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## Accounting for Protective Factors in Personnel Vetting and Insider Risk Decision Making

### Research Challenge and Background

Personnel Vetting and Insider Risk Programs have traditionally focused on *negative* behavioral indicators, specifically looking to determine concerning behaviors associated with an individual's risk. This approach, however, seems to be at odds with policy and guidance for personnel vetting and insider risk — which should weigh the whole person including both *favorable* and unfavorable information. Additionally, due to the low volume of information available on individuals applying for jobs and security clearances, reliance on negative risk scoring without considering favorable "protective" factors can lead to high false positive rates.

### Research Study

MITRE's team of insider risk practitioners and behavioral sciences researchers conducted an applied behavioral study to:

- Define, identify, and prioritize protective factors for personnel vetting and insider risk

- Validate observable measures of three potential protective factors with real current employees and new hires in an actual industry organization

### Outcome: Defined 'Protective Factors' for Personnel Vetting and Insider Risk

MITRE's insider risk team demonstrated that 'protective factors' can be incorporated into security. For personnel vetting and insider risk:

*Protective factors* can be defined as *individual characteristics, attitudes, social perceptions, or behaviors that provide a whole-person buffer to reduce the risk of individuals making poor decisions and becoming insider risks/threats*.

Mitigators differ from protective factors (or whole-person buffers):

- **General mitigator**: New information or additional context about a specific negative indicator that reduces the risk associated with that indicator

- **Direct mitigator:** Behaviors or factors that directly counteract a negative indicator or reduce risk from specific negative indicators

- **Protective factor (Whole-person buffer):** Individual characteristics, attitudes, social perceptions, or behaviors that reduce the risk of individuals making poor decisions and becoming insider threats. Protective factors are not directly associated with a specific negative risk indicator

It is recommended that the above definitions and nomenclature are integrated into security lexicon.

## Points of Contact
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**Website: https://insiderthreat.mitre.org**

## Outcome: Prioritized and Translated Protective Factors for Personnel Vetting and Insider Risk

MITRE identified a list of 350 unique protective factors list and prioritized 27 for study consideration based on:

- Observable by personnel vetting practitioners
- Observable in human, organizational, cyber, and physical sensors used by Insider Risk Programs
- Observable without clinical training or being a licensed professionals
- Culturally robust

### 27 Highest Potential Protective Factors for Personnel Vetting and Insider Risk

| | | |
|---|---|---|
| Accepting Responsibility | Family / Friend Support | Organizational Commitment |
| Adaptability | Forgiveness | Perspective Taking |
| Adequate Sleep | Hope | Positive Employee Attitude |
| Boundary Management | Job Engagement | Problem Solving |
| Cognitive Flexibility | Job Satisfaction | Self-Control |
| Connection at Work | Life Satisfaction | Self-Other Awareness |
| - Manager Support | Mindfulness | Support Mobilization |
| - Coworker Support | Physical Exercise | Work-Life Balance |
| Empathy | Organizational Citizenship | Work Style Fit |

## Outcome: Developed Reusable Methodology to Validate Protective Factors

MITRE's insider risk team developed an efficient, reusable methodology to validate protective factors and measures for Personnel Vetting and Insider Risk Programs. The methodology enables researchers to simultaneously validate behavioral and other-report measures of protective factors against self-report instruments completed by an organization's:

- *New hires,* simulating the identification of risk in personnel vetting context
- *Current employees,* simulating the identification of risk in an insider risk context

The MITRE team applied this methodology to collect self-report data from more than 100 new hire or current employee participants and from more than 200 other-reports, namely family/friends (for *new hires)* and managers/coworkers (for *current employees*).

## Outcome: Validated Behavioral and Other-Report Measures of Selected Protective Factors

MITRE's insider risk team conducted an applied behavioral study to validate 3 protective factors:

- **Empathy:** For personnel vetting, family member reports of empathy were significantly correlated with self-reports and should be considered for piloting as protective factors. In an insider risk context, neither manager nor coworker reports were significantly correlated with self-reports.
- **Adaptability:** Other-report and behavioral measures were not successfully validated with self-report for either personnel vetting or insider risk contexts.
- **Life Satisfaction:** Coworker reports of life satisfaction were significantly correlated with self-reports. However, contextual comments from other-reporters suggested their responses were heavily influenced by recent negative life events. This points to life satisfaction being a potential risk indicator (i.e., signifying *increased* risk) rather than a protective factor (i.e., *reducing* risk).

## Recommendations for Practice and Research

- Transition into policy the definitions of general mitigator, direct mitigator, and protective factors (whole- person buffer) as standard within the personnel vetting and insider risk lexicon
- Empathy measures for family members were validated and should be incorporated in pilot testing and validation in a real personnel vetting context
- As new factors and measures are recommended for inclusion in vetting and insider threat programs, utilise the data-driven research methodology to scientifically validate them
- Future research should explore additional protective factors. Recommended protective factors included cognitive flexibility, work connections, bi-directional loyalty/organizational commitment, and self-control