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OFFICE OF THE DIRECTOR OF NATIONAL INTELLIGENCE

## Examination of the Adjudicative Guidelines

Appendix B Part 1

Foundations for Literature Review of the Adjudicative Guidelines



L E A D I N G I N T E L L I G E N C E I N T E G R A T I O N

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## I. PROJECT OBJECTIVES

This project has two overarching purposes. The first is to investigate and provide an evaluative summary of the non-classified research literature about the linkage between the 13 Adjudicative Guidelines used as the bases for security clearance decisions and subsequent security violation behavior (SVB) and security citizenship behavior (SCB). The second is to offer recommendations, based on the evaluative summary of the research literature, about potential improvements in the Guidelines

### **Purpose 1: Evaluative Summary of Research Literature**

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A primary focus of this project is on research literatures in a variety of social science disciplines that provide empirical or conceptual evidence about the relationship between the Guidelines and SVB/SCB. These disciplines include, among others, clinical psychology, industrial-organizational psychology, sociology, criminology, forensics and security industry research. Empirical research and conceptual research are both within the scope of this effort. Empirical research provides evidence showing the extent to which reliance on the 13 Guidelines to inform clearance decisions affects the subsequent behavior of persons with access to classified information. Conceptual evidence evaluates theoretical rationales offered to explain how investigative evidence based on the Guidelines is expected to predict SVB and/or SCB. Both types of evidence have value and are included in the project.

This project is conducted in the context of the policies and practices for the current use of the Guidelines (ADR, 2005). In brief summary, these policies and practices have established that the Guidelines should serve to minimize SVB as well as maximize SCB in the form of the Whole Person Concept. The literature search effort in this project has sought out research relevant to both imperatives. For example, extensive personnel selection research has investigated the personal attributes that lead employees to act as good citizens of their organizations. At the same time, other literatures, such as criminology, have investigated the personal attributes that lead some to commit criminal actions, including betrayals of trust comparable to SVB. Research applicable to both negative SVB and positive SCB is important for the purposes of this project.

## **Purpose 2: Evidence-Based Recommendations**

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Based on the evaluative summary of the relevant literatures, recommendations are offered about possible improvements in the definitions and use of the Guidelines. All recommendations are derived from evidence gathered in the literature search process.

All recommendations are based on two primary standards, (a) a linkage to research-based evidence and (b) the potential impact on the adjudication process. The first standard is the straightforward requirement that all recommendations be consistent with a reasonable, professional interpretation of the available, relevant research literature. These recommendations are to be evidence-based. The second standard requires that each recommendation be about an issue of practical importance for the success of the security clearance process. Success may be driven by a number of factors including the accuracy of clearance decisions (i.e., awarding clearances to people who will demonstrate SCB and denying clearances to people who would have demonstrated SVB), the time/cost of the clearance process, consistency with governing policy and the ease and consistency with which adjudicators make clearance decisions.

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## **Scope of Project**

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There are practical limitations to the scope of this project. For a variety of reasons, this project does not target investigation processes, adjudicators' decision making processes, or organizational policies and strategies, especially those outside the authority of the DNI SSC organization that sponsored this project. The scope of the project focuses on an evaluative summary of the research literature providing evidence about the linkage between the Guidelines and SVB and SCB.

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## II. APPROACH

This project has tailored its approach to the content of the Guidelines and the diversity of relevant research.

### **Clusters of Similar Guidelines**

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This project sought to capitalize on commonalities among the Guidelines. The vast majority of historical research on the Adjudicative Guidelines treats them as 13 relatively separate, distinct factors in adjudicating clearance decisions. Indeed, to a great extent, the Guidelines are operationally defined in the ADR to minimize their overlap. (See the empirical evidence about SSBI issues below.) Nevertheless, there are at least two natural clusters of related Guidelines. This project organized its White Papers around these natural groupings of guidelines in the following manner.

#### White Paper 1

##### *Cluster 1: National Conflict*

- A. Allegiance to the US
- B. Foreign Influence
- C. Foreign Preference
- L. Outside Activities

#### White Paper 2

##### *Cluster 2: Risky Behavior*

- D. Sexual Behavior (Disorder)
- G. Alcohol Consumption
- H. Drug Involvement
- I. Psychological Conditions

#### White Paper 3

##### *Cluster 3: Financial Behavior*

- F. Financial Considerations

#### White Paper 4

##### *Cluster 4: Criminality*

- J. Criminal Conduct
- D. Sexual Behavior (Criminal)

##### *Cluster 5: IT Abuse*

- M. Use of IT Systems

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No White Paper

*Other*

E. Personal Conduct

K. Handling Protected Information

Except White Paper 3, each White Paper summarizes research and makes recommendations about a group of Guidelines that have common elements. The purpose of this grouping was to take advantage of commonalities across Guidelines. These commonalities mean that certain literatures will be relevant to all Guidelines within a cluster and may lead to recommendations relevant to the whole cluster of Guidelines. For example, literature on the role of psychological disorders in emerging counter-normative behavior is directly relevant to the manner in which all Risky Behavior Guidelines may be predictive of SVB. Similarly, recommendations about the definition and use of Guidelines may be influenced by the similarity in meaning among related Guidelines. While White papers will capitalize on commonalities within a cluster of Guidelines, each White Paper will also summarize the research literature and offer recommendations specific to each Guideline. The White Paper authors are mindful of the reality that the 13 Adjudication Guidelines are, in many respects, managed individually by the supporting organizations.

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## **Types of Evidence**

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The second major aspect of this project's approach is based on the different levels of evidence that have emerged from the literature search effort. Unlike the Guidelines cluster approach, which was established in the planning stages in concert with the DNI SSC client, the approach based on levels of evidence emerged in the early stages of the project work. Within the first month of the literature search work, the project analysts began to recognize key differences among the various kinds of evidence relevant to the Guidelines. An important distinction was between the characteristics of strong evidence versus weaker, but still relevant, evidence. The "strength" of evidence refers to the persuasiveness with which any particular research study supports the claim that behavioral indicators associated with the Guidelines are predictive of later SVB, SCB or both. (Clearance decisions are similar to employment decisions in that both are based on a prediction assumption that decisions about people today will impact organization outcomes tomorrow only if today's decisions are based on personal attributes that lead to, or are predictive of, tomorrow's behavior. This prediction perspective underlies the majority of the social science research about the behavior of people in organizations or other social contexts.)

For the purposes of this project, evidence relevant to the Guidelines' impact on subsequent security behavior is divided into three "strength" levels. Level 1 is more persuasive than Level 2, which in turn is more persuasive than Level 3. The Levels are distinguished by the extent to which the evidence is directly applicable to the relationship between Guidelines-based behaviors as captured by the investigation processes that produce the applicant's adjudicative evidence record and behavior directly affecting national security for positive or negative. Empirical and conceptual evidence can both be at any Level. While this Level-based approach is designed to distinguish the more persuasive evidence from less persuasive evidence, it is also true that within levels there are differences in the persuasiveness of individual studies.

### **Level 1 Evidence**

Level 1 evidence is based on measures of Guidelines-based behavior and national security behavior. It directly captures the two sets of behaviors of interest. It does not require inferences from underlying attributes, constructs or concepts to either set of behaviors of interest. The prototypic empirical example of Level 1 evidence would be a study in which, say, applicants' SSBI issues were scored, tracked and correlated with later SVB and/or SCB behaviors in the classified work context. Unfortunately, to our knowledge no such empirical study has been reported. A more conceptual and somewhat less persuasive form of Level 1 evidence is that reported in the occasional case studies of espionage (Wood & Wiskoff, 1992; Herbig & Wiskoff, 2001; Herbig, 2008). In these case studies, examples of caught spies are analyzed in a number of ways including reviews of past behavior records, interviews, and current and past psychological assessments. For purposes of this project, we treat these case studies as Level 1 evidence because they involve direct assessments of security behavior and the behaviors that would be gathered in clearance investigations. However, because these are postdictive

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studies; rely on ad hoc assessments of security behavior and personal histories; and usually do not compare security violators to non-violators, these are not as persuasive of the predictive value of the Guidelines as would be a predictive study with standardized measures of the behaviors of interest.

## **Level 2 Evidence**

Level 2 evidence is based on Guidelines-based behaviors, like Level 1, but is not based on national security behavior. Rather, Level 2 evidence demonstrates relationships between Guidelines-based behavior and non-security behavior that is similar to security behavior in important ways. An example of Level 2 evidence is a study in which criminal record or job stability record – both of which would also be gathered in a Guidelines-based investigation – is shown to be predictive of later organization citizenship behavior in an employment context. This evidence is not as persuasive as Level 1 evidence because the organization citizenship behavior, say, volunteering for unpaid service on behalf of the organization, is not the same as security citizenship behavior. An additional inference is required to conclude that, because criminal/job stability behavior is predictive of organization citizenship behavior, it would also be predictive of security citizenship behavior. This may be a plausible inference if it is plausible to assume that organization citizenship behavior is an analog of security behavior and is caused by many of the same underlying person attributes as cause security citizenship behavior. Compared to Level 1 evidence, Level 2 evidence requires at least one additional linking inference, which generally weakens its persuasiveness.

