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Identifying Personality Disorders that are Security Risks: Field Test Results

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Olga G. Shechter— *Northrop Grumman Technical Services*

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BACKGROUND

Accurate assessment of employees with risky personality disorders presents a struggle to clinical and personnel security staff, especially in programs that involve access to nuclear materials, weapons, and biological select agents which depend on personnel maintaining mental health and reliable behavior. This struggle is due to insufficient information on which disorders are security risks and a shortage of diagnostic methods that are standardized, accurate for assessing complex disorders, and difficult to fake by deceptive or manipulative test takers.

To address this issue, PERSEREC undertook a two-phase study that examined which personality disorders are associated with security risk, e.g., undermined judgment and reliability, (Phase I; completed) and whether an improved screening tool has utility for clinicians who routinely evaluate personnel in a high-risk program (Phase II field test).

HIGHLIGHTS

Five clinicians who routinely perform mental health evaluations for Department of Energy's high-risk program used the Shedler-Westen Assessment Procedure (SWAP), along with its Dispositional Indicators of Risk Exposure (DIRE) subscale developed in Phase I, for a period of 4 months to evaluate 26 new candidates and current employees of concern. The SWAP is a tool that assesses personality disorders that are neither accessible via self-report, nor readily observable by others. Debriefing interviews indicated that SWAP/DIRE was more effective than clinicians' existing tools for establishing a positive rapport with the subject, assessing personality disorders, and making legally-defensible recommendations.

This report summarizes findings from a successful SWAP/DIRE field test and provides recommendations for Departments of Energy and Defense, intelligence community, and other security-minded organizations for how to enhance their personality disorder assessment procedures and reduce the risk of insider threat.

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14. ABSTRACT: Accurate identification and assessment of employees with risky personality disorders is imperative for programs that involve access to nuclear materials, weapons, and biological select agents which depend on personnel maintaining mental health and reliable behavior. Certain risky personality disorders, however, are especially difficult to diagnose with routine assessment tools that rely on the subject's self-report. To combat this issue, Defense Personnel Security Research Center, in collaboration with Department of Energy, initiated a field test that examined whether an improved screening tool has utility for clinicians who routinely evaluate personnel in a high-risk program. Five clinicians used the Shedler-Westen Assessment Procedure (SWAP), along with its Dispositional Indicators of Risk Exposure (DIRE) subscale developed earlier, for a period of 4 months to evaluate 26 new candidates and current employees of concern. Debriefing interviews indicated that SWAP/DIRE was more effective than clinicians' existing tools for establishing a positive rapport with the subject, assessing personality disorders, and making legally-defensible recommendations. Findings also include recommendations for using SWAP/DIRE methodology for identifying risky personnel.

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PREFACE

Certain clinical personality disorders, namely psychopathy, malignant narcissism, and borderline personality organization, can increase the likelihood of unreliable behavior, poor judgment, and compromised motivation to protect classified information and/or sensitive materials. What compounds the problem is that these disorders are especially difficult to diagnose with routine assessment tools that rely on the subject's self-report. In order to increase the accurate identification of individuals most likely to pose a security threat, PERSEREC initiated a two-phase research effort focused on improved assessment and handling of personnel with risky personality disorders. The first phase of this project and resulting report *Identifying Personality Disorders that are Security Risks: Phase I Results* examined which personality disorders pose the greatest risk to personnel security by asking senior adjudicators from the intelligence community to create a prototype of security risk. The Phase II field test extends this research by evaluating whether an improved personality disorder screening tool and a newly developed metric of security risk, "Dispositional Indicators of Risk Exposure" (DIRE), can help clinicians improve their personality disorders assessment procedures. The findings contain implications for clinicians, adjudicators, and personnel security managers, as well as leadership of sensitive programs that depend on mental health and reliable behavior from their personnel. This effort contributes to an ongoing set of PERSEREC initiatives that help understand, track and ameliorate insider threat.

Eric L. Lang
Director

EXECUTIVE SUMMARY

BACKGROUND

Certain clinical personality disorders can pose unacceptable levels of risk to personnel security. Clinicians often struggle with assessing these conditions in sensitive position applicants and current occupants (e.g., Department of Defense's Personnel Reliability Program (PRP) or Department of Energy's Human Reliability Program [HRP]). The assessment struggle is largely due to (1) a lack of sensitive evaluation tools that do not rely on the subject's self-report, and at the same time provide a quantitative and legally defensible evaluation opinion, and (2) insufficient information on which disorders are associated with the greatest security and safety risks. The impetus behind Defense Personnel Security Research Center's (PERSEREC) Personality Disorders Research Initiative was to assist clinical, selection, and personnel security professionals with handling of cases with suspected personality disorders, and give them accurate and reliable tools for knowing which disorders are security risks and for evaluating personnel.

PHASE I STUDY

In Phase I of this project, completed in 2009, 20 senior intelligence community adjudicators used a standardized tool to generate a prototypical profile of an individual who could endanger the security and safety of others and compromise important systems. Results revealed that there was a high degree of agreement across adjudicators' ratings. Analysis of their ratings indicated that three personality disorders, psychopathy, malignant narcissism, and borderline personality organization, were associated with the highest level of security risk. These findings led to the development of the Dispositional Indicators of Risk Exposure (DIRE) scale, which is a metric of security risk that assesses a blend of personality characteristics associated with the three risky disorders. A high DIRE score indicates that an individual would be considered a security risk by a consensus of expert adjudicators. Preliminary psychometric evidence suggested that DIRE is a reliable and valid scale but, that it would be advisable to collect additional evidence demonstrating that DIRE predicts outcomes of personnel security interest (i.e., erratic and violent behavior in the workplace, etc.).

PHASE II FIELD TEST

The objective of the Phase II field test was to determine whether the Shedler-Westen Assessment Procedure (SWAP) and DIRE have added utility for clinicians who routinely evaluate personnel for initial and continued HRP certification. The SWAP is a state-of-the-art personality assessment instrument designed to assess aspects of personality that are neither accessible via self-report nor readily observable by others, including personality conditions and disorders that are likely to pose personnel security risk. It provides a standard language that allows clinicians to

describe their observations and judgments systematically and reliably, including subtle perceptions that most people cannot readily put into words. In the field test, five clinicians who routinely perform mental health evaluations at a DoE HRP site used the SWAP/DIRE for a period of 4 months to evaluate 26 new HRP candidates and current HRP personnel of concern. At the end of the 4-month period, PERSEREC research staff conducted debriefing interviews with the participating clinicians to learn about their experience with SWAP method and DIRE and determine whether these tools improved their ability to reach diagnostic conclusions about personality disorders.

CONCLUSIONS AND RECOMMENDATIONS

Analysis of the interview data indicated that clinicians found all components of the SWAP method highly useful for evaluating new HRP candidates and current HRP personnel they were either monitoring more closely or seeing as new referrals for cause. SWAP's Clinical Diagnostic Interview (CDI) allowed them to establish a positive rapport with the subjects up front, which they felt was essential for instilling feelings of trust in the personnel and compelling them to turn to the clinical team in the future if they start experiencing problems on the job and/or in their personal life. Clinicians reported that the SWAP was the best instrument they were aware of for diagnosing personality disorders because, unlike the other tools, it enabled them to standardize and quantify their judgments and observations instead of relying on the subject's self-report.

Because individuals with high DIRE scale scores are relatively uncommon, clinicians had limited experience with this scale during the field test. They did, however, report that they liked the fact that DIRE is tailored to the security world and that it has utility for buttressing their recommendations regarding HRP eligibility because it represents a consensus of senior adjudicators regarding security risks. Finally, in contrast with their existing assessment tools, the SWAP metrics of psychological health allowed clinicians to better juxtapose an individual's personality strengths with his or her weaknesses when making a determination regarding HRP fitness.

When asked about the disadvantages of the SWAP method, clinicians only shared one concern. The SWAP takes approximately 1-1.5 hours more to administer than the tools they routinely use. However, clinicians also stated that for employees of concern and new referrals for cause, the additional labor would be fully justified and at times comparable to how much time they would normally spend on evaluating these individuals.

The SWAP field test findings were briefed to the leadership of DoE's Personnel Security (Health, Safety & Security) and to DoE's Chief Medical Officer on 5 May, 2010, along with the following two recommendations:

Recommendation # 1: Based on the demonstrated value of the SWAP/DIRE for assessing personality disorders in DoE's HRP population, DoE should consider training more HRP clinicians in the SWAP/DIRE methodology. After receiving the training, they will be able to readily use the SWAP/DIRE for evaluating cases of concern and new referrals for cause with no significant cost burden to DoE. A mass training opportunity at a DoE conference would be the most cost efficient option for executing this recommendation.

Recommendation # 2: Consider providing funds to the field test HRP site for administering the SWAP to all new candidates for a trial period of 1 year. Benefits of this recommendation include: (1) an establishment of positive rapport and feelings of trust between HRP clinicians and new candidates, (2) an enhanced baseline of each new candidate's personality and psychological health that should be useful in the future if he or she starts experiencing problems on the job, (3) an availability of data for development of a longitudinal database to support risk and performance predictions, and (4) a decreased probability of missing high-risk individuals entering the HRP program.

These two recommendations are also relevant for other government agencies and departments, including the intelligence community, who employ personnel in sensitive positions that demand superior mental health.

