motivations.

The first three motives are self-explanatory. Ingratiation means committing espionage to please or help someone,⁴² and coercion involves being blackmailed or forced into espionage by foreign intelligence.⁴³ Thrills/self-importance includes such motives as fascination with danger, seeking thrills, flaunting authority, trying to manipulate or outsmart the system, relishing the world of intrigue, and bolstering one's own importance.⁴⁴

⁴² An example is Sharon Scranage, an operations support assistant for the CIA in Ghana. Scranage was convicted in 1985 for passing classified information to her Ghanaian boyfriend. The boyfriend, who had persuaded Scranage into spying for him, allegedly passed the information to the head of Ghanaian intelligence, who passed it to Cuba, Libya, East Germany and other soviet bloc nations (DODSI, 1990, p. 15).

⁴³ A coerced spy was Army Master sergeant Roy Rhodes, a chauffeur at the American Embassy in Moscow in 1951. Lonely without his wife and child, he applied for visas for them to join him. On Christmas Eve, hearing the good news that his family would be granted the visas, Rhodes celebrated with two soviet, his coworkers in the embassy garage. The celebration led to partying with soviet women. Rhodes woke up the next morning in bed with one of the women. About 6 weeks later, Rhodes was informed by the Soviets that the woman was pregnant. With his wife due to arrive in Moscow any day, he was desperate to cover up the incident and so agreed to work as a spy (De Gramont, 1962, pp. 434-436).

⁴⁴ Only three people in the database are coded with this as the sole motive. Gustav Mueller was one such person. Mueller in 1949 was a 19-year-old Air Force language student at Oberammergau, West Germany. He sent a telegram to the Soviet Embassy in Bern, Switzerland, asking to make contact with a view to providing them with classified information. He later admitted he had sent the telegram on a "juvenile impulse," and Crawford (1988, p. 146) describes Mueller's motive for espionage as having been "adventure fantasy, immaturity and thrill."

In compiling Table 42, a primary motive for each spy was determined. Column 2 (Primary) contains the primary motive for 115 spies. For over half these spies, money was the primary motive (52.2%). This was followed by ideology (18.3%), disgruntlement/ revenge (14.8%), ingratiation (8.7%), coercion (3.5%) and thrills/self-importance (2.6%).

Thirty-four spies had more than one motive. All the motives of the 115 spies are listed in column 3 (Multiple), totaling 150. Comparing columns 2 and 3, ideology appeared the same number of times (21) for primary and multiple motivations. This means that, when it was present, ideology was always primary. On the other hand, thrills/self-importance more frequently appeared in combination with another motive.

These 150 motives will be used as the basis for the following analyses on motivation.

Table 43 compares motivation by length of espionage. No matter how long the espionage lasted, money was always the most common motive. However, money was highest for those who failed (72.1%). All the ideological spies were successful except for one. Nineteen of the 21 ideological spies had careers lasting more than one year.

Table 43. Motivation by Length of Espionage

Motivation	Intercepted First Time Attempted Espionage		Less than 1 Year		1 - 4.9 Years		5 or More Years	
	%	N	%	N	%	N	%	N
Money	72.1	31	62.5	15	34.8	16	43.2	16
Ideology	2.3	1	4.2	1	17.4	8	29.7	11
Disgruntlement/Revenge	14.0	6	16.7	4	13.0	6	13.5	5
Ingratiation	7.0	3	0.0	0	26.1	12	2.7	1
Coercion	0.0	0	8.3	2	2.2	1	2.7	1
Thrills/Self-Importance	4.7	2	8.3	2	6.5	3	8.1	3
Total (N=150)*	100.0	43	100.0	24	100.0	46	100.0	37

*More than the number of spies because there were 34 spies with multiple motivations.

Table 44 shows marked differences in motivation for military and civilians. Money motivated 67.6% of military cases but only 38.0% of civilians. On the other hand, 19 civilians spied for ideology compared to only 2 military, and three times as many civilians as military spied to please someone. Civilians had more multiple motives (79 for the population of 56 civilian spies) than military (71 for the 61 military spies).

