



CYBERMINDZ

iRest[®] Impact Study

MEASURED OUTCOMES
FROM RESILIENCE TRAINING

May 2026

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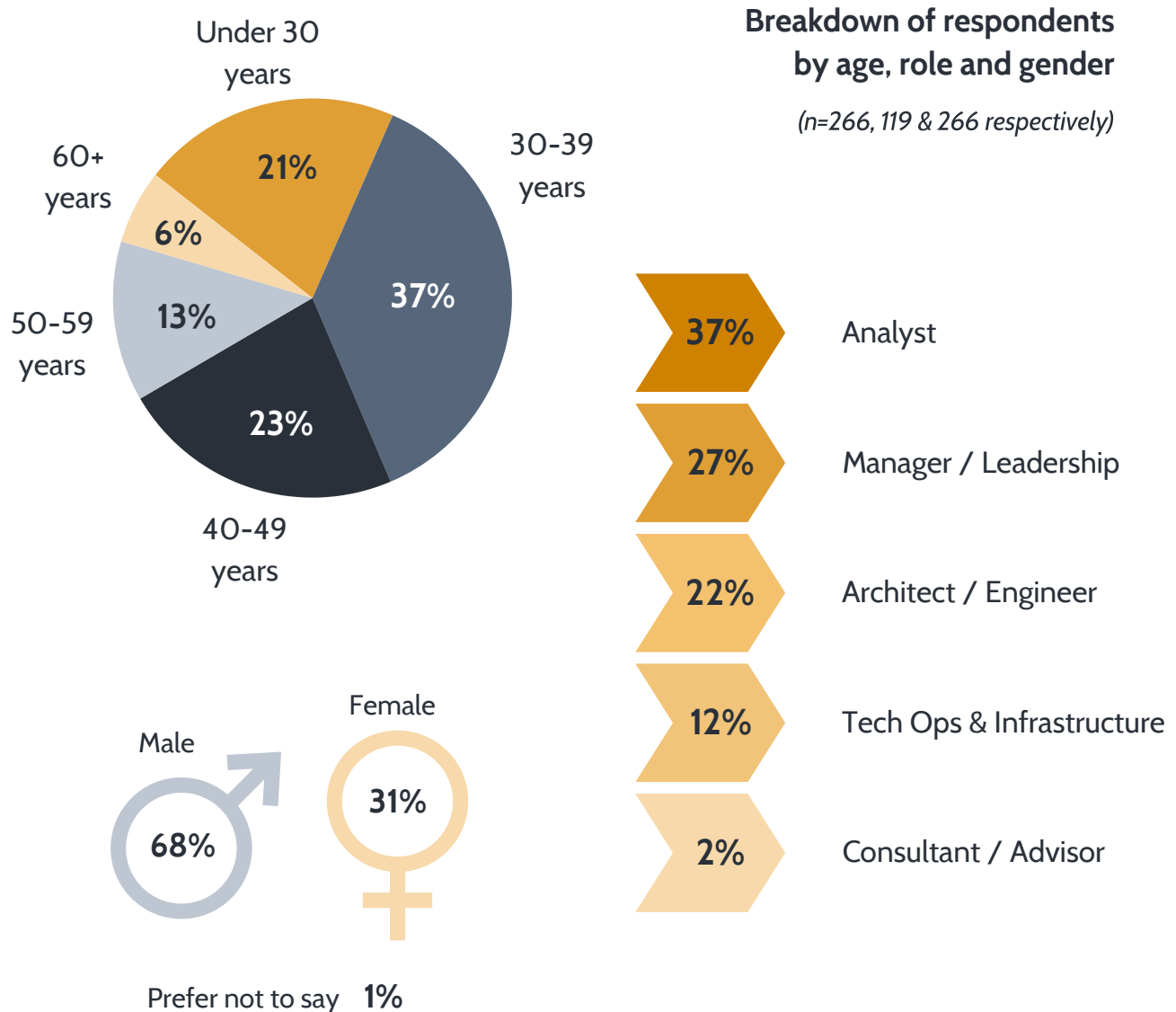
Demographics

This study examined cybersecurity professionals who participated in Cybermindz resilience training programs between 2022 and May 2026. Participants completed pre- and post-training assessments using the Cybermindz Resilience Index™ – a validated measurement framework combining three clinical instruments (MBI-GS, PSQI, PSS-10) to assess burnout indicators, sleep quality and perceived stress.