DoE leadership implemented the first recommendation in September 2010 by training eight clinicians from multiple DoE national laboratories in the SWAP/DIRE methodology. In addition, field test clinicians have continued to use SWAP/DIRE for evaluating cases of concern and new referrals, finding it highly useful for assessing reliability, safety and security risks, and continued fitness for HRP certification.

With respect to expanding SWAP/DIRE assessment utility for similarly sensitive programs in DoD, PERSEREC is in discussions with DoD's PRP managers regarding their interest in a SWAP/DIRE field test at a large military base with an active mental health clinic and a large number of trained clinical staff (e.g., Wilford Hall Medical Center at Lackland Air Force Base or Carl R. Darnall Army Medical Center at Ford Hood).

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INTRODUCTION

PROBLEM

Although there are well-established associations between certain clinical personality disorders and unreliable and unsafe behavior in the workplace, disorders such as psychopathy and malignant narcissism often go misdiagnosed or simply undetected during the current personnel security vetting process for sensitive positions. A major reason for this shortcoming involves a lack of sensitive tools for identifying individuals with personality disorders. Clinical professionals are aware of this problem and frequently report experiencing difficulties with assessing personality disorders in candidates and current employees who occupy sensitive positions. Sensitive government programs such as Department of Energy's Human Reliability Program (DoE's HRP) are especially concerned with this issue because they employ personnel whose positions afford access to nuclear materials and the ability to cause significant damage to national security.

PERSEREC'S PERSONALITY DISORDERS RESEARCH INITIATIVE

PERSEREC's Personality Disorders Research Initiative was originally developed to improve clinicians' and adjudicators' handling of cases with suspected personality disorders. Clinicians struggle with these cases because they lack sensitive assessment methods for identifying individuals with personality disorders. They primarily rely on clinical interviews and questionnaires that depend on the accuracy of the subject's self-report. Not only do individuals with personality disorders have poor insight into their symptoms, but they may be highly motivated to fake their responses to a self-report measure. And although self-report measures attempt to cope with this faking issue by including built-in validity indexes that tell the clinician whether the test taker was faking, the developers of these tools themselves acknowledge that one cannot rely on the subject's self-report when attempting to assess personality pathology.

Adjudicators have a somewhat different struggle. They defer to the clinician's recommendations when it comes to clinical diagnosis, but they need to be able to accurately assess the risk implications of granting a security clearance or HRP eligibility to an individual with a personality disorder and correctly mitigate all possible risks. For this very reason, the more a clinician can tell an adjudicator in his or her report about the security and safety risk implications of an employee's personality disorder diagnosis, the better.

The overarching goals of PERSEREC's Personality Disorders Research Initiative are to: (1) improve clinicians' and adjudicators' handling of cases with suspected personality disorders, and (2) to ensure that individuals with risky personality disorders are identified correctly and handled appropriately by clinical, human resources, and personnel security staff.

PERSONALITY DISORDERS

Overview

The Diagnostic and Statistical Manual of Mental Disorders, 4th Ed. (*DSM-IV*) defines a personality disorder, which are categorized under Axis II[1], as "an enduring pattern of inner experience and behavior that deviates markedly from the expectations of the individual's culture, is pervasive and inflexible, has an onset in adolescence or early adulthood, is stable over time, and leads to distress and impairment." Personality disorders can often go undiagnosed because they do not always disrupt a person's intellectual or perceptual functioning. In many cases, individuals with a personality disorder do not seek psychiatric treatment. Alternatively, the person may be aware of the symptoms of the disorder, but reluctant to report them in a job selection situation, fearing rejection. Diagnosed or not, individuals with certain personality disorders who occupy sensitive positions pose a risk to personnel security. They commonly experience conflict and instability in many aspects of their lives, which can easily spill over into their work life (Mayo Clinic, 2006). Successful psychopaths, for example, or psychopaths who lack a criminal record that would keep them out of most organizations, frequently end up manipulating large groups of people at work into tolerating their abusive behavior (Babiak, 2000).

Personality Disorders Associated with Security Risk

Not all personality disorders, however, are associated with security risk. The Krofcheck and Gelles (2005) *Training and Reference Manual for Personnel Security Professionals* identifies individuals with antisocial and narcissistic personality disorders as being at the highest risk for betraying an employer's trust. Research findings from Project Slammer (Heuer, 2007; Project Slammer Research Team, n.d.) supports this assertion and shows that convicted espionage offenders did in fact display antisocial and narcissistic behaviors. Furthermore, a study with intelligence community adjudicators showed that these two disorders are perceived to be associated with the highest degree of security risk (Godes & Lang, 2009).

Antisocial Personality Disorder/Psychopathy: Antisocial personal disorder (ASPD) is a condition in which people show a pervasive disregard for the law and the rights of others (American Psychiatric Association, 2000). They engage in persistent lying or stealing, disregard the safety of self or others, and possess a superficial charm or wit (Krofcheck & Gelles, 2005; Ogloff, 2006). ASPD has been linked to a number of other risky behaviors in the domains of personnel security and safety, such as pathological gambling, failure to honor financial obligations, and substance abuse (Bland, Newman, Orn, & Stebelsky, 1993; Pietrzak & Petry, 2005; Slutske et al., 2001).

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[1] *DSM-IV* uses a multiaxial framework to classify mental illnesses and disorders. This framework consists of five distinct dimensions or axes, with personality disorders falling under Axis II.

It is important to understand the relationship between ASPD and psychopathy. Psychopathy is actually a broader disorder comprised of external behaviors that form the backbone of ASPD (e.g., criminality, lying, physical aggressiveness, etc.) and internal processes such as lack of remorse for injury or harm caused to other people and the desire to "get one over" on others (Hare, 1993; 1996). Successful or corporate psychopaths are particularly dangerous because they lack a history of criminal misconduct typical of individuals with ASPD, so they can frequently manipulate their way into government and corporate organizations (Babiak, 2000; Ishikawa, Raine, Lencz, Bihrle, & LaCasse, 2001). Once on the inside, they are capable of causing great damage and chaos and still come out unscathed by assigning the blame to someone else and actually making management believe that another employee is at fault for their misdoings (Babiak, 2000).

Narcissistic Personality Disorder: Narcissistic personality disorder (NPD) is a condition characterized by a pervasive pattern of grandiosity, need for admiration, and lack of empathy (American Psychiatric Association, 2000). Narcissists believe that they are better than others, fantasize about power, success, and attractiveness, expect constant praise and admiration, take advantage of others, and simultaneously feel jealous of others and believe that others are jealous of them. Noshir Gowadia, a former Northrop Grumman engineer convicted of providing sensitive weapon designs to China, is reported to have displayed these very behaviors and received an official diagnosis of NPD by the clinical team who evaluated him (Sample, 2009). They concluded that Gowadia possesses a grandiose sense of self and views himself as intellectually superior to his former colleagues and others around him. A syndrome related to NPD, malignant narcissism (Kernberg, 1992), involves even greater personnel security risks than NPD. Malignant narcissism is a combination of NPD, ASPD, and paranoid traits. Individuals with this disorder tend to worsen in their impulse controls and desires over time. It is not an official diagnosis from *DSM-IV* but rather a syndrome that has emerged in clinical practice and has been widely described in scientific literature (Russ, Shedler, Bradley, & Westen, 2008).

IDENTIFICATION AND ASSESSMENT CHALLENGES

It can be challenging to correctly identify and diagnose individuals with personality disorders. Several reasons exist for this diagnostic shortcoming. First, many afflicted individuals are frequently unaware of their symptoms, as certain personality disorders (i.e., ASPD and NPD) do not always disrupt intellectual and perceptual functioning. Second, individuals who are aware of them may still be reluctant to report them in a job selection situation because they fear rejection. Third and most importantly, the most commonly used personality disorder assessment tools (i.e., Minnesota Multiphasic Personality Inventory Restructured Form (MMPI-2-RF), Tellegen & Ben-Porath, 2008; Personality Assessment Inventory (PAI), Morey, 1991) rely on the subject's self-report, which is likely to be inaccurate in situations where the individual is not aware of his or her symptoms or is engaged

in intentional deceit. Clinical interviews, such as the Structured Clinical Interview for *DSM-IV* Axis II Personality Disorders (SCID-II), leave more room for a clinician's observations and judgments about the subject's personality pathology, but they do not provide dimensional numerical scores indicating the degree of presence of a specific personality disorder in the subject.

SHEDLER-WESTEN ASSESSMENT PROCEDURE (SWAP)

The SWAP (Westen & Shedler, 1999a; 1999b) represents a fundamentally different approach to assessment of personality disorders because it does not rely on the subject's self-report. It is based on a premise that clinicians can make highly reliable observations and inferences about personality organization if they are given a suitable technology for harnessing their judgments (Shedler & Westen, 1998). The SWAP eliminates the reliance on self-report by asking clinicians to make judgments about the personality of the target individual. It then quantifies their judgments by yielding a full personality profile with scores on all Axis II personality disorders from *DSM-IV*, scores on clinical personality syndromes that surfaced in past SWAP research and clinical practice, and a rich narrative description of the individual.