## **Level 3 Evidence**

Level 3 evidence measures neither Guidelines-based behavior (predictor) nor national security behavior (criterion). Unlike Level 2 evidence, Level 3 evidence uses predictor measures that are assumed to be underlying predictors of the unmeasured Guidelines behaviors. Like Level 2 evidence, Level 3 evidence measures analogs to the unmeasured security behavior. For example, a typical Level 3 study might measure personal stability using a personality inventory and might investigate the extent to which that measure of personal stability predicts later counterproductive work behavior. In order for this example of Level 3 evidence to be relevant to this project, the personality inventory measure of personal stability must be seen as a personal attribute that is manifested in Guidelines-based behaviors such as job change. Similarly, like Level 2, this example would have been seen as relevant to this project to the extent the outcome measure of counterproductive work behavior was an analog to national security behavior, with both being a function of the same underlying personal attributes.

The large majority of empirical research evidence reported in this project is Level 3 evidence that satisfies two requirements. First, there must be a plausible rationale that the predictor measure, personal stability in the above example, is an underlying cause of the types of behaviors measured by Guidelines-based investigations. Second, there must be a plausible

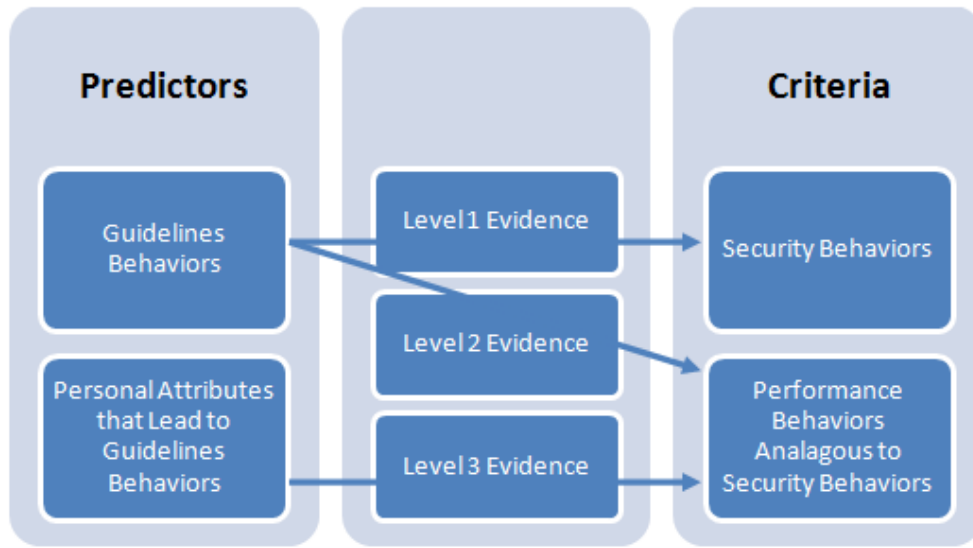
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rationale that the criterion measure, counterproductive behavior in the above example, is analogous to national security violations and depends on at least some of the same underlying personal attributes.

These three levels of evidence are schematically represented in the figure below.

Figure 1. Schematic representation of levels of evidence.

**Figure 1: Levels of Evidence**



## **The Prediction Perspective**

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A prediction perspective underlies this project's definition of the relevance of a Guideline to subsequent security behavior. For the purposes of this project, a Guideline is relevant to security behavior to the extent there is persuasive evidence that Guideline-based behavior predicts later SVB, SCB or both. From this perspective, the intent of Guidelines is to identify personal history behaviors that are antecedents to later security behavior.

At the same time, we are mindful that at least one other rationale can be used to establish a Guideline's relevance to security behavior. Clear, reasonable policies based on accepted national interests may be used to establish the relevance of a Guideline or a specific risk condition. Much as conventional, non-empirical rules of evidence in a court of law are used to establish guilt or innocence, so may compelling, reasonable policies about clearance decisions be used to support the use of a Guideline. For example, a policy that evidence of past violations of national security rules shall disqualify a person from receiving a clearance does not require evidence of prediction to justify the associated Guideline. It is, perhaps, for this very reason that two current Guidelines, Personal Conduct and Security Violations, are not a focus of this research-based project. A strong policy-based argument can be made supporting the use of these two Guidelines. To be sure, the support for all Guidelines would benefit from prediction evidence. But that is especially true for the 11 Guidelines targeted by this project.

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## **Empirical Patterns of SSBI Investigation Issues**

An important background for any investigation of and recommendations about the Adjudicative Guidelines is a basic understanding of the empirical relationships among the Guidelines themselves. Do Guidelines overlap empirically? That is, do any two Guidelines tend to identify the same applicants as having serious issues? Or, do any two Guidelines produce unique evidence about applicants such that serious issues on one Guideline do not identify the same applicants as serious issues on the other Guideline? Such empirical relationships between Guidelines based on the behaviors identified among serious issues are important considerations when offering explanations for linking Guidelines to security behavior and when making recommendations about possible modifications to the Guidelines or their use.

Castelda's (2009) analyses of two recent samples of Single Scope Background Investigations (SSBI) provided a starting point. Two samples of SSBI investigative case files were analyzed to determine the frequencies with which SSBI issues were associated with each of the 13 Guidelines. The larger sample, Sample A, consisted of 4,247 clearance applicants whose cases were currently open at three federal agencies and were likely to close within 90 days. The smaller sample, Sample B, consisted of a separate group of 1,437 security applicants with currently open cases expected to close within 90 days. There were two significant differences between Samples A and B. Sample A included issues sourced from electronic data providers, which were not included in Sample B. Conversely, Sample B included issues applicants self-reported during polygraph exams, which were not included in Sample A. Table 1 shows the distributions of all issues in these two samples.

Table 1 also shows the distribution of SSBI issues in a special sample, Sample B-2, provided to EASI•Consult® for additional analyses. Sample B-2 is a subset of Sample B from which security applicants were excluded for whom polygraph information was used in Sample B. Sample B-2 consisted of 1,084 of the 1,437 security applicants in Sample B.

**Table 1. The Number and Percentage of SSBI Issues in Samples A, B and B-2**

Guideline	Sample A (N=4,247)		Sample B (N=1,437)		Sample B-2			
					All Issues (N=1,084)		Important <sup>1</sup> Issues (N=398)	
	N	%	N	%	N	%	N	%
<i>1. National Conflict</i>								
A. Allegiance to US	1	0.0%	0	0.0%	0	0.0%	0	0.0%
B. Foreign Influence	2039	33.1%	425	16.3%	339	16.9%	35	7.6%
C. Foreign Preference	112	1.8%	24	0.9%	24	1.2%	8	1.7%
L. Outside Activities	1	0.0%	3	0.1%	3	0.1%	1	0.2%
<i>2. Risky Behavior</i>								
D. Sexual Behavior	16	0.3%	33	1.3%	9	0.4%	4	0.9%
G. Alcohol Consump.	478	7.8%	194	7.4%	142	7.1%	54	11.7%
H. Drug Involvement	833	13.5%	443	17.0%	310	15.4%	36	7.8%
I. Psych. Conditions	377	6.1%	200	7.7%	182	9.1%	44	9.5%
<i>3. Financial Behavior</i>								
F. Financial Consider.	846	13.8%	420	16.1%	342	17.0%	113	24.4%

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Guideline	Sample A (N=4,247)		Sample B (N=1,437)		Sample B-2			
					All Issues (N=1,084)		Important <sup>1</sup> Issues (N=398)	
	N	%	N	%	N	%	N	%
<i>4. Criminal Behavior</i>								
J. Criminal Conduct	707	11.5%	549	21.0%	366	18.2%	95	20.5%
<i>5. IT Abuse</i>								
M. Use of IT Systems	19	0.3%	8	0.3%	5	0.2%	2	0.4%
<i>Others</i>								
E. Personal Conduct	640	10.4%	294	11.3%	274	13.6%	62	13.4%
K. Handling Protected Info.	82	1.3%	16	0.6%	12	0.6%	9	1.9%
<i>Total # Issues</i>	6,151	100%	2,609	100%	2,008	100%	463	100%

1. Important issues include issues with Seriousness ratings of Significant (“3”), Serious (“4”) or Highly Serious (“5”).

Finally, Table 1 also shows the distribution of important issues for those 398 applicants who had one or more issues rated as either Significant (Rating = 3), Serious (Rating = 4) or Highly Serious (Rating = 5).