Table 44. Motivation by Military and Civilian

Motivation	Military		Civilian	
	%	N	%	N
Money	67.6	48	38.0	30
Ideology	2.8	2	24.1	19
Disgruntlement/Revenge	14.1	10	13.9	11
Ingratiation	5.6	4	15.2	12
Coercion	2.8	2	2.5	2
Thrills/Self-importance	7.0	5	6.3	5
Total (N=115)*	100.0	71	100.0	79

*More than the number of spies because there were 34 spies with multiple motivations.

In Table 45, the numbers of motivations are shown by decade; percentages were not calculated because of the small number of cases. Money motivations increased over the decades, reaching a peak in the 1980s when money accounted for 42 of the 61 motives. Ideology, on the other hand, occurred more in the late 1940s, although there were a few ideological cases in later decades.⁴⁵

Table 45. Motivation by Decade in Which Espionage Began

Motivation	1945-1949	1950-1959	1960-1969	1970-1979	1980-1990
	N	N	N	N	N
Money	3	6	10	17	42
Ideology	12	2	3	3	1
Disgruntlement/Revenge	0	3	7	4	7
Ingratiation	4	0	0	4	8
Coercion	0	1	1	2	0
Thrills/Self-importance	1	0	1	5	3
Total (N=150*)	20	12	22	35	61

*More than the number of spies because there were 34 spies with multiple motivations. See Table 42 for actual number of spies with multiple motivations.

Motivation among volunteer and recruited spies is described in Table 46. The differences are quite dramatic, as one might expect. It is evident that money played a much larger role among volunteers (59.6%) than among those recruited by foreign intelligence (45.2%) or by family or friends (29.2%). Volunteers were also much more inclined to spy because of disgruntlement/revenge (18.1%)⁴⁶ and much less concerned with ideology (8.5%). Those recruited by family or friends were

⁴⁵ Thomas Dolce, for example, sentenced in 1989, admitted to supplying scores of classified documents to the Republic of South Africa between 1979 and 1983. Dolce, a civilian research analyst at Aberdeen Proving Grounds, MD, had a long-term interest in the Republic of South Africa and had in fact moved there in 1971, only returning to the U.S. because of better job opportunities. He did not receive payment for his activities (DODSI, 1990, p. 26).

⁴⁶ Edwin Moore II, a volunteer, committed espionage primarily because he was resentful about his lack of promotion at the CIA, his former job. In 1976 he threw a package onto the grounds of a Soviet residence in Washington. A Soviet employee, thinking it a bomb, called the American authorities (DODSI, 1990, p. 1).

almost by definition highest on ingratiation (41.7%). The spies recruited by foreign intelligence spied mainly for money, although some spied for ideological and other motives.

Table 46. Motivation of Volunteer and Recruited Spies

Motivation	Volunteers		Recruited by Family or Friends		Recruited by Foreign Intelligence	
	%	N	%	N	%	N
Money	59.6	56	29.2	7	45.2	14
Ideology	8.5	8	25.0	6	22.6	7
Disgruntlement/Revenge	18.1	17	4.2	1	9.7	3
Ingratiation	6.4	6	41.7	10	0.0	0
Coercion	0.0	0	0.0	0	12.9	4
Thrills/Self-Importance	7.4	7	0.0	0	9.7	3
Total (N=150)*	100.0	94	100.0	24	100.0	31

***More than the number of spies because there were 34 spies with multiple motivations. See Table 6 (technical appendix) for actual numbers of spies who volunteered or were recruited.**

In Table 46 it can also be seen that those who spied for money, disgruntlement/revenge and thrills/self-importance were very similar and were predominantly volunteers. Among the ideological spies, almost equal percentages had volunteered or been recruited by foreign intelligence or family or friends.