Clinicians first complete a Clinical Diagnostic Interview (CDI) in order to collect a sufficient amount of information about the subject's personality organization, including his or her childhood, education and work history, and relationship history with family members and significant others (Bradley, Hilsenroth, Guarnaccia, & Westen, 2007). Throughout the interview, the clinician pays very close attention to the subject's nonverbal communication, resistance to talking about certain topics, and descriptions of object relationships with other individuals. After completing the CDI, the clinician responds to 200 personality-descriptive statements about the subject (e.g., "tends to get into power struggles) by rating them on a scale from 0 (inapplicable to the individual) to 7 (highly descriptive of the individual). The SWAP ratings can also be completed without a CDI, if the clinician had 6 or more clinical contact hours with the individual.

The quantitative interpretation of the SWAP data is performed automatically by the SWAP-200 Excel program, which contains built-in algorithms for computing the subject's T-scores on all Axis II personality disorders from *DSM-IV* (Paranoid, Schizoid, Schizotypal, Antisocial, Borderline, Histrionic, Narcissistic, Avoidant, Dependent, Obsessive, Depressive, Passive-Aggressive), T-scores on clinical personality syndromes that surfaced in past research and clinical practice, and two indices of overall mental health (Healthy Functioning score and Personality Health Index score). A T-score of 60 or higher on any disorder represents the clinical threshold and warrants a categorical *DSM-IV* diagnosis, whereas a T-score between 55 and 59 suggests that the individual exhibits "features" of a particular disorder. The primary advantage of this scoring system is that the clinician obtains both a categorical diagnosis of absence or presence of a disorder and also a dimensional score reflecting the severity of the condition.

PHASE I RESEARCH (COMPLETED)

Study Overview

The goal of Phase I was to address the dearth of research on which personality disorders are associated with the highest level of security risk. It was known from Project Slammer findings and related literature that past espionage offenders displayed antisocial and narcissistic behaviors, but there was no hard research evidence showing which specific disorders pose extreme and unacceptable risks to personnel security. Twenty adjudicators from four intelligence agencies were asked to rate each SWAP item based on how much it applied to a hypothetical risky individual capable of endangering the safety of others, compromising important systems, or otherwise undermining national security. The participants were highly experienced in their roles as adjudicators and in the domain of personnel security. The logic behind choosing adjudicators instead of clinicians had to do with their professional understanding of security risk. Clinicians, on the other hand, are experts in clinical diagnosis, but may be less cognizant of which behaviors are associated with impaired judgment, reliability, and trustworthiness.

Results

Reliability analyses showed that there was a high degree of agreement across adjudicators' ratings regarding which personality characteristics present the greatest security risks (Cronbach's alpha = .92; on a scale from 0 to 1). Because inter-rater reliability was high, adjudicators' ratings were next subjected to a statistical procedure called Q-analysis, which identifies how many personnel security risk groupings or factors best describe the structure of the data. A close examination of factor loadings and factor scores revealed that adjudicators perceived psychopathy, malignant narcissism, and borderline personality organization to be the three personnel security risk factors. An aggregate SWAP profile of Axis II *DSM-IV* personality disorder scores shown in Figure 1 (page 7) created by averaging the ratings of 20 adjudicators, confirmed this finding and, in addition, revealed that poor psychological health was another indicator of security risk.

The diagnostic labels of the three disorders that exceed the clinical threshold of 60 in Figure 1 are slightly different from the labels that were assigned to them on the basis of Q-analysis. The reason for this discrepancy is that *DSM-IV*'s classification of personality disorders does not fully capture the richness of personality syndromes that surfaced in adjudicators' ratings. For example, the construct of malignant narcissism differs from the *DSM-IV* construct of NPD because it also incorporates psychopathy. Psychopathy, in its turn, is a much broader construct than ASPD. Unlike ASPD, which is defined by persistent behavioral violations of social norms, psychopathy also encompasses interpersonal and affective symptoms such as a lack of remorse for harm or injury caused to others. Finally, borderline personality organization is a broader construct than borderline personality

disorder, and individuals with this personality type frequently experience volatile emotions and are prone to self-harm. See Godes & Lang (2009) for a more thorough description of the three high-risk personality disorders.

Dispositional Indicators of Risk Exposure (DIRE) Scale

The Dispositional Indicators of Risk Exposure (DIRE) scale is a metric of security risk that was developed on the basis of adjudicators' ratings of the top 30 SWAP items most descriptive of a hypothetical risky person. Methodologically, DIRE is a subscale of the SWAP, and it assesses a constellation of personality characteristics associated with psychopathy, malignant narcissism, and borderline personality organization. When these disorders occur in combination, the level of security risk increases substantially (Shedler, 2009). DIRE quantifies this degree of risk by measuring the match between the subject's personality and the high-risk personality identified by adjudicators.

Analogous to the standard SWAP scoring process, the DIRE score is computed[2] after the clinician completes his or her ratings of the 200 statements about the subject. The preliminary scoring guidelines suggest that a DIRE T-score of 60 or higher indicates that the subject may be a potential security risk, in which case clinicians are advised to evaluate his or her scores on the disorders that form the backbone of DIRE, i.e., psychopathy, malignant narcissism, and borderline personality organization. This course of action is recommended because a DIRE score of 60 or higher means that the subject also has elevations on at least one of the three disorders that comprise DIRE. A DIRE T-score that falls between 55 and 59 also warrants attention and suggests that there are elevations on at least one or more of the three disorders at a "features" level. From a personnel security standpoint, an elevated DIRE score indicates that the individual would be considered a security risk by a consensus of expert adjudicators.

[2] Since DIRE was developed for use with persons applying for, or occupying sensitive positions requiring a security clearance or requiring access to sensitive materials (e.g., nuclear weapons, biological toxins, etc.), only the National Security Version of the SWAP software computes a DIRE score.

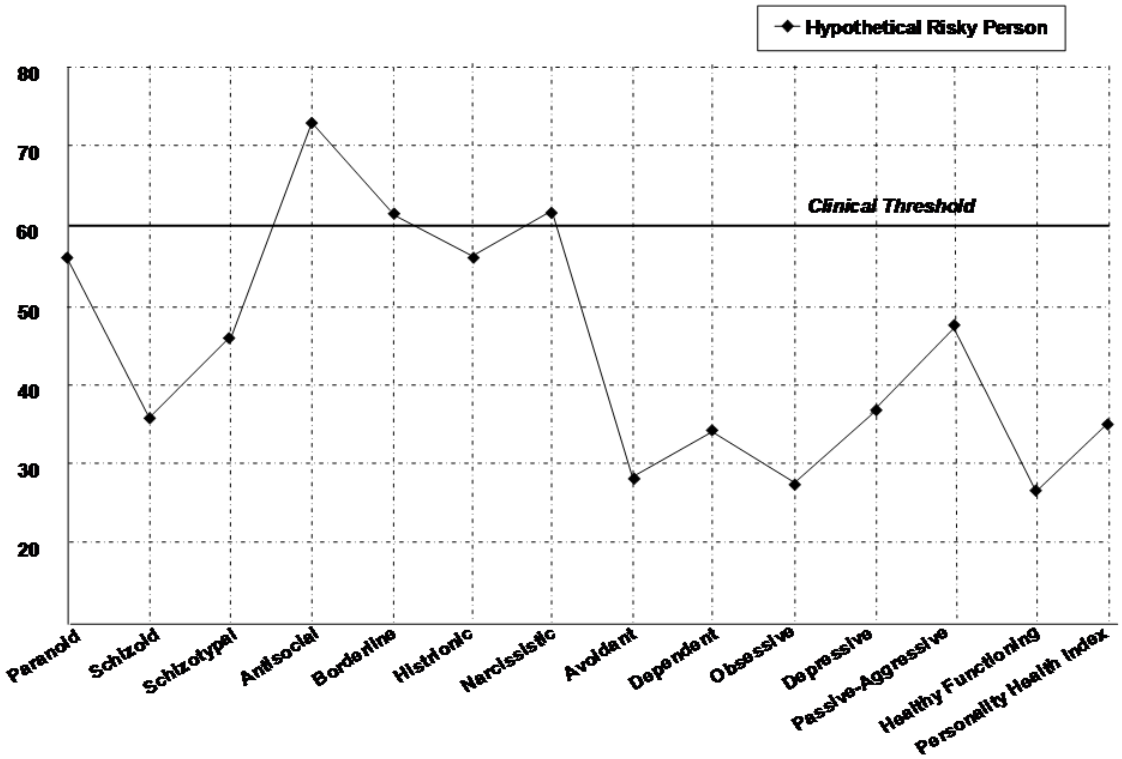

Figure 1 Axis II Personality Disorder SWAP Profile Produced by Averaging Adjudicators' Ratings

Ultimately, the DIRE scale could be used to predict whether or not personnel with access or requesting access to sensitive nuclear materials, weapons, and/or biological select agents are a security risk. Before using DIRE for predictions of unreliable behavior, however, it would be necessary to establish its psychometric properties, namely inter-rater reliability, content validity, and criterion validity. The first two metrics have already been established. DIRE scale's inter-rater reliability is .92 on a scale from 0 to 1, indicating a very high degree of agreement among twenty adjudicators regarding which personality disorders are associated with unacceptably high levels of security risk. Content validity, or the extent to which DIRE assesses all facets of risky personality disorders it purports to measure, has also been established, as the adjudicators all agreed on which SWAP items were essential to a prototype of a hypothetical risky individual who would be a security nightmare. Finally, there is indirect evidence for DIRE's criterion validity, or its ability to predict behaviors of security concern, that stems from two studies discussed below.