Across all samples, the Guidelines consistently yielding the smallest percentage of issues (whether important or not) are: A. Allegiance to the US, L. Outside Activities, M. Use of IT Systems, and K. Handling Protected Information. The Guidelines consistently yielding the largest percentage of issues are: F. Financial Considerations, J. Criminal Conduct and E. Personal Conduct. For some Guidelines, their relative frequency among important issues is noticeably different than among all issues. G. Alcohol Consumption and F. Financial Considerations become relatively more prominent among important issues; B. Foreign Influence and H. Drug Involvement become relatively less prominent among important issues. It is also noteworthy that the average number of issues per applicant is 1.44 in Sample A, 1.81 in Sample B and 1.85 in Sample B-2. The average number of important issues per applicant is 0.43, i.e., 463/1084. These results reflect the fact that SSBI issues, especially important issues, are quite infrequent among the myriad pieces of information that turn up about applicants in SSBI investigations. Similarly, security violations in the form of espionage convictions are rare – perhaps no more than 50 per year among the several million cleared people (Herbig, 2008). In effect, the predictor measures – SSBI issues – and the most available criterion measure – espionage convictions – are extremely skewed. Predicting rare instances of espionage from infrequent instances of serious adjudicative issues is analogous to looking for the proverbial needle in a haystack but being able to look through only 3 or 4 small holes in the haystack.

Table 1 reports information about issues associated with each Guideline, independent of other Guidelines. But information about the empirical overlap among the Guidelines is also valuable. Information about the overlap among Guidelines would shed light on possible redundancy and/or uniqueness among the Guidelines. For example, evidence that two Guidelines reveal important issues for the same applicants would suggest that one of the two may not be needed or that both are manifestations of the same underlying person and context attributes and perhaps could be more efficiently managed as a single Guideline.

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EASI•Consult® used Sample B-2 to analyze the empirical overlap in issues between all pairs of Guidelines. To properly interpret these analyses, it is important to understand the meaning of empirical overlap in the context of the Adjudicative Guidelines. Empirical overlap does not mean that two Guidelines reveal the same information about an applicant. After all, the ADR’s instructions for the investigation of each Guideline go to great lengths to differentiate the types of personal history information targeted by each Guideline. Well managed investigations complying with ADR instructions should, by definition, yield different pieces of information about an applicant.

Empirical overlap among Adjudicative Guidelines refers to the extent to which any two Guidelines produce evidence leading to the same clearance decisions. (This is a purely empirical definition of overlap that is independent of the meaning of the Guidelines. In contrast, the White Papers that follow this Foundations Paper go to great lengths to explore similarities and differences in meaning among the Guidelines as bases for making recommendations about the use of the Guidelines. Nevertheless, recommendations about the use of the Guidelines should give weight to evidence of empirical overlap in addition to the weight given the meaning of the Guidelines.) For example, if Foreign Preference and Foreign Influence always disqualified the same applicants, they would be regarded as empirically overlapping. Sample B-2 was used to investigate evidence about such overlap.

Unfortunately, evidence of overlap is not directly available because, with some exceptions, disqualification decisions are not based on evidence from single Guidelines. Rather a fundamental principle of adjudication is that clearance decisions should be based on the weight of all relevant evidence. As a result, overlap may be analyzed only indirectly by exploring the extent to which applicants who have (important) issues on one Guideline also tend to have (important) issues on another Guideline. Tables 2 – 4 present results from Sample B-2 of such overlap analyses when considering all issues and when considering only important issues.

Table 2 presents frequencies for all issues, regardless of importance. The left-handmost column of frequencies reports the overall number of issues for each Guideline. In contrast, the frequencies reported in the columns for each Guideline represent the number of applicants (cases) who have one or more issues in both the row Guideline and the column Guideline. These frequencies are referred to as “coincidence” frequencies in this Foundations paper. For example, the 13 in the row for C. Foreign Preference and the column for B. Foreign Influence represents the number of applicants who have one or more issues in both Guidelines, regardless of the number of such coinciding issues.

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**Table 2. Frequencies in Sample B-2 of all SSBI Investigation Issues (N of Applicants = 1,084)**

Guidelines	Total of All Issues	# Applicants with Issues in Both the Row Guideline and the Column Guideline													
		National Conflict				Risky Behavior				Fi	Cr	IT	Other		
		A	B	C	L	D	G	H	I	F	J	M	E	K	
<i>1. National Conflict</i>															
A. Allegiance to US	0	--	0	0	0	0	0	0	0	0	0	0	0	0	0
B. Foreign Influence	339	0	--	13	2	1	28	77	43	84	92	2	64	5	
C. Foreign Preference	24	0	13	--	0	0	3	9	6	6	5	0	4	0	
L. Outside Activities	3	0	2	0	--	0	1	0	0	1	1	0	1	0	
<i>2. Risky Behavior</i>															
D. Sexual Behavior	142	0	28	3	1	4	--	57	23	36	47	0	28	2	
G. Alcohol Consump.	310	0	77	9	0	2	57	--	50	46	92	2	56	3	
H. Drug Involvement	182	0	43	6	0	1	23	50	--	46	54	0	39	3	
I. Psych. Conditions	9	0	1	0	0	--	4	2	1	1	5	0	1	0	
<i>3. Financial Behavior</i>															
F. Financial Consider.	342	0	84	6	1	1	36	46	46	--	113	1	107	5	
<i>4. Criminal Behavior</i>															
J. Criminal Conduct	366	0	92	5	1	5	47	92	54	113	--	2	102	4	
<i>5. IT Abuse</i>															
M. Use of IT Systems	5	0	2	0	0	0	0	2	0	1	2	--	0	0	
<i>Others</i>															
E. Personal Conduct	274	0	64	4	1	1	28	56	39	107	102	0	--	4	
K. Handling Prot. Info.	12	0	5	0	0	0	2	3	3	5	4	0	4	--	
Overall	2,008														

It should also be noted that, except for column showing the Total of All SSBI Issues, Table 2 is a symmetric matrix. Both halves of this matrix are shown for convenience.

he first result to note is that, as would be expected, Guidelines with higher numbers of Total Issues also have higher numbers of coincidences. The second, and perhaps most revealing result from Table 2, is that the number of coincidences within the two multi-Guideline clusters is not substantially higher than the number of coincidences between clusters. Indeed, for the four National Conflict Guidelines the average number of within-cluster coincidences, 2.5, is substantially lower than the average number of coincidences between these four Guidelines and the other nine Guidelines, 12.0. For this cluster, the higher number of inter-cluster coincidences is almost entirely a function of B. Foreign Influence. In contrast, for the Risky Behavior cluster the average number of coincidences within the cluster, 22.8, is somewhat higher than the average number of coincidences between the four Risky Behavior Guidelines and the other 9 Guidelines, 17.5. But this difference is not substantial. When considering all SSBI issues recorded in Sample B-2, it appears the manner in which Guidelines have been clustered for this project does not affect the tendency of Guidelines to identify the same applicants for possible disqualification. Table 3 reports the same types of frequencies from Sample B-2 but only for issues rated as 3, 4 or 5. These three Seriousness ratings indicate that an issue is important enough that it could contribute to a disqualification decision. These types of issues are referred to as “important” in this Foundations paper. Of the 1,084 applicants in Sample B-2, 398 had at least one important issue.

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**Table 3. Frequencies in Sample B-2 of important SSBI investigation issues rated as Significant (“3”), Serious (“4”) or Extremely Serious (“5”). (# Applicants = 398.)**

Guidelines	Total of All Issues	# Applicants with Issues in Both the Row Guideline and the Column Guideline												
		National Conflict				Risky Behavior				Fi	Cr	IT	Other	
		A	B	C	L	D	G	H	I	F	J	M	E	K
<i>1. National Conflict</i>														
A. Allegiance to US	0	--	0	0	0	0	0	0	0	0	0	0	0	0
B. Foreign Influence	35	0	--	0	0	0	2	1	3	5	3	0	1	0
C. Foreign Preference	8	0	0	--	0	0	0	0	0	0	0	0	0	0
L. Outside Activities	1	0	0	0	--	0	0	0	0	0	0	0	0	0
<i>2. Risky Behavior</i>														
D. Sexual Behavior	4	0	0	0	0	--	1	0	0	0	1	0	0	0
G. Alcohol Consump.	54	0	2	0	0	1	--	6	3	5	9	0	3	0
H. Drug Involvement	36	0	1	0	0	0	6	--	1	2	4	1	0	0
I. Psych. Conditions	44	0	3	0	0	0	3	1	--	8	4	0	3	3
<i>3. Financial Behavior</i>														
F. Financial Consider.	113	0	5	0	0	0	5	2	8	--	12	0	8	1
<i>4. Criminal Behavior</i>														
J. Criminal Conduct	95	0	3	0	0	1	9	4	4	12	--	0	5	0
<i>5. IT Abuse</i>														
M. Use of IT Systems	2	0	0	0	0	0	0	1	0	0	0	--	0	0
<i>Others</i>														
E. Personal Conduct	62	0	1	0	0	0	3	0	3	8	5	0	--	0
K. Handling Prot. Info.	9	0	0	0	0	0	0	0	3	1	0	0	0	--
Overall	463													

