

Summer 2023

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Malicious insiders pose a serious risk to valued organizational assets, including proprietary information, institutional processes, personnel, finances, reputation, and firm connections. Research-based solutions for predicting, detecting, and mitigating insider threats



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have focused heavily on individual, organizational, and cyber risk factors (Kont et al. 2015; Greitzer et al. 2018). To that end, scholars have increasingly recognized that people's personalities, motivations, grievances, and work stressors raise the risk of insider threat events, and the corresponding intervention-al strategies involve cybersecurity and work design practices to safeguard the organization against human error and deviance (Homoliak et al. 2019; Greitzer et al. 2013; Maasberg, Warren, and Beebe 2015). Yet, despite evidence that insider threat events are perpetrated by people situated within a social and organizational context, discussions of insider threat have only started to recognize the importance of socio-organizational protective factors for reducing the occurrence of insider threats (Moore, Gardner, and Rousseau 2022; Whitty 2021). We argue that a healthy organization—an organization whose people, practices, and policies effectively sustain its survival and performance—may be key to preventing and managing insider threats.



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The inner workings of an organization contain a blend of formalized elements such as policies, practices, values statements, and job roles, along with informal social norms established by organization members (McEvily, Soda, and Tortoriello 2014). Often, people's work behaviors are shaped by the way they view and react to these organizational attributes. For example, when people receive fair treatment, meaningful duties, and social belonging at work (i.e., drivers of organizational health), they are more inclined to internalize organizational values, align their efforts with organizational goals, and hold each other accountable in that process (Littman-Ovadia and Lavy 2016; Holtz and Harold 2013; Chiaburu and Harrison 2008). In contrast, deprivation of meaning, equitable treatment, and belongingness can push people to undermine organizational interests (Mackey et al. 2021; Priesemuth, Arnaud, and Schminke 2013; Kelloway et al. 2010), in minor (Lim, Cortina, and Magley 2008) or extreme ways (Elamroussi 2022; White 2021). Organizational practices and social work environments that support employee interests therefore serve a protective role against deviant insider activity by laying the foundation for organizations to adaptively address and mitigate identified threats. Applying lessons from organizational psychology and political violence research, we discuss how a layered (i.e., multilevel) approach to organizational health can reduce the risk of insider threats. We then conclude with implications and recommendations for insider threat response and risk management.



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Organizational Health as an Insider Threat Deterrence Strategy

Organizational health refers to an organization's state of functioning that supports the work and well-being of its members. Much in the way that physical and mental health equips people with the vitality to fulfill their interests and goals, organizational health reflects the formal and informal work conditions that support employees' satisfaction, motivation, and sustained performance (Miller, Griffin, and Hart 1999). Accordingly, our organizational health perspective contends that people will choose citizenship over deviance when they believe that their work structures and social climates enhance, rather than diminish, their ability and willingness to work (Moore, Gardner, and Rousseau 2022; Fox, Spector, and Miles 2001). The extent that people feel that they have valued membership and support in the organization corresponds with their motivation to threaten organizational assets (Mackey et al. 2021). To that end, we summarize two pathways to keeping organization members content, committed, and engaged in their work lives. Namely, organizations should first (a) grant entry to the right people and then (b) ensure that those people feel supported by the policies, practices, and peers in their workplace. For these two pathways to organizational health, we share organization, job, and social factors that deter insiders from causing intentional harm to an organization and its people.

Hiring the Right People

Sound employee hiring practices are an essential component of a healthy, well-functioning organization. Recruiting and selecting for people who share in the organization's values, have skills to meet job demands, and get along with current employees has been shown to benefit work-related outcomes such as retention, performance, and reduced counterproductive activity. Simply put, finding the right people for the organization, its jobs, and its people reduce the likelihood of insider threat events.

Person-organization fit. When seeking employment, people look to a variety of sources (e.g., personal and professional networks, employer websites, employment review websites) to understand the culture, practices, and broader identity of a future employer, with the intention of assessing whether they would belong and be satisfied in the workplace. Often, prospective job candidates hope to pinpoint an organization's "personality," seeking to uncover information about its warmth (i.e., values, trustworthiness, likability) and competence (i.e., prestige, performance excellence) (Zhu et al. 2021). This information search process enables people to identify whether they fit with an organization's values, mission, capabilities, and performance objectives. Assessing person-organization fit is mutually beneficial to the job candidate and the employer, as well-matched interests and goals help employees identify with the organization and aim to contribute to its pursuits. In turn, this reduces the likelihood that employees will detach from organizational objectives and attempt to sow internal disruption. (Harold et al. 2016) Crafting recruitment messaging to clearly showcase organizational values and missions will provide higher-fidelity information to attract better-fitting job candidates. Further, recruitment efforts targeted at qualified populations whose values align with the organization (e.g., LinkedIn, college campus recruiting, professional recommendations) can limit the chances of hiring newcomers that may cause harm to the organization or its constituents (Breagh 2013).