VII. Espionage Pairs and Groups

Many spies act alone, but espionage is not always a solitary occupation. In all, 50 spies (42.7%) acted with partners or as part of groups. Many chose to operate this way presumably because they needed social support or physical access to secrets. Almost 15% of spies were recruited by family or friends. In cases where partners or group members were foreigners and thus by definition not part of this database, we have not detailed information on the partner.⁴⁷

Pairs

In one type of pair the partners operate as coequals; they are both equally responsible for their acts of espionage.⁴⁸ In another type, an initiating partner uses the other as a conduit to classified

⁴⁷ Ronald Humphrey, an American, paired himself with David Truong, a foreign national, using Truong as a go-between in transferring information from Humphrey to the Communist government of Vietnam (DODSI, 1990, p. 2). Even though we have no information on Truong in the database, the fact remains that Humphrey was part of a pair. Similarly, some groups, like the Conrad group, included foreigners whose cases were not included in this database.

⁴⁸ Christopher Boyce, for example, who worked in a vaulted communications center at TRW, closely worked out a scheme with his partner, Daulton Lee, where he removed classified material from TRW, passed it to Lee, and Lee would ferry it to KGB agents in Mexico City (Lindsey, 1979).

material. This partner, without access himself, has to find another person to do the stealing. In some of these cases, such as Ruby Schuler who began espionage at the request of her friend, James Harper (they later married), the person with access acts out of a wish to please the initiating partner; in others, the person with access is a willing and eager co-spy from the start.⁴⁹

Groups

There were three major established groups, or rings, of spies. These are the well publicized Rosenberg, Walker and Conrad groups.

PERSERECs database begins with the historic Rosenberg ring. While it seems likely that Julius Rosenberg began his espionage career long before 1945, the major charge against him and his wife, Ethel, was their recruitment of David Greenglass, Ethel's brother. Greenglass was serving in the military as a machinist at Los Alamos, New Mexico, and for a brief time beginning in early 1945 passed atomic secrets to the Rosenbergs.

The group of spies considered the most damaging to American national security since the Rosenbergs was the Walker group. For almost two decades, until 1985, John Walker, Jr. and his recruits were responsible for selling to the Soviets a wealth of information on nuclear submarines, codes, ship movements, weaponry and tactics. At the beginning of his 17-year espionage career, John Walker spied alone. Over the course of time, however, he recruited his friend, his brother and his son, and attempted to recruit his daughter.

The other major group was led by former Army Sergeant Clyde Conrad, arrested in 1988 for having transmitted classified documents to the Hungarian intelligence service for almost 10 years. Conrad was recruited in 1974 by Zoltan Szabo, a Hungarian-born immigrant in the U.S. Army. Assigned in 1978 to the U.S. 8th Infantry Division in Bad Kreuznach, Germany, Conrad transmitted to the Hungarians, among other things, NATO's plans for fighting a war against the Warsaw Pact. Two Hungarian-born Swedish doctors served as couriers in the espionage operations, and Conrad is believed to have hired at least a dozen people in the Army to supply classified information.

These three groups are characterized by a strong influential leader who orchestrates the logistics required for a complex espionage endeavor. As with pairs, relationships between leader and group member may differ. In the case of the Conrad ring, the relationship between Conrad and his recruits was businesslike, a connection based strictly on mutual convenience, for the practical purpose of financial gain. In the other two cases, the leader controls the members more affectively, that is, through their emotions. Members subordinate themselves to the leader and are partially drawn into espionage from a desire to please. Michael Walker, John's son, is an example of such dependence. In the case of the Rosenberg group, David Greenglass hero-worshipped his brother-in-law, Julius, although, at the same time, he was also heavily committed to Communist ideology.

⁴⁹ Russell Brown, stationed aboard the *USS Midway*, used his secret security clearance to gain access to classified documents in a burn bag in the electronic warfare center of the *Midway*. These he passed to his friend, James Wilmoth, a food service worker on the same ship (DODSI, 1990, p. 28).

The Role of the Family

A theme related to groups is the role of the family in espionage. The Rosenbergs and the Walkers are obvious examples, but other cases reveal the espionage has often been a family affair, perhaps because spies feel they need cohorts they can trust.⁵⁰

The Special Case of Spouses

There are several husband-and-wife teams among American spies: the Greenglasses, Rosenbergs, Koechers, Harper/Schulers, Sergeant Johnson and his German wife,⁵¹ Sergeant Payne and his East German courier wife, and Jonathan and Anne Pollard.⁵² An interesting subtheme here are the cases where wives, who were not helping their husbands, nevertheless knew of the espionage. Some turned in their husbands, others did not. They were not themselves indicted.⁵³ There may be many more cases of spouses knowing about husbands' espionage, but this kind of information, for obvious reasons, is difficult to ascertain.