All respondents met the criteria of:

- working in a cybersecurity or technology role at the time of completing the survey
- being employed on a full-time or part-time basis

Demographic information was optionally provided by participants and is presented below to illustrate the diversity of roles, experience levels and backgrounds represented in the study.



From Burnout Risk to Operational Resilience

Cybersecurity operations remain heavily dependent on human judgment, with critical decisions around threat detection, incident response and escalation made under sustained pressure and often in real time. As cognitive fatigue accumulates, decision reliability can degrade, yet structured approaches to managing this occupational risk remain uncommon in the field.

Research context

The Cybermindz iRest® Impact Study examined whether targeted resilience training could produce measurable improvements in stress, sleep quality and burnout risk among cybersecurity professionals—factors known to correlate with decision quality, error rates and workforce retention.

Industry context

Recent industry research highlights the scale of the challenge:

- 74% of CISOs report security team attrition driven by stress ([Cynet, 2023](#))
- 65% of incident responders have sought mental health assistance following cybersecurity incidents ([IBM Security, 2022](#))
- Workforce replacement costs are estimated at 1.5-2x annual salary when accounting for recruitment, onboarding and lost institutional knowledge ([Gallup, 2019](#); [SHRM, 2025](#))

Organisations increasingly recognise psychosocial risk as falling under operational and governance obligations (EU Directive 89/391/EEC; ISO 45003:2021), yet evidence-based interventions specifically designed for high-pressure technical roles remain limited.

Study results and Operational impact

The study documented substantial, statistically significant improvements across all measured dimensions. Participants gained an average of 26 minutes of additional sleep per night, reduced perceived stress by 25% and showed marked reductions in burnout risk—including 100% elimination of acute crisis cases, a 77% reduction in burnout risk cases (moderate-to-high indicators across all three dimensions) and a 71% reduction in the attrition warning zone (moderate cynicism, the strongest predictor of resignation intent).

These improvements translate directly to operational resilience. Better sleep quality and reduced stress support sustained attention, pattern recognition and decision quality during extended incident response and threat hunting operations. Reduced burnout and attrition risk help organisations retain experienced personnel, maintain institutional knowledge and avoid high replacement costs. Security teams operate at consistent capacity rather than in degraded states or covering vacant positions.

The performance of security systems depends on the resilience of security teams.

Pre-Training Baseline

Before the start of Cybermindz programs, participants spanning diverse cybersecurity roles—from analysts and system administrators to architects and team leaders—were asked to describe their current work situation, stressors and any personal factors that might influence their wellbeing.

Workload and resource constraints dominated responses

Participants consistently described excessive workload, competing priorities and constant context-switching between 10–30 tasks daily. Insufficient staffing meant work that would typically require multiple people fell to individuals, with administrative burden preventing strategic work. Many reported working extended hours to manage the volume, with some describing the pace as *"unrelenting"* and *"unsustainable."*

Organisational change created pervasive uncertainty

Restructuring, role changes, redundancies and unclear direction from leadership were frequently mentioned. Participants described feeling directionless, with priorities shifting constantly and no clear guidance on what mattered most. Return-to-office mandates, noisy work environments and lack of dedicated desk space compounded stress for some.

Feelings of being undervalued were common

Despite high performance, participants reported inadequate recognition, poor remuneration and security concerns being overlooked by leadership. Many described raising critical issues that were then accepted as risks rather than actioned, leading to diminished job satisfaction.

Personal stressors layered onto work pressures

Health issues, family challenges, relationship difficulties, grief and major life transitions (moving house, pregnancy, caring responsibilities) were mentioned alongside work stress. Several participants noted recent or ongoing medical intervention for work-related burnout.