Person-job fit. Job seekers also want to find job roles to fit their skillsets, provide meaningful work, and have the opportunity for growth. Thus, employers must strike a fine balance in setting high, yet reasonable job expectations

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for potential hires. During the job search process, organizations should write job descriptions that clearly and accurately list job demands, required skill-sets, work resources, and promotion opportunities. Outlining a realistic job preview for job seekers makes it simpler and more efficient for potential candidates and future employers to evaluate a person's fit for a job role (Breugh 2013). Without accurately representing job roles, resources, and future opportunities, the organization will run the risk of hiring someone who may be under- or over-qualified for a job. In such cases, newcomers to the organization can eventually lose job satisfaction and commitment, withdraw from their work duties, and deliberately undermine organizational interests either in protest to excessive job demands or boredom from a lack of work challenges (Harold et al. 2016; Podsakoff, LePine, and LePine 2007). Person-job fit can thus lessen the occurrence of insider threats from disgruntled employees.

Person-group fit. In addition to fit with the organization and job duties, fitting in socially with current employees also serves as a protective factor against insider threat. Prospective job candidates often gravitate to workplaces where they share similarities with current employees (Devendorf and Highhouse 2008). Moreover, fit with potential work group members has been linked to lower instances of counterproductive work behaviors (Harold et al. 2016), suggesting that hiring people who would get along with other employees would deter deviance given the lower chance of social exclusion.

Providing Worker Support and Ethical Guidance

Once employees have gained entry into the organization, it is vital that they feel a continued sense of support by the organization and its members. Supportive workplace practices and personnel are essential to employee well-being and performance (Caesens et al. 2017; Meyers et al. 2019), and as such, are core drivers of organizational health. Furthermore, treating employees fairly, equipping them with resources to do good work, and building camaraderie among workers can minimize frustration and harmful insider behaviors (Mackey et al. 2021). These factors are important for deterring minor forms of deviance and aggression, but evidence from political violence suggests that these protective factors may also decrease the risk of radical and violent behavior (Wolfowicz et al. 2020). That is, supporting workers' efforts and well-being prevents organizational and social grievances from forming, and as a result safeguards organizations against potentially devastating acts by insiders.

Organizational support. Organizational support for workers is reflected in the policies, practices, and resources that enable employees to perform their



work while supporting their mental and physical health, and has been shown to increase work performance and citizenship (i.e., above-and-beyond) behaviors, as well as lower counterproductive work behaviors (Kurtessis et al. 2017). Employee perceptions of organizational support tend to come from equitable organizational policies and practices (Moorman, Blakely, and Niehoff 1998), meaning that prioritizing fairness makes employees feel appreciated and cared for. Just treatment at work broadly entails receiving the necessary training and tools to meet the demands of one's job, experiencing dignified treatment from management, and an awareness that organizational policies are applied consistently over time and across employees (Greenberg 1987; Colquitt 2001).

A few examples of fair policies and practices include transparent reward structures that reasonably correspond with employees' work contributions, equitable access to professional development opportunities for all personnel, and justly distributing material resources across work units to support job-related tasks. In response to fairness in the organization's formal structures, people tend to feel that they hold valued membership in an organization, feel more satisfied in their roles, are more mentally well, and are consequently less likely to impose harm on the organization itself (Spell and Arnold 2007; Kurtessis et al. 2017; Priesemuth, Arnaud, and Schminke 2013). Hence, organizational policies and practices that are seen as supportive and just can improve worker performance and well-being while curtailing motives to transgress against the organization (Fox, Spector, and Miles 2001).

Job design. Work design poses a continual challenge to organizations. Whereas expecting too much of employees can result in job stress, dissatisfaction, burnout, and retaliation (Meier and Spector 2013; Fox, Spector, and Miles 2001), demanding too little can also result in frustration and misbehavior in high performers who feel unchallenged (Harold et al. 2016). As such, work stressors should challenge people in their roles without hindering their well-being and performance (Podsakoff, LePine, and LePine 2007). Creating manageable workloads or supplying essential work resources may reduce the stress on workers who experience excessive strain from their jobs. On the other end of the work design problem, to combat counterproductive activity from unfulfilled workers, designing jobs with a variety of tasks can enrich people's work experiences (Morf, Feierabend, and Staffelbach 2017; Grant 2007). Another way to increase work enrichment involves giving workers the autonomy to craft their roles to their strengths and preferences, which can make their work feel more personally meaningful, increase perceived fit with their job roles, and motivate prosocial rather than antisocial behaviors (Grant 2007; Tims, Derks, and Bakker 2016). Taken together, possible remedies to job-related disgruntlement and insider threat may lie in designing jobs with reasonable workloads and resources, assigning a variety of stimulating tasks, and giving workers more ownership over how work is done.