In Table 3, the overall pattern is that coincidences of important issues between pairs of Guidelines tend to be infrequent. Strikingly, there are no coincidences between Guidelines within the National Conflict cluster. That is, of the 398 applicants who have important issues, none have important issues on more than one of these four Guidelines. Also, there appear to be two types of Guidelines, those with and those without coincidences. Of the 191 coincidences reported in Table 3, only 7 are associated with Guidelines A, C, L, D, M or K. The coincidence between specific pairs of Guidelines is sometimes striking. For example, of the 1,084 applicants in Sample B-2 only 6 have serious issues on both Alcohol Consumption and Drug Involvement. Of the 95 applicants with important issues on Criminal Conduct, only 4 also have important issues on Drug Involvement. Of the 35 with important issues on Foreign Influence, none have important issues on Foreign Preference. Of the 44 cases with important issues on Psychological Conditions, none have important issues on Sexual Behavior and only 3 have important issues on Alcohol Consumption. In several of these cases it is reasonable to expect higher coincidence rates.

Analyses reported in Table 4 provide one other lens into the question of empirical overlap. For each pair of Guidelines, Tables 2 and 3 reported the number of applicants who had issues on both. In contrast, Table 4 reports frequencies reflecting the uniqueness of one Guideline with respect to another. Like Table 3, Table 4 frequencies are based only on important issues among the 398 members of Sample B-2 who have one or more important issues. The results shown in Table 4 are closely related to the results in Tables 2 and 3.

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In Table 4, each cell corresponding to a pair of Guidelines contains the number of important issues on the column Guideline among those applicants who have no important issues on the row Guideline. This means the frequency in each cell measures the extent to which the column Guideline is providing important information above and beyond the information provided by the row Guideline. In effect, each cell frequency measures the extent to which the column Guideline provides potentially disqualifying information among those applicants for whom the row Guideline does not.

The frequencies in Table 4 are frequencies of issues, not applicants.

**Table 4. Frequencies in Sample B-2 of Important SSBI Issues in Column Guidelines for Applicants Who Have No Important SSBI Issues in Row Guidelines (# Applicants = 398)**

Guideline	Total of All SSBI Issues	# Applicants with Issues in Both the Row Guideline and the Column Guideline														Ave. (weighted Impact Ratio)
		National Conflict				Risky Behavior				Fi	Cr	IT	Other			
		A	B	C	L	D	G	H	I	F	J	M	E	K		
		0	35	8	1	4	54	36	44	113	95	2	62	9	0	
<i>1. National Conflict</i>																
A. Allegiance to US	0	--	35	8	1	4	54	36	44	113	95	2	62	9	NA	
B. Foreign Influence	35	0	--	8	1	4	52	35	41	108	92	2	61	9	.04	
C. Foreign Preference	8	0	35	--	1	4	54	36	44	113	95	2	62	9	.00	
L. Outside Activities	1	0	35	8	--	4	54	36	44	113	95	2	62	9	.00	
<i>2. Risky Behavior</i>																
D. Sexual Behavior	4	0	35	8	1	--	53	36	44	113	94	2	62	9	.00	
G. Alcohol Consump.	54	0	33	8	1	3	--	30	41	108	86	2	59	9	.07	
H. Drug Involvement	36	0	34	8	1	4	48	--	43	111	91	1	62	9	.04	
I. Psych. Conditions	44	0	32	8	1	4	51	35	--	105	91	2	59	6	.06	
<i>3. Financial Behavior</i>																
F. Financial Consider.	113	0	30	8	1	4	49	34	36	--	83	2	54	8	.12	
<i>4. Criminal Behavior</i>																
J. Criminal Conduct	95	0	32	8	1	3	45	32	40	101	--	2	57	9	.10	
<i>5. IT Abuse</i>																
M. Use of IT Systems	2	0	35	8	1	4	54	35	40	113	95	--	62	9	.00	
<i>Others</i>																
E. Personal Conduct	62	0	34	8	1	4	51	36	41	105	90	2	--	9	.05	
K. Handling Prot. Inf.	9	0	35	8	1	4	54	36	41	112	95	2	62	--	.01	
Average (weighted) Uniqueness Ratio	NA	NA	.96	1.0	1.0	.96	.96	.97	.95	.97	.97	.96	.97	.97		

Two measures relating to empirical overlap may be derived from these frequencies, a Uniqueness Ratio for each column Guideline and an Impact Ratio for each row Guideline. The Uniqueness Ratio measures the extent to which a Guideline presents important issues among applicants who have no important issues on some other Guideline. For example, consider the uniqueness of G. Alcohol Consumption with respect to K. Handling Protected Information. The relevant cell is Row K, Column G, in which a frequency of 54 is reported. This 54 indicates that, when all applicants with important issues on K. Handling Protected Information were removed from the sample, the remaining applicants had 54 important issues on G. Alcohol Consumption. But the total number of important issues on G. Alcohol Consumption in the complete sample of 398 was 54. This means that G. Alcohol Consumption retains all its potentially disqualifying information when applicants with important issues on K. Handling Protected Information are

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removed. This Foundations Paper interprets this result to mean that G. Alcohol Consumption is perfectly unique with respect to K. Handling Protected Information. The Uniqueness Ratio is the ratio of the number of important issues retained by the column Guideline to the total number of important issues in the column Guideline. In this case, the Uniqueness Ratio is 54/54, or 1.0.

Consider the example of the uniqueness of G. Alcohol Consumption with respect to J. Criminal Conduct. In this case, 45 of the 54 important alcohol issues are retained when the sample is reduced by eliminating the applicants who have important Criminal Conduct issues. The Uniqueness Ratio for G. Alcohol Consumption with respect to J. Criminal Conduct is 45/54, or .83. The bottom row of Table 4 indicates that G. Alcohol Consumption's average Uniqueness Ratio across all other 12 Guidelines is .96. (Note, each column Guideline's average Uniqueness Ratio is a weighted average.)

Similarly, each row Guideline can be thought of as having an impact on the unique contribution of any column Guideline. In the above examples, G. Alcohol Consumption's contribution was reduced by eliminating important J. Criminal Conduct issues but not by eliminating important K. Handling Protected Information Issues. For each row Guideline, an Impact Ratio can be derived with respect to each column Guideline. The impact of, say, Guideline J on Guideline G is a function of the reduction in number of important G issues, when applicants are removed who have important J issues. In Table 4, the number of important G issues is reduced by 9, from 54 to 45. The Impact Ratio for Guideline J with respect to Guideline G is 9/54, .17. The last column in Table 4 reports the weighted average Impact Ratio for each row Guideline.

The pattern of results in Table 4 is unambiguous. All Guidelines are highly unique with respect to important issues; and, no Guideline substantially overlaps with the contribution of other Guidelines.

The overall conclusion from this analysis of empirical SSBI issues is that the individual Guidelines are not redundant of one another, at least empirically. To a very great extent, important issues raised under one Guideline identify different applicants than important issues raised under other Guidelines. In effect, with regard to SSBI investigative issues, the Guidelines "tag" mutually exclusive groups of applicants. The challenge this finding presents is that, at the same time, the Guidelines are thought to be manifestations of a common set of attributes underlying reliability, trustworthiness, loyalty and sound judgment. The White Papers for each cluster and Guideline will interpret these results and integrate them with research literature findings to help form recommendations.

## **Describing Security Behavior**

In 1932 in the dusty, rural Imperial Valley of California a young grade school teacher, Ms. Bramkamp, sought to understand the antecedents of "school citizenship" among 7th and 8th graders in the local schools. She defined school citizenship as a combination of 19 bipolar traits such as Civic minded – Self centered, Sportsmanship – Unfair, Courteous – Boorish,

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Reliable – Unreliable, Co-operative – Self-seeking, Persevering – Unsteady, and Enthusiastic – Indifferent. She administered cognitive ability tests and personality inventories to these farm children. Based on these data, she concluded, “Insofar as citizenship is concerned the best combination of traits seems to be mental ability above average, low emotional affectivity, emotional stability, and introversion.” Had she defined school citizenship differently, different attributes would have emerged as the important antecedents. So it is today, 77 years later, that to know whether the Guidelines are antecedents of national security behavior, we must say what that security behavior is.