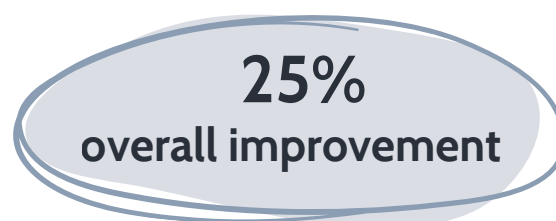
Coping mechanisms varied widely

Exercise, spending time with family, disconnecting after hours, peer support and therapy were the most commonly mentioned strategies. Some noted reliance on alcohol. Several participants stated they had not found anything that helped long-term and multiple were on sick leave or reduced hours at the time of the survey.

Perceived Stress reduced in cyber teams

The Perceived Stress Scale (PSS) is designed to measure the degree to which situations in one's life are appraised as stressful. It focuses on the extent to which respondents find their lives unpredictable, uncontrollable and overwhelming, as these factors are central to the experience of stress. Each question asks how often a respondent has felt or thought a certain way over the past month.

The pre-training cohort reported **moderate stress** across all measures (global average 1.84 on a 0-4 scale). The post-training cohort showed substantial reductions, with the global average falling to 1.37—approaching the threshold for **low stress**.



Low stress participants doubled

26% (pre-) ↗ 50% (post-)

High stress participants dropped

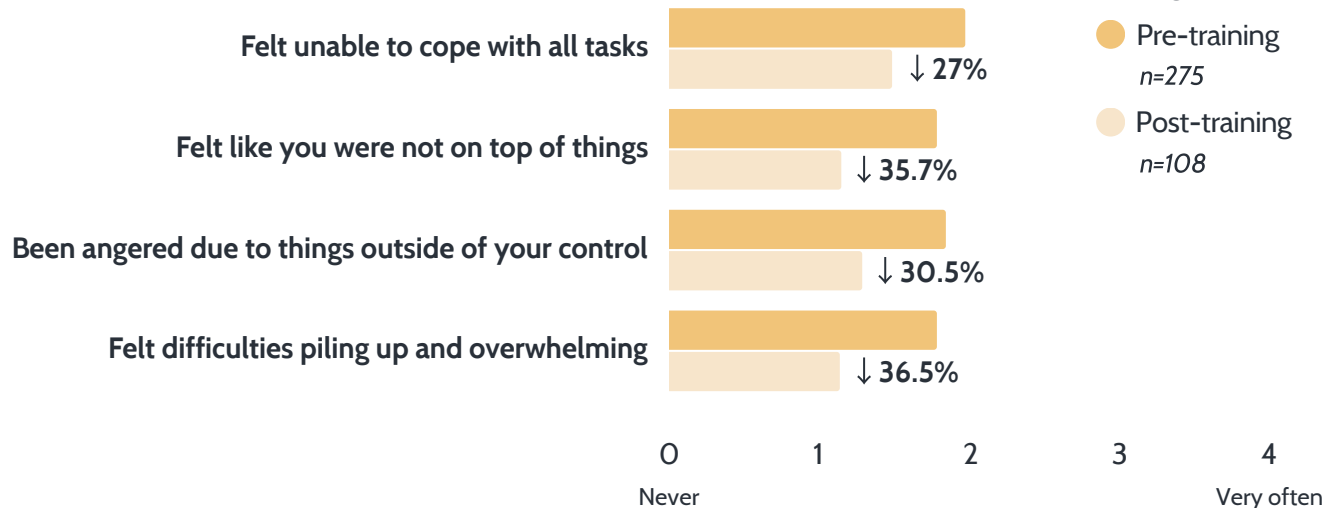
14% (pre-) ↘ 4% (post-)

“In the last month, how often have you...”

Average scores

● Pre-training
n=275

● Post-training
n=108



What this means operationally

After Cybermindz training, people are more likely to:

- maintain clarity under pressure
- prioritise multiple demands effectively
- make sound decisions under sustained load

Rather than operating in a state of constant overwhelm, participants report greater control over their workload and emotional responses—conditions that support sustained decision quality and tactical judgment in operational environments.