As stated above, the three personality disorders that form the backbone of the DIRE scale are psychopathy (a broader disorder that subsumes under itself ASPD), malignant narcissism, and borderline personality organization. In a recent prospective study with community and forensic samples who received an initial SWAP assessment, Marin de Avellan (2010) found that ASPD and Borderline

Personality Disorder scales were predictive of incidents during the 1-year follow-up. Moreover, the SWAP ASPD and Borderline scales were better predictors of violent reoffending than was the Hare Psychopathy Checklist-Revised, which is another commonly used measure of psychopathy, (Hart, Cox, & Hare, 1995).

In another study, Fowler & Westen (in press) used the SWAP to understand the personality characteristics of men who were violent towards their partner. They identified three sub-types, two of which were psychopathic and borderline. Men matching the psychopathic sub-type showed little investment in moral values, were impulsive, and lacked remorse for their violent behaviour. They tended to manipulate others and dominate them through violence. Men matching the borderline sub-type displayed negative affect such as depression, excessive rumination, and rejection sensitivity, and tended to become irrational and violent when their emotions were stirred up. They also tended to be very needy and dependent on their partner for constant reassurance.

Although these two studies did not use DIRE to predict security-relevant outcomes of interest, they employed SWAP items that comprise DIRE, to examine undesirable personnel outcomes such as security incidents and acts of violence. Future work should examine DIRE scale's criterion validity and assess whether DIRE can predict behavioral problems at work indicative of poor judgment and lack of reliability.

SWAP/DIRE FIELD TEST

Phase II of the Personality Disorders Research Initiative examined whether the SWAP and DIRE can improve assessment of personality disorders in actual practice above and beyond the tools that clinicians routinely use (e.g., MMPI-2-RF). This question was addressed in a field test with five clinicians who routinely perform mental health evaluations for a DoE site with a large HRP workforce. HRP is DoE's security and safety program designed to ensure that personnel with access to sensitive nuclear materials, devices, facilities, and programs meet the highest standards of reliability and physical and mental suitability (Human Reliability Program, 2005). Applicants to the HRP receive a rigorous mental health evaluation consisting of a generally accepted psychological assessment test and a semi-structured interview, after which they undergo a psychological evaluation every 3 years for HRP recertification.

The rest of this report describes the methodology, results, and conclusions from the SWAP/DIRE field test, and provides science-based recommendations for Departments of Energy and Defense, the intelligence community, and other government organizations for how to enhance their personality disorder assessment procedures and reduce the risk of insider threat.

METHODOLOGY

OVERVIEW

The field test began on October 15, 2009 at a large DoE site that affords access to nuclear materials, facilities, and programs with a kickoff SWAP/DIRE training conducted by the instrument's co-author, Dr. Jonathan Shedler. This site was chosen by the leadership of DoE's Office of Departmental Personnel Security for its large number of clinical staff. Five clinicians, who routinely perform mental health evaluations for DoE's HRP program, were trained in all aspects of how to use the SWAP method and the DIRE scale. Throughout the course of the training, clinicians also had a chance to practice using the SWAP software and procedure by evaluating a highly familiar case that was still fresh in their memory. Following the training, clinicians used SWAP/DIRE for a period of 4 months to evaluate the mental health fitness of 10 HRP candidates and 16 problematic employees. After completing their assigned number of cases, clinicians participated in debriefing interviews with PERSEREC research staff. Data from the interviews were analyzed and then briefed to the leadership of DoE's Personnel Security (Health, Safety & Security) and to DoE's Chief Medical Officer, as well as other interested government agencies and departments.

At no point was any personally identifying information about the evaluated personnel, e.g., subjects' names, social security numbers, CDI/SWAP/DIRE results, or medical/psychological reports, shared with PERSEREC.

PARTICIPANTS

Five clinicians (1 woman and 4 men), representing the entire site's clinical team, participated in the present SWAP field test. They were all highly experienced in psychological assessment and were open to learning how to use a new tool and providing feedback regarding their experience. Clinicians received financial compensation from DoE for both their participation in the SWAP training and the extra labor involved in completing the SWAP evaluations throughout the course of the field test.

SWAP/DIRE ON-SITE TRAINING

The SWAP training took place on October 15, 2009 at the DoE site. Dr. Shedler trained five clinicians in the following components of the SWAP method: CDI approach to clinical interviewing and how to convert the SIS into the CDI, theoretical rationale behind the SWAP, SWAP Excel software, SWAP scoring and interpretation, and the DIRE scale. To elaborate, in order to allow clinicians to gather the requisite info that they typically gather for the SIS, they were instructed to convert the SIS into the CDI by asking a number of additional questions, rather than conducting the SIS and then conducting the CDI. Clinicians also received a copy of a *Guide to SWAP-200 Interpretation: The National Security Version*, which

provided an extended overview of SWAP scoring and interpretation and the DIRE scale. At the end of the training, clinicians conducted a practice SWAP on a subject they had previously evaluated whose case was still fresh in their memory. They did not have to conduct a CDI, but, instead, had to rate the SWAP items on the basis of what they already knew about the individual. Finally, they filled out a Post-Training Questionnaire, assessing their initial reactions to the SWAP and their perceived level of confidence about using it in actual practice. Each discussed component of the training is outlined in detail below.

Clinical Diagnostic Interview

The CDI is completed prior to the SWAP evaluation to gather a sufficient amount of information about the subject. This narrative-based interview asks individuals to describe their childhood, education and work history, and their relationship history with family members and significant others, with a specific focus on emotionally salient experiences from these domains (Bradley et al., 2007). Unlike the Structured Clinical Interview for *DSM-IV* Axis II Personality Disorders (SCID-II), the CDI relies more heavily on clinicians' observations, inferences, and clinical judgment. The clinician is listening to both what the subject is saying and to what he or she is not saying. A great deal of attention is also paid to descriptions of object relationships with primary caregivers and relationships with other relatives and significant others. The approximate completion time for the CDI is two and a half hours however, in situations where a clinician has already had six or more clinical contact hours with the individual, the CDI need not be used, and the SWAP can be completed based on existing observations and judgments.

It is important to understand the differences between the CDI and the Structured Interview Survey (SIS) that field test clinicians currently use to evaluate new candidates, employees of concern, and new referrals for cause. The SIS consists of a questionnaire that subjects fill out prior to the interview inquiring about their demographics, education, work history, substance use, physical and mental health, etc. The clinician reviews the subject's answers a priori, and then during the actual interview, inquires further about red flags and potentially concerning responses. In contrast to the CDI, which is very comprehensive and focuses on descriptions of early childhood experiences and relationships in addition to adulthood experiences, the SIS largely focuses on the present state of the individual's life. Whenever the SIS inquires about an experience from the past (e.g., how the subject's family of origin handled disagreements), it provides options for responses, in contrast to the CDI, which phrases questions in an open-ended manner and asks for stories and examples.

SWAP Excel Program

The SWAP-200 Excel program allows users to organize their observations and judgments about the subject gathered during the CDI by entering them into a spreadsheet. The program can run locally on any Windows operating system with

Microsoft Excel 2003, 2007, and 2010. After the data entry is complete for each of the 200 SWAP items, the program computes and graphs the subject's diagnostic scores on all Axis II personality disorders from *DSM-IV*, personality syndromes drawn from clinical practice and past research, two metrics of overall psychological health, and DIRE.[3] The SWAP developers are planning a 2011 release of a web version of the SWAP that can be completed through a secure online connection, eliminating the need for local installation of the SWAP-200 Excel software.

SWAP

The SWAP consists of 200 personality-descriptive statements (e.g., "tends to get into power struggles") drawn from a wide range of sources, including the *DSM-III* and *DSM-IV* personality disorder criteria, selected Axis I clinical disorder items related to personality traits (e.g., "depressive and anxious"), clinical and empirical literature on personality pathology, research on normal traits and psychological health, and past research with pilot versions of the instrument (Westen & Shedler, 1999a, 1999b; Wood, Garb, Nezworski, & Koren, 2007). The items are rated on an 8-point numerical scale ranging from 0 (inapplicable to the individual) to 7 (highly descriptive of the individual) on the basis of information gathered during the CDI and obtained from other instruments that were administered to the subject. Each response category has to be used a fixed number of times, resulting in a forced distribution of statements at the end of the assessment. The SWAP's fixed distribution format offers an important psychometric advantage over other assessment tools because it minimizes the amount of measurement error across raters who use the SWAP in their clinical practice. The rankings can then be used to diagnose the presence of a personality disorder.

DIRE

DIRE is a subscale of the SWAP that represents the consensus of expert adjudicators regarding personality characteristics associated with high security risk. It is comprised of a constellation of traits characteristic of psychopathy (e.g., "appears to experience no remorse for harm or injury caused to others"), malignant narcissism (e.g., "seeks to dominate an important other"), and borderline personality organization (e.g., "tends to act impulsively, without regard for consequences"). Preliminary evidence suggests that DIRE is a reliable and valid metric that quantifies the degree of security risk present in the subject, allowing systematic interpretation, comparison, and communication of findings. Additional details regarding DIRE's development, item contents, and psychometric properties can be found in Godes & Lang, 2009.