Broadly stated, the purpose of this project is to advance our understanding of the relationship between the Guidelines and security behavior. As noted above, this project pursues that purpose from a prediction perspective that a Guideline’s relationship to security behavior is understood to the extent there is evidence showing measures of Guideline-based behaviors are antecedents to security behavior. In the social sciences, prediction inferences rely as much on an understanding of the behavior being predicted as of the predictor behavior. More specifically, for example, in the personnel selection science the most well-established method for ensuring that selection procedures are predictive of job behavior begins with an investigation of the job behaviors to be predicted (Principles for the Validation and Use of Personnel Selection Procedures, 2003). This typically takes the form of some type of job analysis of work behaviors, tasks or required abilities.

In the closely parallel science of personnel security behavior, a clear understanding of the security behavior to be predicted is necessary to describe the extent to which any Guideline successfully predicts that security behavior. If it’s not clear what is being predicted, it can’t be clear whether it is being predicted well or not.

Unfortunately, this project has found very little published evidence describing security behavior. The few published studies of national security behavior itself have focused on the many cases of espionage convictions (e.g., Herbig, 2008; Herbig & Wiskoff, 2002; and Wood & Wiskoff, 1992). Although all of these studies have drawn conclusions about antecedents of espionage behavior, none has attempted to develop an integrated description of the major types or dimensions of espionage behavior itself, much less the full range of security behavior.

In spite of this absence of research on security behavior, even an informed speculative model of security behavior would provide considerable value to this project. Findings and recommendations about the relevance of the Guidelines to security behavior must rely to some extent on an organized description of security behavior. For that reason, an attempt is made here to propose a model of security behavior that will, at a minimum, clarify assumptions about security behavior that underlie the project’s findings and recommendations. These assumptions will be explicit and will have plausible conceptual foundations but may have little empirical foundation.

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## Scope

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The first question to be answered in this effort to describe a model of security behavior is one of scope. What is the range of security behavior that is targeted by the Adjudicative Guidelines in clearance decisions? There is some ambiguity about the scope of targeted security behavior. On the one hand, the ADR (2005) clearly communicates the policy of the “whole person concept,” which specifies that clearance adjudications should seek to award clearances to applicants who demonstrate reliability, trustworthiness, loyalty and good judgment. On the other hand, the focus of the specific Guidelines and investigations is predominantly on negative evidence with the potential to disqualify applicants. This ambiguity is about the intended relevance of the Guidelines to positive security behavior as well as negative security behavior.

Also, when clearance decisions and employment decisions co-occur, it seems plausible that employment decisions bear primary responsibility for certain domains of personnel security performance behavior relating to applicant “suitability,” whereas clearance decisions bear primary responsibility for managing the risk that applicants will violate important security rules. This ambiguity is about the intended relevance of the Guidelines to minor security violations or poor security work performance in contrast to significant violations of security rules.

For purposes of this project, we resolve these ambiguities by assuming the Guidelines are intended to be relevant to the full scope of security behavior including positive and negative, minor and important. This broad scope will require that the security behavior model represent not only espionage but also, intended minor violations, positive security citizenship behavior, passive non-response to observed violations, coerced security violations, volunteered violations, revenge/retribution-based violations, and so on. The implication of this broad scope is that the underlying dimensions of behavior must be relevant to positive security citizenship behavior as well as negative security violation behavior.

## Models of Behavior Similar to Security Behavior

In the absence of research describing the full range of security behavior itself, we reviewed research on behaviors in other work domains similar to behavior in the security domain. Evidence-based descriptions of behavior in analog domains might provide insight into important characteristics of security behavior.

Several behavioral domains were considered as possible analogs to security behavior. To be considered an analog to security behavior for this project, the behavior domain must be (a) in an organization context, (b) counter-normative in its negative form, (c) intentional (voluntary), and (d) directed toward a person or entity for harm or good. Beyond these minimum criteria behavioral domains like police corruption that, in their negative form, represent betrayal of trust are likely to be especially close analogs to security behavior. However, because trust may be a salient feature of behaviors in only a few organizational contexts such as public service and health, betrayal of trust is not a requirement for inclusion in this list of analog domains. The analog behaviors that met these criteria included counterproductive workplace behavior,

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workplace deviance, workplace safety, organizational citizenship behavior, workplace aggression, white collar crime and police corruption.

The research in these analog domains has identified a small number of dimensions along which behaviors vary. Conceptual analysis of these dimensions and assumptions about the nature of security behavior may support inferences that one or more of these dimensions also applies to security behavior. For each domain below, a short summary of research is presented describing either the dimensions or categories of behavior that could be suggestive of similar dimensions or categories of security behavior. Because dimensions of behavior tend to be general they are likely to be more applicable to security behavior. Categories of behavior tend to be more specific to the particular domain of behaviors and are less likely to be representative of security behavior. Following these short summaries, a speculative model of security behavior is described based on the short research summaries.

### **Workplace Deviance**

In their integrative work on workplace deviance, Robinson & Bennett (1995) developed a typology of deviant workplace behaviors defined as “voluntary behavior that violates significant organizational norms and in so doing threatens the well-being of an organization, its members, or both” (p. 556). This definition places employee deviance well within the same conceptual framework for national security violation behavior (SVB) in that it is in an organizational context and is voluntary, counter-normative and harmful. Robinson & Bennett built on earlier research by Mangione & Quinn (1974) that identified two types of deviance – purposeful property damage and carelessly poor performance – and by Hollinger & Clark (1982) that identified two clusters of deviance – “property deviance” and “production deviance” – that were similar to Mangione & Quinn.

Robinson & Bennett identified 2 dimensions of employee deviance – seriousness (degree of harmfulness) and target (person or organization). They used these two dimensions to identify four types of deviance behavior. Serious, person-directed deviance was labeled “personal aggression”; serious, organization-directed behavior was labeled “property deviance and captured the cluster identified earlier by Mangione & Quinn and Hollinger & Clark. Minor, person-directed deviance was labeled political deviance; minor, organization-directed deviance was labeled “production deviance” and corresponds to Mangione & Quinn’s earlier category.

### **Workplace Aggression**

Buss’s (1961) work on aggression produced perhaps the most widely referenced classification system. This system classified aggression behavior on three dichotomous dimensions, physical – verbal, active – passive, and direct – indirect. While this classification system was designed to represent a broad range of aggression behavior, Neuman & Baron (2005) found a close fit to examples of workplace aggression behavior. We should note here that workplace violence has been identified as a subset of workplace aggression where, in Buss’s

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taxonomy, the behavior is active, physical and direct. In our judgment, workplace violence does not represent a close analog to SVB largely because direct physical aggression is not likely to be a part of the context of security violations. Security violators may occasionally be violent, but the degree of direct, physical violence is not likely to be important or useful for describing SVBs.

Following Buss's work, two other meaningful dimensions of aggression were identified that may be relevant to security behavior. Baron & Neuman (1998) and Kaukiainen, et al. (2001) demonstrated the importance of the distinction between overt and covert workplace aggression. Overt aggression includes the more visible forms of aggression (e.g., throwing, pounding, slamming, hitting, etc.) where covert aggression includes the less visible, and perhaps more common, forms of workplace aggression (e.g., unreturned calls or messages, clandestine sabotage, intentional tardiness, etc.) Until more evidence about the range of SVBs is developed, it is not clear whether the visibility of SVBs will be an important variable for distinguishing among types of SVBs or, for that matter distinguishing among all types of security behavior. If espionage were the only type of SVB considered, one might expect visibility not to be an important discriminator simply because virtually all espionage is intended to be unseen, at least with respect to the victimized nation or organization.

Geen (1991) and Berkowitz (1998) describe a dimension relating to intent that may prove to be an important characteristic of security behavior, both positive and negative, because it addresses the motivational component of aggression. This dimension distinguishes between proactive, instrumental aggression, sometimes referred to as "cold" aggression, and reactive, hostile, affective aggression or "hot" aggression. In general, proactive aggression is regarded as "means-to-an-end" aggression in which harm to victims may not be the ultimate goal. Indeed, organizational retaliation (Folger & Skarlicki, 2005) and revenge (Bies & Tripp, 2005) motives may even have functional or prosocial instrumental motives and consequences. In contrast, reactive aggression is regarded as affective aggression involving hostile intent toward the victim, caused by some perceived provocation by the victim.

These considerations of proactive and reactive aggression appear to fit conceptually with observations about espionage cases where retaliation, disgruntlement and revenge i.e., "hostile aggression, plays a prominent role in many cases and proactive instrumental aggression also appears to characterize many other cases" (Herbig, 2008). Even a casual reading of the various summaries of espionage cases reveals the centrality of motive. Some spies appear to have instrumental motives, such as ideology, for their violations; others appear to be motivated by their disgruntlement or anger at lack of recognition, disappointments or other provocative events. On its face, this motivation dimension appears to have relevance to security behavior.