These improvements are both statistically reliable ($p < 0.001$ —highly confident they're real) and practically meaningful (Cohen's $d = 0.71$ —the changes are large, not subtle).

Cyber teams found better sleep

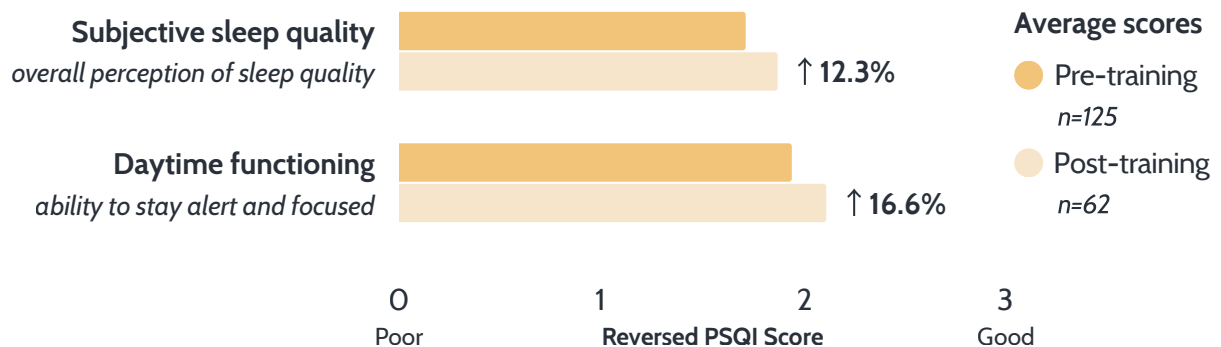
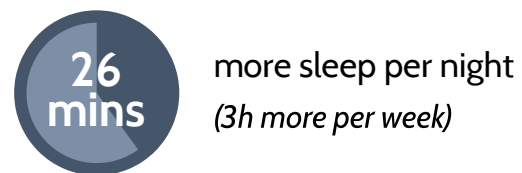
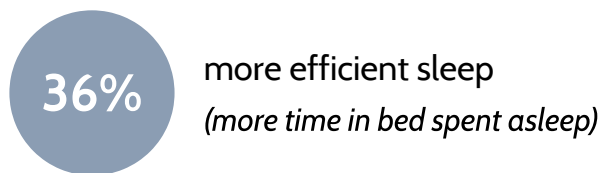
The Pittsburgh Sleep Quality Index (PSQI) is designed to measure the quality and patterns of sleep over the past month. It assesses key aspects of sleep, including duration, latency, efficiency, disturbances, use of sleep medication and daytime dysfunction. The questions focus on how often respondents experience sleep-related difficulties.

Before Cybermindz training, participants reported **poor sleep quality** across all measures (average 7.45 on a 0-21 scale). After training, the average fell to 6.26—**below the clinical threshold** for poor sleep in high-stress populations.



**Good sleepers
increased substantially**

27% (pre-)  47% (post-)



What this means operationally

After Cybermindz training, people are more likely to:

- sustain attention through long incidents
- detect subtle indicators that matter
- recover between demanding shifts

Poor sleep is strongly associated with burnout, elevated error rates and resignation intent. Moving below the clinical threshold for poor sleep represents a measurable reduction in organisational risk—particularly critical in environments where impairment matters.

Burnout Risk reduced in cyber teams

The Maslach Burnout Inventory (MBI-GS) is the gold standard for assessing burnout risk in workplace settings. It captures three core dimensions—Emotional Exhaustion, Cynicism and Professional Efficacy—to reflect how burnout develops progressively rather than as an all-or-nothing condition. Higher exhaustion and cynicism, alongside reduced efficacy, are associated with poorer wellbeing and increased resignation intent.

All three burnout dimensions improved simultaneously

Before Cybermindz training, participants reported **elevated emotional exhaustion** (3.29) and **cynicism** (2.41), alongside **moderate professional efficacy** (4.53 on 0–6 scales). After training, **exhaustion and cynicism decreased** whilst **efficacy increased**—meaningful shifts away from burnout risk.