Leadership and social work environment. Organizational leaders play an outsized role in shaping healthy organizational cultures (i.e., workplace values, attitudes, norms, artifacts). The formal authority granted to leaders within organizational contexts enables them to influence the behaviors of others through the reward structures they implement and the behaviors they showcase (Klein, Wallis, and Cooke 2013; Sims 2000). Accordingly, research on ethical leadership indicates that leaders can mold followers' ethical behavior through their own ethical conduct (i.e., being honest, trustworthy, and showing concern for others), along with their communication and enforcement of ethical standards to other members of the organization (Brown and Treviño 2006; Mayer et al. 2009). Through observing and imitating leaders' ethical behaviors and reciprocating such treatment to others, ethical norms slowly emerge among workers, which creates a sense of shared ethical accountability that deters employee misconduct and insider threat events (Den Hartog 2015; Mayer, Kuenzi, and Greenbaum 2010). As such, leaders have great responsibility and capability to role model and enforce ethical conduct, as doing so can prevent internal harm to their organization.

Beyond ethical leadership and norms, work and social support from leaders and coworkers can also act as a strong deterrent to destructive insider

behaviors. Leaders who provide clear mission guidance, demonstrate ethical behaviors, and deliver helpful feedback are more likely to motivate their followers to expend high effort toward organizational goals (Chiaburu and Harrison 2008; Shanock and Eisenberger 2006). Peers can also lessen the risk of deviance. Adequate socialization and encouragement from work peers yields higher trust and accountability, consistent knowledge sharing, and increased citizenship behaviors (Adil et al. 2021; Chen and Klimoski 2003). The resource networks and friendships formed at work help people adjust to organizational life by aiding work efforts, building shared identities, and promoting camaraderie among colleagues (Jones 1986). Additionally, positive social connections at work can help people regulate their emotions (Mathieu, Eschleman, and Cheng 2019) and avoid aggressive outbursts (Yan et al. 2014; Mao et al. 2018)—a resource that may be especially valuable if they lack social support outside of work. Considering that social exclusion and ostracism can generate anger, stoke radical intentions (Pfundmair 2019), and culminate in violent behavior (Wolfowicz et al. 2020), organizations would do well to build work cultures and climates that encourage leader and peer empathy, care, and mutual support. Although the creation of a positive social environment begins at the hiring stage, the social milieu must be actively maintained and championed by current members of the organization.

Implications and Recommendations for Threat and Risk Management

Thus far, we have argued that organization, job, and social factors must be considered when seeking to lower insider threat risk through hiring or delivering organizational support to existing employees. Beyond threat deterrence, these organizational health practices also build the foundational capacity to mitigate threats swiftly and effectively. One mechanism by which the organizational health perspective helps to prevent and manage insider threat risk is by enhancing individual and team adaptability. Adaptability refers to the ability to recognize changing circumstances and take action that results in a positive outcome, and is facilitated by well-designed organizational policies and procedures, clearly defined work roles, and social cohesion. More adaptive individuals and teams are more likely to be proactively prepared for potential threat events, and better able to respond when a threat event occurs. Different jobs have different adaptability requirements that vary along dimensions such as (a) emergency or crisis situations, (b) work stress, (c) creative problem solving, and (d) cultural adaptability (Pulakos et al. 2000). Understanding the adaptability requirements of a partic-

ular job, paired with selecting individuals who are a good fit to that job, will help to increase individual adaptability (Dorsey et al. 2017). For example, occupations that require a high degree of cultural adaptability would likely want to hire individuals with a high degree of cultural awareness, flexibility, self-regulation, and interpersonal skills as they are more likely to fit those situations (Abbe, Gulick, and Herman 2007). Following effective organizational health practices have also been found to increase team-level adaptability. For example, supportive work climates that foster feedback and encourage continuous learning have been shown to increase team adaptability (Han and Williams 2008; Burke et al. 2006). Enhanced team adaptability is likely to also enhance team decision-making and performance (Maynard, Kennedy, and Sommer 2015), creating the relationship and trust networks needed to reduce insider threat risk.