[3] Note, that the standard SWAP-200 Excel software does not compute a DIRE score; this modification was specifically added for DoE clinicians. However, the DIRE subscale can be obtained from the commercial SWAP publisher.

Metrics of Psychological Health

The SWAP-200 Excel scoring software computes scores on two indices of overall mental health (Healthy Functioning score and Personality Health Index score). These metrics assess a subject's psychological resources and strengths, such as the capacity to sustain meaningful relationships or to use his or her talents and abilities productively and effectively. These metrics are highly useful for making a whole person assessment of the subject, as they allow the clinician to juxtapose scores on personality disorders and DIRE with the individual's positive characteristics.

Post-Training Questionnaire

At the end of the training day, all clinicians completed a 7-point Likert Scale Post-Training Questionnaire (see Appendix A), where 1 indicated "strongly disagree" and 7 indicated "strongly agree." The purpose of this form was to (1) assess whether the training was effective and whether clinicians felt comfortable with the use of the SWAP method on actual cases, and (2) find out what clinicians anticipated as the SWAP's biggest advantages and challenges for their practice. Overall, clinicians' responses indicated that the training was successful. Clinicians reported that they had a good understanding of the personality disorders associated with security risk (M = 6.6, SD = .55), they knew how to elicit narrative information during the CDI (M = 6.8, SD = .45), they felt confident that they could administer the SWAP correctly during the field test (M = 6.8, SD = .45), and they understood how to interpret the results of the DIRE scale M = 6.4, SD = .89). Clinicians' anticipated advantages and challenges will be discussed in the results section of this report in light of whether they turned out to be accurate.

FIELD TEST PROCEDURES

Clinician Instructions

Clinicians received the following instructions upon completion of the training: (1) use the SWAP to evaluate two new HRP candidates, and (2) use the SWAP to evaluate three employees of concern or employees who are being referred for cause. Individuals in the first category are personnel who already hold a DoE Q clearance (equivalent of DoD's Top Secret clearance) and are now applying for HRP certification. As a part of the eligibility requirements for initial HRP certification, candidates must undergo a mental health evaluation that includes a battery of tests and a semi-structured interview with a member of the clinical team. Individuals in the second category are either existing HRP personnel who received their HRP certification, but are being closely monitored because of prior concerns, or existing HRP personnel who committed some sort of an incident on the job and are being referred to the clinical team for further evaluation. Finally, they were instructed to use their regiment of standard evaluation tools (e.g., MMPI-2-RF) in

addition to the SWAP, rather than using the SWAP as a substitute for all other tools.

Post-Evaluation Rating Sheet

Clinicians were also asked to fill out a post-evaluation rating sheet within 24 hours of each SWAP administration (see Appendix B). The purpose of this form was to assess the utility of the SWAP for reaching diagnostic conclusions about the subject, and to allow clinicians to keep track of the different types of evaluations they were completing.

Debriefing Interviews with Clinicians

The debriefing interviews took place in March, 2010, after clinicians had a chance to use the SWAP for 4 months and complete their assigned number of cases. Each individual phone interview lasted approximately an hour and a half. A structured interview protocol composed of open and closed-ended questions about the CDI, the SWAP, and the DIRE scale guided the flow of conversations with clinicians (see Appendix C). Whenever possible, clinicians were asked separately about their experience of using the SWAP with new candidates vs. employees of concern vs. new referrals for cause. SWAP may be more useful for some categories of assessments than others, so it was important to differentiate between them. With clinicians' permission, the phone interviews were recorded to allow for later transcription and data analysis.

RESULTS

OVERVIEW

The data analyses were carried out in three stages. In Stage I, descriptive statistics were computed for (1) the number of SWAP evaluations of each type and (2) the amount of time it took clinicians to complete the CDI and the SWAP ratings for each type of SWAP evaluation. In Stage II, clinicians' responses to question # 6 on the Post-Evaluation Rating Sheet were averaged separately for each category of assessments: (1) new candidates, (2) employees of concern, and (3) new referrals for cause. Specifically, this item asked respondents to rate the effectiveness of the SWAP in helping them reach diagnostic conclusions for the current subject on a scale from 1 (not at all effective) to 7 (extremely effective). In Stage III, a qualitative analysis of common themes was conducted on clinicians' responses to the open-ended questions of the interview protocol. These analyses were conducted separately for clinicians' feedback regarding CDI, SWAP, and DIRE components. This open-ended data was particularly rich in yielding useful information about the added value of the SWAP for different types of HRP evaluations.

STAGE I: DESCRIPTIVE STATISTICS

Over the course of 4 months, clinicians assessed a total of 26 subjects with the SWAP (10 new candidates, 10 employees of concern, and 6 new referrals for cause). In other words, as instructed, each clinician completed approximately five evaluations. Clinicians indicated that the CDI added between 45 minutes to an hour and a half to the SIS for new candidates, and between an hour to an hour and a half for employees of concern and new referrals for cause. SWAP ratings took between 30 to 45 minutes to complete irrespective of evaluation type, and this time estimate decreased as clinicians gained more experience with the item set and the Excel software.

STAGE II: EFFECTIVENESS ANALYSES

Clinicians' mean ratings of SWAP effectiveness are displayed in Figure 2 (page 15). Overall, the effectiveness ratings were high, and clinicians felt that the SWAP was equally valuable for evaluating new candidates (M = 5.30, SD = 1.25, n = 10), employees of concern (M = 5.20, SD = 1.62, n = 10), and new referrals for cause (M = 5.17, SD = 1.72, n = 6). The specific question they were asked was "rate the effectiveness of the SWAP in helping you reach diagnostic conclusions for the current subject," therefore their responses referred to the SWAP method as a whole, rather than any of its components such as the CDI, SWAP software, or the DIRE scale. Given the relatively small sample sizes, however, it was especially valuable to examine clinicians' responses to the open-ended questions of the interview protocol. These rich qualitative data speak to which components of the SWAP method were

most useful for field test clinicians and for which types of mental health evaluations.

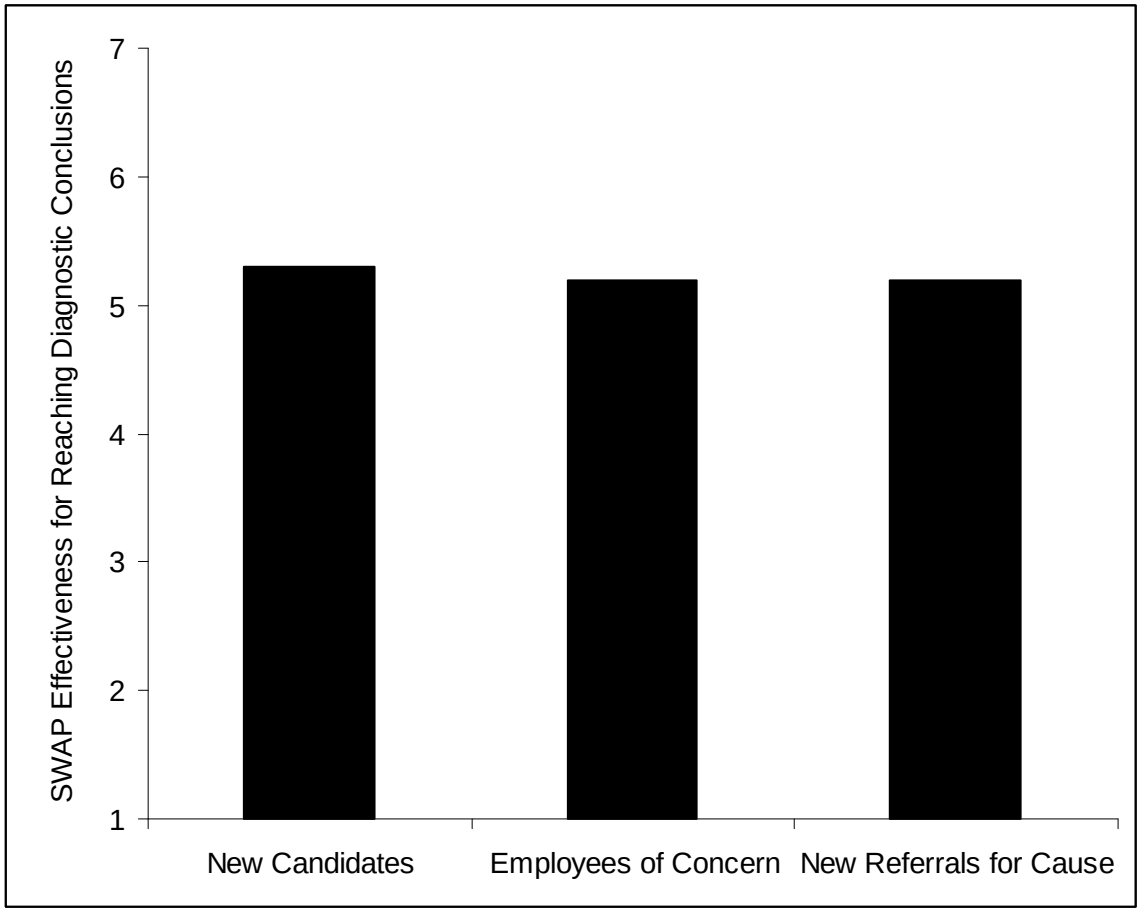

Figure 2 Clinicians' Ratings of SWAP Effectiveness for New Candidates, Employees of Concern, and New Referrals for Cause

STAGE III: QUALITATIVE ANALYSES

CDI

At the end of the SWAP training clinicians were asked what they anticipated to be as the biggest challenge of using the SWAP in their practice. Two of the most commonly expressed concerns were that (1) the subjects will complain about the length of the CDI, as it is longer than the SIS, which they would have either experienced before or heard about from their co-workers, and (2) the subjects will complain about the nature of some of the CDI questions that ask about sexual behavior and other private matters. Interestingly, the opposite happened. The subjects enjoyed the CDI, and some even thanked the clinicians for taking the time to listen to their personal stories. The CDI experience was viewed as a positive therapeutic experience by many subjects who, on average, enjoyed sharing stories about their childhood experiences, relationships, and present activities.