⁵⁰ For instance, Kurt Ponger and Otto Verber were brothers-in-law when in 1949, as correspondents for the Central European Press Agency, the first approached a U.S. government employee for espionage purposes (Jepsen, 1988, p. 32). and in 1985 Michael Tobias not only used his young nephew, Francis Pizzo, as a cohort in his attempt to sell stolen cryptographic cards, but also involved his brother as an accessory (DODSI, 1990, p. 16).

⁵¹ A tragic "family" twist to the Johnson case was that their son, angered by his parents' participation in espionage, in 1972 murdered Johnson while visiting him in prison (Jepson, 1988, p. 24).

⁵² Anne Pollard knew early on that her husband was bringing home classified documents (Henderson, 1988, p. 116; Blitzer, 1989, p. 93). Later, in order to help her prepare for a job-related presentation, she requested her husband bring home background information in the PRC. The documents turned out to be classified (Henderson, 1988, p. 136). In the end she was convicted only of conspiracy to receive embezzled government property and for being an accessory to possession of national defense documents.

⁵³ The Walker case was the most famous. Barbara Walker, after years of keeping silent, finally in 1984 reported her husband to the FBI (Earley, 1988, p. 344). She had long ago discovered that John was a spy and eventually volunteered to go with him on a dead drop. She explained her participation: "Since the marriage and our family structure was falling apart, I thought, if I showed him that I cared, that would help things to change" (Earley, 1988, p. 95).

In another case, Allen & Polmar (1988, p. 350) hint that Souther's ex-wife may have been responsible for initiating an FBI investigation of her husband. In the case of Edward Howard, Mary Howard certainly helped her husband escape FBI surveillance and eventually escape to the Soviet Union (Wise, 1988, pp. 198-209).

Description of Variables

The following is a list of the variables in the espionage database. Self-explanatory variables are simply listed; others are explained in a short paragraph.

Note: All variables are expressed as of the time when espionage began.

1. **Surname of pseudonym**
2. **Given Name(s)**
3. **Social Security Number**
4. **Citizenship.** All cases are U.S. citizens. If native born, they are designated as USA, if naturalized, USA nat.
5. **Date of Birth.** Department of Defense format: year/month/day e.g., 601215.
6. **Year of Birth:** Common date format, e.g., 1966.
7. **City of Birth.** The city in which the individual was born.
8. **State of Birth.** The state in which the individual was born.
9. **Country of Birth.** The country in which the individual was born.
10. **Education.** The highest level of education attained, and degree received in known.
11. **Years of Education.** Level of education converted to number of years of education as follows: less than high school = 10 years; high school diploma = 12 years; some college = 14 years; undergraduate degree = 16 years; postgraduate education or degree = 18 years.
12. **Marital Status.** The marital state of the individual as follows: single, married, separated or divorced.
13. **Sexual Preference.** The pattern of sexual behavior by the individual, i.e., heterosexual or homosexual. Without strong evidence for homosexuality, individuals were coded Heterosexual (if they were married, divorced or separated, or single and were interested in heterosexual relationships) and as Unknown if they were single and we found no evidence of any heterosexual relationships. In cases where homosexuality was alleged, the individual was coded as Unknown.
14. **Gender**
15. **Race.** American Indian, Asian American, Black, White
16. **Alias.** Other name(s) under which the individual operated during the espionage incident.
17. **Military or Civilian.** If a civilian, coded as civilian. If military, coded by the name of the service.
18. **Military Agency.** One of the four branches of the military service or the Manhattan Project in which a civilian or military person was employed.
19. **Rank.** The military rank of those individuals in military service; if civilian, coded as civilian.