## **Counterproductive Workplace Behavior**

Research has attempted to describe counterproductive workplace behavior (CWB) in two ways. One approach used by Hunt (1996), Gruys (1999) and Spector, Fox, Penney, Bruursema, Goh & Kessler (2006) is to describe mutually exclusive categories or types of CWB that apply to

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some CWBs but not others. The other approach (Gruys & Sackett, 2003) is to describe dimensions that are relevant to all CWBs.

In a very large scale study, Hunt (1996) identified five categories of CWB - attendance, off-task behavior, unruliness, theft and drug misuse. However, in an equally comprehensive study using a different methodology, Gruys (1999) identified 11 categories of CWB as shown below. Similarly, Spector et al (2006) developed five categories of CWB, which they applied over a series of studies. To show the pattern of overlap among these three category systems, Table 5 below lists each category for each system.

**Table 5. Rational alignment of Gruys, Hunt and Spector et al. CWB categories**

Gruys (1999)	Hunt (1996)	Spector et al (2006)
Theft	Theft	Theft
Property Destruction	Unruliness	Sabotage
Information Misuse		Sabotage
Time/Resource Misuse	Off-Task Behavior	Withdrawal (time); Sabotage
Unsafe Behavior	Unruliness	Production Deviance
Poor Attendance	Attendance	Withdrawal
Poor Quality of Work		Production Deviance
Alcohol Use		
Drug Use	Drug Misuse	
Inappropriate Verbal Actions	Unruliness	Abuse against Others
Inappropriate Physical Actions	Unruliness	Abuse against Others

This alignment between categories from different systems is based on a rational analysis of the authors' descriptions of the categories and is not based on any empirical evidence. Based on the rational linking, it can be seen that with only a few exceptions, the differences between categorizations systems is largely a function of the breadth of meaning assigned to the categories. Theft is the only CWB category described by all three systems at the same level. Gruys' system tends toward narrower categories; both Hunt's system and Spector et al's system use broader categories that overlap with more than one Gruys category. The notable exceptions are that Hunt's system does not include poor work quality and neither Hunt nor Spector et al. include alcohol use. Clearly, Gruys' system is the most extensive description of CWBs.

Gruys & Sackett (2003) investigated the dimensions of behavior that differentiate the various categories of CWB as represented by Gruys' (1999) system. In one study, factor analyses of intention ratings by working adults revealed only a single overall CWB dimension, reflecting the substantial positive correlation among the categories. In a second study of the same categories, the same sample of working adults rated the extent to which workers who exhibit one category of CWB would also exhibit another category. Multidimensional scaling analyses reveal two dimensions underlying the judgments about the 11 categories. The first dimension was an "Interpersonal-Organizational" dimension reflecting the extent to which a CWB is directed at an individual or the organization. Robinson & Bennett (1995) found the same dimension among workplace deviance behaviors. The second dimension was a Task Relevance dimension

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reflecting the extent to which any CWB category involved task performance. This second dimension is quite different than Robinson & Bennett's (1995) second dimension, "seriousness."

## **Workplace Safety**

Unlike deviance, aggression and counterproductivity, the scope of safety behavior includes both positive and negative behaviors. In a logical analysis of safety behavior Reason, Parker, & Lawton (1998) suggested 4 high-level bipolar dimensions they then used to classify 10 types of safety behavior. The first two of these four dimensions have motivational components. The first three dimensions are characteristics of the safety behavior itself whereas the fourth dimension applies to the local situation. The first dimension, "reward," distinguishes psychologically "rewarding" behavior from "unrewarding" behavior. The critical element of this distinction is that the rewarding quality of the action is based on the individual's internal reference, not external standards. An unsafe risky behavior may be satisfying to a thrill-seeker but uncomfortable to a risk-averse individual. The second dimension, "adherence," distinguishes violation behavior from compliance behavior. Unlike the person-centered first dimension, the second dimension defines violation and compliance with respect to external or organizational standards or rules. This distinction, itself, is not rooted in motivation. However, within this dimension, Reason, Parker, & Lawton describe three types of violations – routine violations, optimizing violations, and situational violations. Routine violations are minor, common violations that are not sanctioned and are motivated by least effort. Optimizing violations occur when the individual chooses actions that optimize individual goals that conflict with safety. Situational violations occur to accommodate organizational circumstances that incite the individual to violate safety rules.

The third dimension distinguishes between actions based on correct perceptions or incorrect perceptions. Safety behavior based on an accurate perception of actual safety conditions is "correct." Safety behavior is "incorrect" when it is based on an inaccurate perception of the safety conditions. The fourth dimension refers to the appropriateness of the prevailing safety rules, not the person or the action. Prevailing safety rules are appropriate when they apply to the true safety conditions of the local situation; they are inappropriate otherwise. The 10 classes of behavior did not add meaning to this system but only provided labels to the multitude of logical combinations of the four dimensions. For example, the combination of action and situation in which an unrewarding action was compliant with a correctly perceived, appropriate rule was labeled "correct but unrewarding compliance." A potential strength of this dimensionality for its relevance to security behavior is that it includes person and situation elements as well as motivational and perceptual elements.

As noted, this dimensionality was logically derived and might be considered a prescription for classifying safety behavior. In contrast, Neal & Griffins (2006) empirically derived two dimensions of safety behavior from respondents' agreement ratings on a number of behavioral descriptors of safety behavior. The first dimension was "safety compliance," which refers to rule adherence. This is the same as Reason, Parker, & Lawton's second dimension. The

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second was “safety participation,” the high end of which refers to active promotion of safety in the organization beyond the strict definition of one’s job/role.

Burke, Sarpy, Tesluk, & Smith-Crowe (2002) derived four “performance factors” that differentiated safety behaviors in the specific context of a hazardous nuclear waste work environment. These factors are (a) Using Personal Protective Equipment, (b) Engaging in Work Practices to Reduce Risk, (c) Communicating Health and Safety Information, and (d) Exercising Employee Rights and Responsibilities. Because these factors are classes of safety behavior in a specific work context, they do not readily generalize to security behavior in different work contexts. However, factor (b) appears to be the situation-specific manifestation of a general compliance dimension largely consistent with Neal & Griffins’ safety compliance dimension and Reason, Parker & Lawton’s adherence dimension. Similarly, factor (c) regarding communication overlaps somewhat with Neal & Griffins’ safety participation dimension in that it includes behaviors specifically oriented toward co-workers and the organization as a whole. Factor (c) does not overlap entirely with safety participation because the communication behaviors represented by factor (c) are entirely within-role behaviors whereas safety participation includes extra-role behaviors. Factors (a) and (d) appear to be highly specific to hazardous work contexts and have little generalizability to other contexts such as security.

## **Organization Citizenship**

To understand the full range of security behavior it is important to describe its positive manifestations as well as its negative manifestations. Unquestionably, simple good performance in a job requiring the protection of classified information is positive security behavior. Obeying the rules, writing accurate classified documents, routine checking of physical security protections, and careful management of laptops are but a few characteristics of the normal range of good job performance that helps ensure protected, accurate, and accessible classified information. This type of performance is “in-role” in the sense that mere adherence to one’s job description positively supports security. But the obligation to protect valuable classified information can be a demanding burden that may frequently require extraordinary, proactive vigilance and response as well as resistance to the temptation of personal gain.

Given such a compelling work context, the full range of positive security behavior may be better understood by comparing it to models of “extra-role” positive work behavior. Organization citizenship behavior (OCB) is perhaps the most common label for such extra-role positive behavior in organization contexts. Notwithstanding Ms. Bramkamp’s prescient investigation of school citizenship in 1932, organization citizenship has a 25 year history of systematic, rigorous research. Smith, Organ & Near (1983) identified two major dimensions of OCB, altruism and organization compliance. Subsequently, Organ (1988) added three factors to this list, courtesy, sportsmanship, and civic virtue. In a more methodologically comprehensive analysis, Coleman & Borman (2000) derived a hierarchical model in which a general dimension of Citizenship Performance is supported by three factors, Interpersonal, Organizational and Job/Task. Within each of these three dimensions, subgroups of related citizenship performance

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behaviors were identified. Interpersonal Citizenship included helping and cooperating, altruism, and interpersonal conscientiousness. Organizational Citizenship included endorsing, supporting and defending organizational objectives, following rules (compliance), allegiance and loyalty, sportsmanship and civic virtue. Most recently, Hoffman, Blair, Meriac & Woehr (2007) applied the most sophisticated measurement analysis to these same behaviors and determined that from a measurement perspective a single general OCB factor comprised of individual-oriented and organization-oriented facets very similar to those identified by Coleman & Borman.