Adding to this discussion, our organizational health view of insider threat prevention and management can also benefit from lessons in the targeted violence and terrorism space. In particular, interventions designed for individuals and communities at risk for radicalization can inform efforts to diffuse potential insider threats. Years of deradicalization and countering violent



extremism (CVE) programming iterations have produced knowledge about what constitutes a successful intervention, which can be extended into the organizational context.

- **First.** Interventions that work to build collective engagement are especially effective tools for developing organizational resilience against insider threats. Organization-level engagement can effectively empower organization members to successfully identify warning signs of extreme intentions and build social support networks that reinforce a sense of belonging (Savoia et al. 2020; Williams, Horgan, and Evans 2016). That is not to say that individual-level interventions are ineffective, but rather highlights the robustness of collective measures.
- **Second.** How organizations engage their members to prevent insider threats is also important. For example, informational campaigns designed to challenge violence and educate individuals are most effective when driven by members within the group (Richardson 2014).
- **Third.** Programming designed to bolster individual resilience to extreme ideas and ideologies through self-esteem and empathy-building have also been shown to be effective in reducing attitudes toward violence (Feddes, Mann, and Doosje 2015). This points to the value of mental health services such as employee assistance programs for those who may be inclined to hurt the organization or its people (Baweja, Dunning, and Noonan 2022).
- **Fourth.** A one-to-one messaging campaign on Facebook targeted at individuals who had openly expressed extremist views found that sharing personal stories or offering assistance can counter extremist views more effectively than warning people of personal consequences to such actions (Frenett and Dow 2015). Together, findings from these CVE programs can help inform insider threat and risk management efforts by offering guidelines for collective (i.e., organization-wide) and individual interventions. Thus, organizational health can be further achieved with collective engagement and strategic messaging to at-risk individuals.

Conclusion

As described previously, insider threat research generally focuses on risk factors, proximal indicators, and threat mitigation strategies. We believe an organizational health perspective will help to better articulate organizational procedures and practices that enhance protective factors in mitigating insider threat risk. This perspective addresses several calls by counter-insider threat researchers and practitioners. For example, the Intelligence and National Se-

curity Alliance's (INSA) Insider Threat Subcommittee recently wrote a report calling for better integration of organizational human resources (HR) functions into counter-insider threat programs ("Human Resources and Insider Threat Mitigation: A Powerful Pairing" 2020). An organizational health perspective provides a shared language for security professionals to discuss objectives and desired outcomes for counter-insider threat programs in concrete terms. Moore, Gardner, and Rousseau (Moore, Gardner, and Rousseau 2022) argue that "positive deterrence" strategies—practices that align employee and company interests—should be considered by insider risk management programs as a complement to traditional "command-and-control" approaches. Practices that increase perceived organizational support and organizational commitment, the authors argue, are particularly effective at mitigating insider threat risk. The organizational health perspective provides a coherent framework to systematically increase outcomes associated with positive deterrence.

This work also complements and extends the recent work of insider threat researchers emphasizing the importance of organizational factors in reducing insider threat risk. Whitty (2021), based on organizational case studies, developed a model of threat prevention and detection. A key part of the model is "closing down opportunities," which includes items such as "improve pre-screening methods," "improve workplace culture," and "improve reporting procedures." The organizational health approach builds upon this work by providing an underlying theoretical framework for describing insider threat prevention programming. Bedford and van der Laan (2021) developed and validated a tool for determining organizational vulnerability to intentional insider threat (OVIT) risk. OVIT is composed of three dimensions—individual, organizational, and technical—with the organizational dimension including factors such as "organizational leadership and culture" and "organizational complacency." The organizational health perspective and associated recommendations provide a framework for increasing scores on a subset of these organizational factors, reducing the risk of intentional insider threat.

In this piece, we have argued that organizational health bolsters insider threat prevention and management efforts. Well-designed organizational infrastructures are fundamental to the well-being and performance of workers, and by extension, are central to an organization's health (i.e., longevity and effectiveness). By hiring those who reasonably fit the values, work, and social environment of the organization, and implementing fair policies and practices that support those personnel upon entry into the organization, employees will stay more intrinsically motivated to act in accordance with organizational

interests rather than against them. Moreover, work-related assistance and social encouragement from leaders and coworkers (often a product of quality hiring and leader role modeling) can promote a sense of social belonging and ethical reciprocity that is essential to deterring deviance. For those reasons, we believe that taking concerted efforts to maintain an organization's health, as is the case with human health, builds immunity and resilience against threats from within. Ensuring the health and performance of an organization and its workers, in other words, can reduce insider threat risks and enhance the organization's adaptive responses to threat events. ✓



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