RESULTS

Table 1 (page 16) presents a selection of clinicians' verbatim quotes comparing their experience of using the CDI versus the SIS. The major findings were that (1) the quality and depth of information was much better with the CDI, as it is a more comprehensive interview that covers early childhood experiences and adolescence in addition to adulthood; (2) the CDI allowed the clinicians to establish a positive rapport and feelings of mutual trust with the subjects, and this relational connection could increase the likelihood that the subjects will turn to the clinical team if they begin experiencing problems in their life or on the job; (3) conducting the CDI helped clinicians improve their interviewing skills, as it has taught them that they are free to explore additional areas with the subject and that they do not have to stick to the SIS script; and (4) the CDI is more resistant to faking than the SIS because the clinician isn't just listening to what the subject is saying, but instead is paying close attention to descriptions of object relationships with primary caregivers, relatives, and significant others. In contrast, the SIS focuses primarily on asking direct questions about the subject's past history of potentially disqualifying events. In sum, the clinicians felt that the CDI approach to interviewing is much more effective than the SIS approach when it comes to drawing diagnostic conclusions about personality pathology.

Finally, the clinicians shared some self-generated time-saving tips that allowed them to shorten the length of CDI administration time. First, they rearranged the order of the CDI questions to fit the order of the standard SIS protocol. In this manner, when asking the subject a question, they were obtaining information for both the CDI and SWAP and requisite information for the SIS. Second, in situations where they felt they already had a good understanding of a specific issue related to the subject, they did not ask for additional examples, as the CDI script would normally guide them to do. Third, they asked questions about very private matters (e.g., subject's sex life) only if he or she voluntarily brought up this topic. Even without these answers, they were still able to confidently complete the subject's SWAP.

Table 1
A Selection of Clinicians' Quotes Comparing the CDI with the SIS

Quote
"The CDI provided a lot more opportunity to get rich detail, to substantiate a person's responses, and to confirm my clinical impressions."
"The quality and depth of information is much better with the CDI."
"The SIS gives you the silhouette, whereas the CDI colors the picture."
"The CDI provides more of a relational connection between interviewer and interviewee by asking interviewee to reveal his/her life story."
"Conducting the CDI has helped us improve our SIS."
"People didn't realize what they were telling me in some cases with the CDI."

SWAP

Overall, clinicians felt that the SWAP was an excellent tool for diagnosing personality disorders compared to the other tools that they routinely use (e.g., MMPI-2-RF, PAI, etc.). They felt confident about diagnoses made with the SWAP, especially when it came to identifying personality disorders forming the backbone of the DIRE scale (i.e., psychopathy, malignant narcissism, and borderline personality organization). These disorders, in particular, are difficult to assess via self-report, as individuals may be either unaware of their symptoms or unwilling to accurately report them. Moreover, in the case of psychopathy, clinicians felt that tools such as MMPI-2-RF weigh their scores too heavily toward antisocial behavior that may have occurred in the past, thereby making individuals look antisocial who really are not that antisocial. The SWAP, on the other hand, was excellent at assessing deficits in interpersonal relationships and emotional processes, which helped to identify successful psychopaths who may lack the deviant behavioral history that would keep them from entering DoE and obtaining an initial security clearance.

Table 2 (page 18) presents a selection of clinicians' quotes about the SWAP. In sum, (1) they felt it was the best instrument they were aware of for diagnosing personality disorders, because unlike the other tools, it relies on their judgments and observations instead of the subject's self-report; (2) they felt more confident about assigning a personality disorder label to a subject, (3) they perceived their SWAP ratings of the subject's personality to be objective. The self-report tools often result in personnel attempting to "appear good" on the measure as detected by built-in validity indexes, which then results in a conundrum about which course to follow next, because asking the subject to retake the test in itself may affect his or her responses to it, and (4) they greatly appreciated SWAP's psychological health metrics, which in some cases reassured them that an individual possessed character strengths needed to counterbalance mild personality pathology or help him or her overcome stressful life events.

Another central finding was that SWAP scores provided clinicians with a legally defensible basis for their recommendations to the HRP Certifying Official regarding HRP determinations and for justifying assigned diagnoses during administrative review hearings. The psychological health metrics seemed particularly useful in this respect, because at these hearings clinicians are also held accountable for assessing compensatory strengths. They reported that in the past they have faced situations where they were convinced that a subject possessed a specific disorder and should not be in the HRP, but because he or she did not meet the diagnostic clinical thresholds from *DSM-IV*, they did not have a strong case for recommending a denial, suspension, or removal from the program. The SWAP's dimensional scoring system provided them with a hard score validating the presence of a disorder.

Table 2
A Selection of Clinicians' Quotes about the SWAP

Quote
"I think it's probably the best instrument I know of for diagnosing personality disorders."
"The SWAP makes me feel more confident about assigning a personality disorder label."
"It is the recurring pattern of behavior that gets people in trouble here, and SWAP helps us establish whether something is an isolated incident or a character pathology."
"When a clinician fills out the SWAP, he/she isn't inclined to make the individual look better or worse, whereas self-report measures open up avenues for faking."
"The Psychological Health Index is like HDL cholesterol for us—even though someone might have a moderately high LDL, it can be reassuring to know that his/her HDL is also high."

Finally, clinicians shared a few time-saving tips that they generated in order to reduce completion time of the SWAP ratings. Importantly, it was the amount of experience with the items and not the type of evaluation at hand (e.g., new candidate, employee of concern, etc.) that determined completion time. They also created clear distinctions between the eight different scoring categories. For example, in order to assign a score of 0 to an item (least descriptive), the clinician had to either be absolutely sure that the item did not apply to the individual or have no knowledge regarding the subject's standing on the characteristic described by the item, whereas in order to assign a score of 1, there had to be at least a trace of the personality characteristic present in the subject.

DIRE

Because individuals with high DIRE scale scores are relatively rare, clinicians had limited experience with this scale during the field test. They did, however, report that they liked the fact that DIRE is tailored to the security world and that it has utility for buttressing their recommendations regarding HRP eligibility because it represents a consensus of senior adjudicators regarding security risks. Clinicians also reported that if they encountered a subject with an elevated DIRE score, they would gather converging evidence for actual behavioral correlates of the disorder by talking to the subject's supervisors and management, by talking to security personnel, and by looking for evidence of problematic behavior occurring outside of work in the community. In sum, they would never base an HRP determination on a test score alone.

METRICS OF PSYCHOLOGICAL HEALTH

Field test clinicians found SWAP's psychological health metrics highly useful because they offered a well-rounded picture of the subject that included not only personality problems but also a quantitative estimate of his or her positive strengths. Previously, they did not have a similar measure available at their disposal. They felt these metrics were particularly useful for cases where the individual had some mild personality pathology on non-DIRE personality disorders

(e.g., histrionic personality disorder), because it allowed them to evaluate the individual's character strengths and weigh them against the identified problems. In general, when a clinician identifies a problem in an HRP candidate or current employee he or she has to determine how much that problem will affect the individual's functioning in the workplace and handling of nuclear materials. Knowing that the person is psychologically healthy, helped them feel reassured that the individual is fit to do his or her job despite some mild red flags or situational stressors. One clinician even compared the metrics of psychological health to HDL cholesterol.

COST-BENEFIT CONSIDERATIONS FOR DIFFERENT CASE TYPES

When asked whether SWAP had any disadvantages, the unanimous answer was that the CDI/SWAP combination requires additional clinician labor when compared to the combination of SIS/MMPI-2-RF (an additional 1-1.5 hours). Labor time means additional expenses. However, clinicians also stated that for employees of concern and new referrals for cause, the additional labor would be fully justified and at times comparable to how much time they would normally spend on finding out the root of the problem in these individuals. Additional clinician labor was the only disadvantage brought up by any of the clinicians.

When asked whether the SWAP should be added to the regiment of personality disorder assessment tools available at the field test site, clinicians unanimously said yes. However, their responses differed somewhat when asked separately about SWAP's added value for candidate evaluations, employees of concern, and new referrals for cause. Clinicians had mixed opinions about using the SWAP method on new candidates, ranging from "yes, use it on everyone, the more information we have about the individual the better, and because we don't know who will eventually get in trouble, this baseline information could be very helpful" to "only use it on those individuals who look problematic on their responses to the SIS" to "do not use it on new candidates at all, because in most cases the extra information will not be useful."