Like deviance, aggression and counterproductive behaviors, the positive range of citizenship behavior is characterized, in part, by the target of the behavior – person or organization.

## **White Collar Crime**

The term “white collar crime” was coined by Sociologist Edwin Sutherland in his 1939 presidential address to the American Sociological Society. Sutherland defined white collar crime as “a crime committed by a person of respectability and high social status in the course of his occupation.” He chose this definition to call attention to the notion that crime occurs at all levels of society and is committed by people of diverse socio-economic backgrounds.

Krause (2002) notes that since Sutherland’s address, scholars and practitioners have engaged in considerable debate over the proper and inclusive definition of the concept. A major issue is that Sutherland’s original definition is vague and has resulted in an over-inclusiveness problem whereby a wide gamut of crimes and deviant acts have been studied as exemplars of white collar crime. Examples of white collar crimes investigated have included fraud, embezzlement, insider trading, antitrust violation, bribery, forgery, and tax evasion.

Coleman’s (1989) conceptualization has the most practical relevance to the practice of personal security. Coleman distinguished two types of white collar crime— organizational and occupational crime. The major differentiator between these two types is the nature of the perpetrator. Organizational crimes are committed by groups of individuals and include fraud, such as false advertising, tax evasion, unfair competition practices, price fixing, and bribery and corruption. In contrast, occupational crime is committed by individuals. In this way, occupational crime is similar to the view in this project that security behavior is individual behavior. Coleman (1989) further distinguished occupational crimes according to the target of the act. These include crimes against employers, customers, or the government. Table 6 shows examples of occupational crimes categorized by target.

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**Table 6. Examples of Occupational Crimes by Target**

Target of Occupational Crime	Examples
Employer	<ul style="list-style-type: none"> <li>➤ Theft of Goods, Trade Secrets, or Time</li> <li>➤ Computer Crime</li> <li>➤ Embezzlement</li> </ul>
Customer	<ul style="list-style-type: none"> <li>➤ Shortchanging by Sales Clerks</li> <li>➤ Unrealistic Claims by Salespeople</li> <li>➤ Fraudulent Claims by Stockbrokers</li> </ul>
Government	<ul style="list-style-type: none"> <li>➤ Election Fraud</li> <li>➤ Tax Evasion</li> <li>➤ Espionage</li> <li>➤ Bribery</li> </ul>

Drawing on Coleman’s conceptualization, it is evident that not every form of white collar crime is equally relevant to security behavior. However, the distinction between targets that are persons (i.e., customers and in some cases employers) and organizations (i.e., government and in some cases employers) is very similar to the person-organization dimension of behavior that has been identified in other analog domains. Beyond this person-organization distinction, no research has identified dimensions of occupational crime as the basis for describing differences between white collar crimes.

## Police Corruption

Like white collar crime, the range of behaviors under the mantle of “police corruption” is wide. The list includes behaviors ranging from kickbacks, opportunistic theft from arrestees, crimes of personal gain, manipulating evidence, protection bribes, and so on (Roebuck & Barber, 1974; Punch, 1985). Some forms of corruption stem from a policing culture of tolerance for certain noble causes, others stem from mere opportunity for personal gain. Care must be taken to determine which forms of police corruption are similar enough to security violations to serve as an analog for the purpose of this project. For any example of corrupt police behavior perhaps the most significant consideration in comparing it to security violation is whether that behavior is tolerated or condoned within the organization. Security violations are widely regarded as betrayals of trust that violate accepted organizational norms for information protection. To whatever extent a specific corrupt police behavior does not violate real organizational norms it is unlikely to be an appropriate analog to security violations. There may be other distinctions that are not yet clear but certainly the consideration of local norms is important.

Lists and categories of contemporary police corruption have been proposed for over 30 years (Roebuck & Barker, 1974; Punch, 1985; Punch, 2000). But none sought to identify dimensions of corruption underlying the lists and categories of corrupt behavior. In their analysis of police work, Skogan & Meares (2004) proposed at least two dimensions of corrupt behavior – intention and proactive-reactive, as the bases for classifying behaviors. The intention dimension served to distinguish corrupt behaviors for “personal gain” (e.g., theft from arrestees, kickbacks) from those committed for “organization gain.” Organization gain has been described by others as “noble cause” and “dirty means toward legitimate ends.” Examples might include manipulation

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of evidence and illegal handling of informers for the purpose of getting putative criminals off the street to protect citizens. Certainly “organization gain” forms of corruption are not appropriate models of security violation behaviors targeted by the Adjudicative Guidelines. Both the intention and proactive-reactive dimensions are similar to dimensions that have been empirically derived in other domains, principally CWB and workplace aggression described above.

In the most methodologically rigorous analysis of police corruption behavior, Porter & Warrender (2009) relied on five proposed dimensions of corrupt behavior for the purposes of classifying behavior. Two dimensions were (1) intention and (2) proactive-reactive as described by Skogan & Meares, but with one modification. Porter & Warrender expanded the proactive-reactive dimension to include a third condition, situation response, making this in effect a tri-polar dimension. Similar to the workplace aggression research, they interpreted both proactive behavior and reactive behavior to be person-centric behaviors. They judged that a situation-centric category should be included in this dimension to capture corrupt behavior that is distinctively shaped and incited by local circumstances. Their remaining three dimensions were: (3) nature (whether the behavior was in the context of internal relationships, external relationships, or alone); (4) duration (single event or ongoing); and, (5) officer rank (constable or high rank). They used these dimensions to empirically derive three clusters of behaviors they labeled Police Crime, Noble Cause Misconduct and Corruption. Police Crime includes single proactive criminal behaviors by lone officers for personal gain. Noble Cause Misconduct includes rule-violating behaviors tailored to specific situation, within internal networks, intended to achieve some presumed socially desirable outcome. Corruption includes criminal behavior by higher ranking officers who, over time, seek personal gain in collaboration with external actors. While Noble Cause Misconduct is clearly not comparable to security violations, both Police Crime and Corruption may be useful analogs to security violation behavior.

## **A Proposed Model of Security Behavior**

A model of security behavior is proposed here based primarily on expected commonalities with analog behaviors reviewed above including workplace deviance, workplace aggression, counterproductive work behavior, safety behavior, organizational citizenship behavior, police corruption and white collar crime. This model describes a set of dimensions that represent important distinctions between security behaviors across the full range of such behavior. While the locations of security behaviors on these dimensions can be used to identify clusters of similar security behaviors, the focus of this proposal is to describe plausible dimensions and not speculate about clusters of security behaviors. Such clusters could be empirically identified by research on the proposed model.

This proposed model is also informed by the individual case studies of espionage convictions (e.g., Herbig, 2008). But such case studies make only a limited, albeit important, contribution to the understanding of the full range of security behavior. They are exclusively about negative behavior whereas the model intends to represent both negative and positive security behavior. They are about a subset of espionage cases in which the individuals have been

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caught and there has been some form of legal resolution. Finally, the case analyses of these instances have not applied a standard method of description to the espionage behavior to systematically describe the key characteristics. (In contrast, for example, Porter & Warrender (2009) applied a standard method of description to 50 police corruption cases to produce a model of police corruption behavior noted above.)

Based on these sources the following model is proposed.

Similar to models of organizational citizenship behavior and counterproductive work behavior, a hierarchical model is proposed in which there is one general factor and four second order factors.

## **General Factor**

The general factor represents the full range from positive to negative security behaviors. To propose a general factor means that people who display one type of positive behavior are more likely to display other types of positive security behavior; and, people who display one type of negative security behavior are more likely to display other types of negative security behavior. Because security behavior is represented here as bipolar, ranging from positive to negative, the general factor is likely to account for more variance in security behavior than in either the OCB or CWB domains, which are both unipolar domains.

Underlying the general factor, four subfactors are proposed.

- A. **Compliance.** The safety research and OCB research both identify a Compliance dimension that captures the rule-based approach organizations adopt for managing safety and performance. This rule-based approach is also representative of the Federal government's approach to managing the security of protected information and technology. An important feature of Compliance is that it is with respect to explicit or well understood organizational rules. It does not represent behavioral consistency with informal, implicit or subjective norms. The major question about a Compliance dimension is whether it is sufficiently distinct from the general factor. It is likely that, to a substantial extent, a major distinction between positive security citizenship and negative security violations is the extent to which the behavior is compliant with applicable rules. However, the far ends of positive security citizenship behavior and negative security violations include extra-role behaviors that, in terms of the psychological dynamics, go beyond the prescriptions of organization rules. Extra-role behavior refers to behavior that is not specifically prescribed or best explained by security work rules. Both safety behavior and OCB are characterized by extra-role behaviors on the positive ends of their respective spectrums.
- B. **Referent: Person v. Organization.** The majority of the models of analog behavior domains reviewed above have identified a person-organization dimension representing the distinction between behavior where the primary

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referent is one or more persons and behavior focusing on organizations. The analyses of individual espionage cases captures this distinction between cases where the spy is acting primarily against an organization or country and other cases where the spy is acting primarily in response to interpersonal conflicts or relationships. An important question about this proposed dimension is whether countries behave more like organizations or persons with respect to the explanatory variables.