20. **Years of Military Service Prior to Espionage.** For military, the years in the military before the espionage began.
21. **Clearance.** The level of security clearance held by the individual, as follows: none, confidential, secret, top secret.
22. **Clearance Qualifier.** An explanation for the clearance variable, including details or circumstances relating to clearance level other than the names of the levels themselves.
23. **Type of Information Involved.** The type of information compromised or endangered by the espionage incident, expressed in general terms.
24. **Former Job.** Description of job formerly held if this previous job had provided the access to classified information which the individual later divulged in the espionage incident.
25. **Job Organization.** The name of the organization in which the individual worked and which was responsible for the information compromised or affected.
26. **Occupational Category.** The general category into which the individual's job fell, as follows: Communications/Intelligence, General/Technical, Functional Support/Administration, Scientific/Professional, Other.
27. **Job Type.** The type of job the individual held, e.g., intelligence analyst, clerk, finance officer.
28. **Employment/Post-employment.** Employment status when an individual began and ended espionage, as follows: began on job and ended on job; began on job and ended after job; began on job and defected; began after job and ended after job; began after job and rejoined job; began after job and defected or committed suicide.
29. **Later Job.** For people who stopped committing espionage and were not immediately apprehended, the job they took after the espionage incident ended.
30. **Location of Espionage Initiation.** The geographical location of the job held by the individual at the point espionage began (not necessarily the place where information was first passed), as follows: Foreign country, U.S. East Coast, U.S. West Coast, U.S. other.
31. **Age Began Espionage.** Age of the individual.
32. **Volunteer or Recruit.** Whether the individual offered to commit the espionage or was recruited by family or friends or by foreign intelligence.
33. **Receiving Country(ies).** The name(s) of the country(ies) which received the information or was(were) the intended recipient(s) of the information.
34. **Payment.** The total amount of money believed to have been received by the individual over the course of the espionage.
35. **Payment Asked.** The amount of compensation requested by the individual for participation in the espionage incident.
36. **Motivation.** The motive or motives ascribed to the individual by the researchers, having read unclassified sources or having consulted investigative files. Motives are coded as follows: Money; Ideology; Disgruntlement/Revenge; Ingratiation; Coercion; Thrills/Self-importance. Individuals may have single or multiple motives.

37. **Money Motivation.** Where money is a motive, whether the motivation was caused by greed or debt, or a combination of both.
38. **Accomplice.** Name(s) of other persons with whom the individual worked or cooperated during the espionage incident.
39. **First Espionage Contact.** Categories of initiating behavior of the individual, as follows: Recruited; Contacted Foreign Agent; Contacted Foreign Embassy/Agency; Used Go-betweens; Other.
40. **First Espionage Contact Qualifier.** Description of the initiating behavior undertaken by the individual.
41. **Mode of Operation.** How the individual committed espionage, particularly if the espionage occurred over a period of time in which patterns developed.
42. **Foreign Relatives.** Yes, No, or Unknown.
43. **Foreign Relatives Qualifier.** Details about the individual's foreign relatives, including the relationship and the relatives' country of origin.
44. **Substance Use.** Immoderate alcohol use or taking illegal drugs during the period of espionage as follows: Immoderate alcohol; Illegal drugs; Alcohol/drugs.
45. **Gambling.** Immoderate gambling either preceding or during the period of espionage.
46. **Date Began.** Date on which espionage began.
47. **Date Ended.** Date on which espionage ended.
48. **Duration.** The length of time the espionage incident lasted in years and fractions thereof.
49. **Length of Espionage.** The length of time the espionage incident lasted coded as follows: First espionage attempt intercepted; Espionage lasted less than 1 year; Espionage lasted 1 to 4.9 years; Espionage lasted 5 years or more.
50. **Date of Arrest.** Date on which individual was arrested.
51. **Arresting Agency.**
52. **Date of Sentence.** Date on which individual was sentenced.
53. **Sentence.** Years and fractions thereof.
54. **Sentence Qualifier.** Details about the sentence or disposition of the case, such as defections, suicides, paroles, plea bargains, administrative discharges.
55. **Decade in Which Espionage Began.** Decades are coded as follows: half-decade 1945-1949; 1950-1959; 1960-1969; 1970-1979; 1980-1990.
56. **Source.** The source(s) from which the information for the record was derived.