Interestingly, when clinicians were asked whether each new candidate should receive a SWAP assessment if cost and labor were not a consideration, everyone responded affirmatively. Clinicians agreed it would be useful if every new HRP candidate received a SWAP assessment, because (1) it provides a much clearer picture of the candidate's personality and psychological functioning than field test site's routine interview and assessment tools, (2) HRP clinicians would have a comprehensive baseline of the candidate's personality functioning that would be useful if the individual later on began experiencing problems and was referred to the clinical team, and (3) they would be able to understand the developmental trajectory of the new candidate's present issues and make a more informed decision regarding his or her HRP eligibility.

Finally, clinicians also shared that new HRP candidates are not as healthy as one would expect them to be, because most of them did not receive a clinical evaluation as a part of their Q clearance application process, unless there was a documented psychological problem. As a result, many new candidates who apply to the HRP program have undocumented psychological problems, which could result in unreliable behavior if left undetected and/or unmanaged. Clinicians opened that costs for including SWAP/DIRE in routine candidate assessments could be offset by reducing the frequency of MMPI-2-RF administrations from 3 years to 5 years without significant loss of clinical information.

For employees of concern and new referrals for cause, clinicians unanimously stated that using the SWAP method would be very beneficial because (1) it is the most structured personality disorder assessment tool that they have, (2) the CDI/SWAP scores help them understand not just the severity of the problems, but also an employee's developmental trajectory, (3) the SWAP provides metrics of compensatory strengths, and (4) the SWAP scores would be highly useful in situations where a legally defensible opinion is necessary such as during administrative review hearings. Clinicians typically spend an extended amount of time on evaluating these two categories of individuals, so they felt that the extra time necessitated by the SWAP method would be fully justified because of the added value.

DISCUSSION

CONCLUSIONS

Findings from the present field test demonstrate that the use of the SWAP/DIRE method has improved field test clinicians' ability to assess personality disorders in HRP candidates, existing HRP employees of concern, and new referrals for cause. Extensive debriefing interviews with clinicians about the use of the CDI, SWAP software, SWAP scoring profiles, SWAP metrics of psychological health, and DIRE for a period of 4 months show that:

(1) The CDI allowed clinicians to obtain subject information of greater depth, quality, and reliability than the SIS, as well as establish a positive rapport with the subjects by showing an interest in their life.

(2) The SWAP enabled clinicians to make more confident evaluations of personality disorders because they were able to rely more on their judgments and observations instead of the subject's self-report.

(3) The SWAP metrics of psychological health allowed clinicians to juxtapose an individual's personality strengths with his or her weaknesses when making a determination regarding HRP fitness, which was not possible to do before with their existing tools.

(4) The DIRE scale was valued by clinicians because of its relevance to security, however, the small sample size of the field test combined with low prevalence of individuals with high DIRE scores limited clinicians' opportunity to extensively evaluate this scale.

(5) The use of the SWAP/DIRE method as a whole provided clinicians with a more solid legally defensible basis for their recommendations to the HRP Certifying Official than the use of their standard diagnostic tools (i.e., PAI, the *DSM-IV* criteria for Axis II personality disorders, etc.)

NEXT STEPS FOR FIELD TEST CLINICIANS

Currently, field test clinicians are using SWAP/DIRE to evaluate: 1) employees of concern who were granted HRP eligibility despite minor red flags, and are now being watched closely by the clinical team, and 2) new referrals for cause who must receive a clinical evaluation because of a recent incident. Follow-up conversations with field test clinicians indicate that as of April, 2011, they have completed 23 additional SWAP administrations. They stated that the use of the CDI gives them additional valuable information about the developmental trajectory of problems. The use of the SWAP scales helps them hone in on the diagnosis and clarify whether the subject has enough positive character strengths to overcome the difficulties. The use of the DIRE scale is valuable for ensuring that a rare case of a personality disorder associated with security risk does not go undetected.

Clinicians also reported using SWAP and DIRE scores as additional pieces of clinical evidence to support their temporary suspension and/or removal recommendations to the HRP management and security staff.

Field test clinicians are not yet using the SWAP to evaluate new candidates due to additional cost considerations. The present findings show that the SWAP assessment in its entirety adds an hour and a half to the standard evaluation of new candidates, and if the cost of additional clinical labor were not an issue, field test clinicians all stated that they would like to administer the SWAP to new HRP candidates. Several options for using the SWAP with new candidates without the additional cost burden are presented below.

RECOMMENDATIONS FOR DOE

The SWAP field test findings were briefed to the leadership of DoE's Personnel Security (Health, Safety & Security) and to DoE's Chief Medical Officer of on 5 May, 2010 and the following recommendations were presented to the attendees:

Recommendation # 1: Based on the demonstrated value of the SWAP/DIRE for assessing personality disorders in DoE's HRP population, DoE should consider training more HRP clinicians in the SWAP/DIRE methodology. After receiving the training, they will be able to readily use the SWAP/DIRE for evaluating cases of concern and new referrals for cause with no significant cost burden to DoE. A mass training opportunity at a DoE conference would be the most cost efficient option for executing this recommendation.

DoE leadership implemented this recommendation by funding a training session at the September 2010 DoE Clinician Summit in Las Vegas, NV, in which Dr. Shedler trained eight additional HRP clinicians in all aspects of the SWAP/DIRE methodology. Clinicians came from various DoE HRP entities, including the Lawrence Livermore National Laboratory, Los Alamos National Laboratory, Savannah River National Laboratory, and DoE National Nuclear Security Administration's Office of Secure Transportation.

Recommendation # 2: Consider providing funds to field test site for administering the SWAP to all new candidates for a trial period of 1 year. Benefits of this recommendation include: (1) enhancing positive rapport and feelings of trust between HRP clinicians and new candidates, (2) an enhanced baseline of each new candidate's personality and psychological health that should be useful in the future if he or she starts experiencing problems on the job, (3) data for development of a longitudinal database to support risk and performance predictions, and (4) reducing the possibility of missing high-risk individuals entering the HRP program.

In the long-term, using the SWAP on all new candidates will require additional clinical labor; however, reducing the frequency with which MMPI-2-RF is currently administered may help offset the costs. Specifically, MMPI-2-RF is currently given to all new candidates and then after receipt of HRP eligibility, to all existing HRP

employees every 3 years. Reducing the frequency of MMPI-2-RF administration from every 3 years to every 5 years could be a more permanent solution for offsetting the additional clinical labor costs required for giving the SWAP to all new candidates.

DoE HRP leaders are currently considering this recommendation.

DISCUSSIONS WITH DOD

Because of their potential utility, the SWAP field test findings were briefed also to the representatives of DoD's Army, Navy, and Air Force PRP components on 6 May, 2010. After the briefing, a discussion followed regarding PRP clinicians' needs and potential uses of the SWAP. PRP representatives pointed out key differences between the infrastructure of the PRP and HRP programs that may make it challenging to implement the SWAP within PRP.

First, there is a high turnover rate among PRP personnel and clinical staff who typically complete 3-year military rotations at bases located around the world. High turnover among personnel is an issue because if an individual is going to be assigned to a PRP position involving handling of nuclear weapons only for a limited amount of time and then re-assigned to a non-PRP position, investing a large amount of money into his or her initial screening may be cost prohibitive. Similarly, spending funds on training clinicians how to administer the SWAP may not be cost effective if they only remain in that position for a period of several years. At DoE HRP components, for example, both personnel and clinicians remain in their positions for a long time, sometimes even throughout their entire careers.

Second, PRP components frequently rely on broad medical programs (e.g., family physicians) to evaluate candidates' and existing employees' mental health instead of relying primarily on trained clinical psychologists. Therefore, medical practitioners who perform PRP mental health evaluations may not always have the necessary background in clinical interviewing required for conducting a CDI. Because clinical psychologists who perform mental health evaluations within the HRP, this was not an issue for DoE.

Despite these logistical and operational challenges within the PRP, the problem of identifying personnel with risky personality disorders and/or insider threat suspects remains important and needs to be addressed in PRP programs and DoD-wide, especially in the aftermath of such events as the Fort Hood massacre orchestrated by Major Nidal Malik Hasan that left 13 people dead and 30 injured (Department of Defense Independent Review, 2010), or the 2001 anthrax attacks, presumably carried out by Army scientist Bruce Ivins, which resulted in the deaths of five persons and injury of many others (Shane, 2011). Several options exist for using SWAP and DIRE to conduct PRP mental health evaluations. These options may also apply to similar DoD sensitive programs.

Option # 1: Use SWAP and DIRE to evaluate PRP personnel who may have exhibited adverse behavior resulting in a suspension or temporary decertification. The incurred costs would be minimal, as they would only involve training participating clinicians, but not a substantial amount of additional labor. Medical professionals routinely spend extended periods of time on evaluating employees who act out, so having the SWAP as an additional security-sensitive tool in their toolbox of instruments would only be beneficial.

Option # 2: Conduct a pilot test of the SWAP at a large military base with an active mental health clinic and trained clinical staff (e.g., Wilford Hall Medical Center at Lackland Air Force Base or Carl R. Darnall Army Medical Center at Ford Hood). Several clinicians could be taught how to administer the CDI and SWAP at a group training, after which they would use the SWAP for evaluating existing PRP personnel who exhibit behavior of concern. PERSEREC is engaged in discussions with Air Force and Army PRP representatives regarding the possibility of such a pilot test.