- C. **Intent: Behavior v. Outcome.** This proposed dimension derives from the workplace aggression literature, primarily, and distinguishes between two types of intention related to the “means v. end” distinction. The “outcome” end of this dimension represents security behavior motivated to achieve a particular security related outcome, regardless of the behaviors required to achieve that outcome. For example, if the intention to enable a foreign country to develop new weaponry is the principal objective for security violations, then any number of behaviors may be considered to achieve that outcome. In contrast, if the intention is to carry out specific behaviors to avoid harm or disclosure, the antecedents of that behavior are likely to be different than outcome-driven behavior. This dimension is intended to capture primarily cognitive distinctions between behavioral objectives
- D. **Action: Proactive v. Reactive.** The role of affect as a motivation factor in security behavior is almost certain to be an important explanatory concept. This concept emerges not only in the workplace aggression research but also in research on the meaning and effects of loyalty, allegiance and nationalism. In describing workplace aggression the key distinction relating to the role of affect is between proactive and reactive behavior. Proactive aggression is often more instrumental, cognitively loaded and “cold.” Reactive aggression, in contrast, is “hot,” often hostile and more affectively loaded. A major question for future research about security behavior is whether the proposed Intent and Motive dimensions are distinct or overlap enough to be considered one dimension.

Two other factors may also be considered, magnitude of the consequences of the security behavior and the role of situational circumstances. Clearly, both distinguish different security behaviors from one another. And both should be carefully evaluated in future research about models of security behavior. However, both have been excluded from this proposed model. Consequence, which appeared as “seriousness” in Robinson & Bennett’s (1995) model of workplace deviance has not consistently appeared in models of other analogs to security behavior. Reasons may be that it is difficult to measure reliably, it is a function of a number of situational factors, and it may be independent of the actor’s intent and actual behavior. Given its infrequent appearance in models of analog behavior domains, it was excluded from this proposed model of security behavior.

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Situational factors undoubtedly play a significant role in security behavior. Perhaps because situation factors are specific, a “situation” factor has not appeared in any model of analog domains with the exception of the fourth dimension in the safety model proposed by Reason, Parker & Lawton (1998) and as one of three poles in Porter & Warrender’s (2009) “Cause” dimension of police corruption. Reason, Parker & Lawton logically derived their model and narrowly defined the situation factor as the appropriateness of the prevailing safety rules, which may generalize in other domains to an organizational context factor representing the extent to which organization factors create competing interests or motives. Porter & Warrender (2009) propose a tri-polar dimension based on a rational analysis of police corruption in which a situation “pole” is distinguished from the proactive and reactive poles, which are viewed as actor-centric forms of behavior. However, because no general situation factor has emerged from empirical research in other analog domains, one is not proposed here. Notwithstanding this decision, it is worth noting that situation “strength” may emerge as a situation factor representing the extent to which any specific set of circumstance influences the antecedents of the security behavior.

Finally, there is the question of unintended security behavior. In considering the full range of security behavior it is certain that some negative security behaviors are unintended. The substantial literature demonstrating the role of conscientiousness in predicting work performance implies that some facets of lower performance are attributable to lack of attention and carelessness. Undoubtedly, some security violations occur because people forget, are distracted, or are unaware of the security implications of their actions. We have chosen to exclude unintended security behavior from this model of security behavior based on our conclusion that the security clearance process should not be designed to minimize unintended security violations. Rather, employment selection procedures are likely to be much more appropriate and effective for the purposes of minimizing unintended security violations. For the purposes of this project that focuses on the role of the security clearance process in optimizing security behavior, we define security behavior to be intentional behavior directed toward U.S. national interests.

Exhibit 1 displays a schematic representation of this model of security behavior. The full range of security behavior from most positive to most negative is represented by the general factor. The likely close relationship between the general factor and Compliance is depicted by showing the range of Compliance levels as a subset within the full range of Security Citizenship. This depiction shows that more positive and more negative security behaviors beyond the range of Compliance are represented as extra-role behaviors in both positive and negative directions. Each row below the headings represents a particular combination of the three remaining factors, Referent: Person – Organization, Intent: Behavior – Outcome, Action: Proactive – Reactive.

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**Exhibit 1. A Model of Security Behavior**

Combination of Levels of Referent Intent Action	Security Behavior (General Factor)			
	Negative Security Violations	Compliance		Positive Security Citizenship
	Negative Extra-Role Behavior	Negative	Positive	Positive Extra-Role Behavior
<i>Person Outcome Proactive</i>	Spying to ingratiate self with others			Give own voice to the cause of improving security rules
<i>Person Outcome Reactive</i>				
<i>Person Behavior Proactive</i>				
<i>Person Behavior Reactive</i>	Spying to get revenge on a hated boss		Resist invitation to violate rules	
<i>Organization Outcome Proactive</i>				
<i>Organization Outcome Reactive</i>		Acquiescence to implicit org. norm to ignore minor rules		
<i>Organization Behavior Proactive</i>				
<i>Organization Behavior Reactive</i>	Disgruntled retaliation			

To exemplify possible content in the cells, speculative descriptions are placed in some cells of this model depicting particular types of security behavior represented by the combination of factors. The espionage domain is represented in the Negative Extra-Role Behavior column. Research on the nature of security behavior would be necessary to confirm/correct the dimensions and accurately label the behavior types in each combination of the dimensions.

A clear description of security behavior will enable clear explanations for security behavior. Different forms of security behavior are expected to have different antecedents to some extent. Reactive violations motivated by strong affect such as disgruntlement or revenge are likely to have different specific drivers than proactive violations intended to improve a foreign country's military strength. Counter-normative violations of all forms are likely to have different causes than pro-normative citizenship behaviors. A well described model of security behavior will enable research to systematically investigate the different antecedents of the different forms of security behavior. Understanding these antecedents will be necessary to ensure the investigative and adjudicative components of the clearance process are targeting the appropriate information.

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### III. ISSUES CUTTING ACROSS GUIDELINES

#### **Adjudication Decisions: Prediction or Verdict?**

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A purpose of this project is to review the social science research evidence and evaluate the extent to which that literature supports the current meaning and use of the 13 Adjudicative Guidelines. The meaning and use of every Guideline rests to a certain extent on assumptions based in social science. This project is intended to assess the support for those assumptions. At the same time, each Guideline, some more than others, also implements the imperative of government policies about who should have access to protected government information. This project is not intended to evaluate these policies. The White Papers will distinguish between policy-based rationales and social science-based rationales for each Guideline. This will be accomplished by listing each ADR condition that raises a concern and indicating whether that condition rests on policy or science or both. The social science evaluation will address those conditions that rely on an assumed rationale grounded in social science.

The distinction between science-based and policy-based rationales is a judgment made by the White Paper authors. There is no “house expert” who knows the correct designation. Indeed, this distinction between science and policy may not have been in the minds of the Guidelines “founding fathers/mothers.” We make this distinction because it has become clear that social science evidence is more relevant to some conditions than others. Perhaps the primary standard used to distinguish the two rationales is whether the adjudicator’s decision rests on an assumed prediction about the applicant’s future behavior or rests on a verdict that the applicant’s demonstrated behavior is inconsistent with the policy-defined model of the desired clearance holder.

For example, condition (a) under Guideline A is raised where there is evidence of involvement or support of “any act of sabotage, espionage, treason, terrorism, or sedition against the United States of America.” Once the adjudicator confirms that this evidence is currently relevant to the applicant, disqualification is the likely decision. This decision is not a prediction as much as it is a verdict that the applicant has demonstrated the very behavior the adjudication process seeks to eliminate. And on that basis, the applicant is undeserving of a clearance. Condition (a) (1), Guideline C is similar. Active maintenance of a foreign passport is a disqualifying condition because it establishes precisely the divided loyalty the clearance process is designed to avoid.

In contrast, consider condition (d), Guideline B, regarding sharing living quarters with a person who might create a heightened risk of inducement or other conflicts with US interests. The extent to which this evidence weighs toward disqualification rests on the extent to which, and the circumstance under which such arrangements are likely to create too much risk. This is matter of social science, more than policy. For example, social science might find that living arrangements alone generally are not sufficiently influential to outweigh national loyalty or one

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self-identity as a person of integrity. Such social science results would likely reduce the weight attached to this condition.

The objective is to apply social science evidence to those conditions that make assumptions based in social science.

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