SWAP RECOMMENDATIONS FOR OTHER AGENCIES

In addition to DoE's HRP and DoD's PRP programs, other government agencies and departments, including the intelligence community, may benefit from the use of the SWAP for identifying individuals with risky personality disorders. For example, recently, the science policy advisor from the Department of Health and Human Services expressed interest in using SWAP/DIRE for evaluating individuals with access to biological select agents and toxins (as per requirements of E.O. 13546). As with HRP and PRP populations, using SWAP/DIRE for initial screenings and/or individuals who exhibit behaviors of concern in highly sensitive programs would yield benefits such as: (1) timely identification of individuals with risky personality disorders who may go on to endanger national security or the safety of their co-workers, and (2) an enhanced baseline of personnel's mental health status information that can be used, in conjunction with performance data, to predict undesirable personnel security outcomes such as security incidents.

THE NEXT STEP: RISKY BEHAVIOR PREDICTION STUDY

Phase III of PERSEREC's Personality Disorders Research Initiative will examine the extent to which DIRE can predict important safety and suitability risks, such as violent behavior and troubled employment history. In the wake of such events as the Fort Hood massacre, understanding predictors of violent behavior is an important step in preventing and mitigating the insider threats to DoD systems and its personnel, as well as to other departments and agencies. In this national study, a random sample of 1201 clinicians will randomly select and then use the SWAP to describe one patient in their care with personality-related issues causing distress. Clinicians will also complete a questionnaire assessing key behavioral outcomes about the patient, such as history of arrests and violent behavior, employment

troubles, etc. Data analyses will focus on examining (1) associations between DIRE and behavioral outcomes under study, and (2) predictive utility of DIRE above and beyond traditionally favored measures of psychopathy, malignant narcissism, and borderline personality organization. The findings from Phase III will extend the existing base of evidence suggesting that DIRE is a valid metric of security and suitability risk.

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APPENDIX A:

POST-TRAINING QUESTIONNAIRE

POST-TRAINING QUESTIONNAIRE

Circle the number that best indicates your level of agreement.

	Strongly Disagree						**Strongly Agree**
1. I think the SWAP will be a useful tool for identifying and diagnosing personality disorders in *HRP candidates*.	1	2	3	4	5	6	7
2. I think the SWAP will be a useful tool for identifying and diagnosing personality disorders in *HRP employees who are displaying behaviors of security concern*.	1	2	3	4	5	6	7
3. I have a good understanding of the personality disorders that are associated with security risk.	1	2	3	4	5	6	7
4. I understand how to elicit narrative information during an interview to assess personality pathology.	1	2	3	4	5	6	7
5. I understand how to interpret the results of the DIRE scale.	1	2	3	4	5	6	7
6. I feel confident that I will be able to administer the SWAP correctly during the course of the field test.	1	2	3	4	5	6	7

7. What do you think may be the biggest challenge associated with using the SWAP in your practice?

_____

_____

8. What do you think may be the biggest benefit of the SWAP for your practice?

_____

_____

APPENDIX B:

POST-EVALUATION RATING SHEET

Post-Evaluation Rating Sheet

Instructions: please fill out this sheet within 24 hours of every SWAP evaluation that you complete.

1. Your name _____

2. Evaluation ID # (1-5, *assign 1 to the first subject you evaluate, and so on*) ___

3. What type of a SWAP evaluation did you just complete? *(circle one)*

a) candidate evaluation
b) prior concern/ "radar" case evaluation
c) annual re-evaluation
d) new referral for suspicious behavior evaluation
e) other (please describe)

_____

4. What were the primary behaviors of concern exhibited by the subject?

_____

_____

5. What other assessment instruments did you use to evaluate this subject? *(if none, skip)*

a) _____ b) _____
c) _____ d) _____
e) _____ f) _____

6. Rate the effectiveness of the SWAP in helping you reach diagnostic conclusions for the current subject:

Not at all Effective	1	2	3	4	5	6	7	**Extremely Effective**

7. Please comment on the usefulness of the SWAP information for evaluating the current subject:

_____

_____

APPENDIX C:

DEBRIEFING INTERVIEWS PROTOCOL

Section I: Basic Info

1) Your name:
_____

2) How many SWAP evaluations did you conduct? _____

3) How many of them were:
- candidate evaluations ___
- prior concern/ "radar" case evaluations ___
- annual re-evaluations ___
- new referral for suspicious behavior evaluations ___
- other (please describe) ___

4) What are your time estimates for each type of a SWAP evaluation, for both CDI and SWAP itself?
- candidate evaluation _____ (CDI) _____ (SWAP)
- prior concern/ "radar" case evaluation _____ (CDI) _____ (SWAP)
- annual re-evaluation _____ (CDI) _____ (SWAP)
- new referral for suspicious behavior evaluation _____ (CDI) _____ (SWAP)
- other (please describe) _____ (CDI) _____ (SWAP)

5) On average, how much time does the SWAP assessment, including the CDI, add to how long it typically takes you to conduct a mental health evaluation for a new candidate? For referral for cause?
_____

Section II: Clinical Diagnostic Interview (CDI)

1. Did you follow the prescribed CDI order of questions when interviewing employees, or did you rearrange the questions to be consistent with the order of the structured interview that you typically use?

2. What would you say are the biggest differences between your routine structured clinical interview and the adapted CDI that you used for the field test? Was adapting the CDI to your assessment needs at the field test site a group effort?

3. Did the interviewees complain about the nature of the CDI questions? Which specific questions?

4. Were there any complaints about the length of the CDI?

5. In your opinion, is the narrative-based format of the CDI better for identifying dishonesty than the more straight-forward self-report format of a structured clinical interview, such as the one you routinely use for example?

6. Are there any questions/areas in the CDI that did not yield any useful information and you would recommend eliminating in lieu of saving time? Would you be able to confidently fill out the SWAP without knowing the employee's answers to these questions?

7. How does the amount of useful information you get about the individual from the CDI compare to the amount of useful information you get out of your routine structured interview for candidate evaluations? For referral for cause evaluations?

8. Compared to your routine structured interview, how much do you think the employees liked the CDI, on a scale from 1 to 5, with 1 being liked it significantly less, 2 being liked it less, 3 being liked it the same, 4 being liked it more and 5 being liked it significantly more than the routine structured interview.

1 2 3 4 5

Explain:_____

Section III: SWAP

1. Which personality disorders in particular does the SWAP seem most helpful for diagnosing?

2. And now I am going to ask you a couple of questions about how useful the SWAP is for several targeted objectives. Please respond to the questions on a scale from 1 to 5, where 1 is not at all useful and 5 is extremely useful.

How useful is the SWAP for:

a. Identifying personality disorders? 1 2 3 4 5

Explain:_____

b. Identifying personality strengths? 1 2 3 4 5

Explain:_____

c. Evaluating HRP candidates? 1 2 3 4 5

Explain:_____

d. Evaluating prior concern/ "radar" cases? 1 2 3 4 5

Explain:_____

e. Evaluating new referral cases? 1 2 3 4 5

Explain:_____

3. Are the results you obtain with the SWAP consistent with the results you obtain with MMPI-2 RF and the other tools that you use? Do they align?

4. How confident do you feel about diagnoses made with the SWAP relative to diagnoses that you make with the other tools that you use, for example, MMPI-2 RF? Please answer on a scale from 1 to 5, with 1 being substantially less confident, 2 being less confident, 3 being similarly confident, 4 being more confident, and 5 being substantially more confident.

1 2 3 4 5

Explain:_____

5. Overall, did the SWAP help you do a better job of evaluating the mental health of the HRP candidates and employees?

6. What is the SWAP's biggest advantage for evaluating individuals for the HRP program?

7. What is the SWAP's biggest disadvantage for evaluating individuals for the HRP program?

8. Would you recommend that the SWAP be added to the regiment of assessment tools that the clinicians at your site currently use to assess personality disorders? Would it be most useful as a supplement or as a replacement, and for which situations? Explain.

9. Although the field test is over, you still have the SWAP on your computer and your SWAP license does not expire for some time, so are you planning to continue using the SWAP? In what situations do you plan to use it?

10. If the cost and clinician labor weren't a consideration, would you recommend that each new candidate receive a SWAP assessment?

Section IV: Dispositional Indicators of Risk Exposure (DIRE)/Psychological Health Index

1. What do you think about the DIRE scale and its utility for identifying individuals with risky personality characteristics?

2. Did you have any cases with an elevated DIRE score?

a. In what range was the score?
b. How did you handle this individual?
c. In addition to an elevated DIRE score, did this individual receive high scores on APD/psychopathy, NPD, or BPD?

3. In addition to the three disorders that form the backbone of the DIRE scale (psychopathy, malignant narcissism, and borderline personality organization), which other personality disorders, based on your experience of evaluating HRP employees, do you think are correlated with security risk, and why?

4. Was the Psychological Health Index useful for identifying personality strengths? Can you give me an example of how it was useful?

Section V: SWAP Software & Graphical Output

1. While using the SWAP, did you ever encounter any issues with the SWAP software? Error messages? Glitches?

2. What do you think of the three different personality disorder profiles (DSM-IV Personality Disorder Profile, SWAP Personality Syndrome Profile, and SWAP Factor T-Score Profile) that SWAP yields? Which ones were most helpful for reaching a diagnosis/making a clinical determination?

3. Would you recommend any changes to the SWAP software or graphical outputs it produces to make it more useful for your purposes?