**26.5% lower
cynicism**

Cynicism: Detachment, disillusionment or loss of meaning. The strongest predictor of resignation.

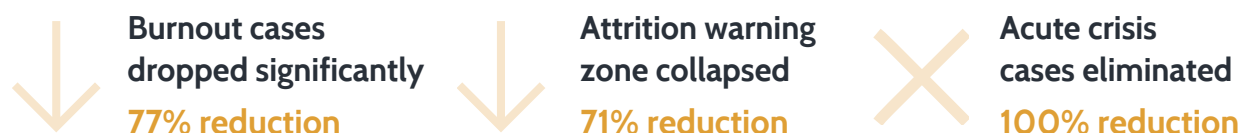
**10.3% higher
professional efficacy**

Professional efficacy: Confidence and achievement at work. Belief that one's efforts make a meaningful impact.

**19.3% lower
emotional exhaustion**

Emotional exhaustion: A sense of being emotionally overextended and depleted by work. Chronic fatigue that reduces capacity to engage.

What this means operationally



Before Cybermindz training, 21% showed moderate-to-high burnout levels, 27% were in the attrition warning zone (moderate cynicism, starting to disengage but not yet lost) and 4% were in acute crisis (high burnout across all three dimensions). After training, these dropped to 5%, 8% and 0% respectively.

These reductions target the specific populations at highest risk for resignation, **representing measurable decreases in turnover-driven costs**, particularly critical in roles where recruitment, onboarding and retention expenses are substantial.

All three improvements are statistically reliable and practically meaningful: Emotional Exhaustion ($p=0.009$, Cohen's $d=0.39$), Cynicism ($p=0.004$, $d=0.44$), Professional Efficacy ($p=0.007$, $d=0.41$)—moderate, sustained changes across all burnout dimensions.

What cyber teams valued

Evaluation feedback aligned with the measured improvements, with participants—including team leaders—highlighting both program relevance and its unique positioning in the cyber industry.



Simon Orcsik
SOC Team Leader (MSSP)



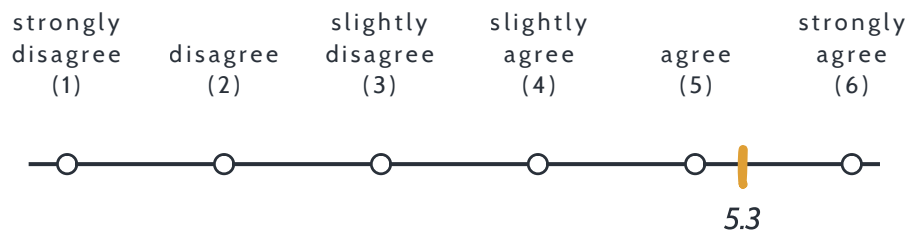
"Cybermindz offers crucial strategies to help people in the industry manage stress, improve their cognitive recovery and focus. I have not seen anything offered like this in the industry."

The program has had a great effect on my burnout recovery. I highly recommend it as an outstanding addition to the cyber defender's toolkit."



Post-training n=79

I valued the investment my organisation made in this training



It's important that courses like this are available during work time



I found the content useful and applicable to my work and personal life



I believe the workplace would be healthier if courses like this were incorporated into the work week



**Guided practice and structure,
Recordings and materials**

85% of participants found these particularly useful



Dedicated time to relax

67% of participants found this particularly useful



**Practical stress techniques,
Theory and neuroscience**

67% of participants found these particularly useful

Methodology

Study design: This real-world effectiveness study analysed pre-post assessment data from cybersecurity professionals who completed Cybermindz resilience training programs between 2022 and May 2026. Multiple training cohorts participated, each completing an eight-week program delivered remotely via video conferencing.

Participants: Pre-training baseline assessments were completed by 275 participants for stress measurement and 125 participants for sleep quality and burnout assessment. Post-training follow-up assessments measured 108 participants (stress) and 62 participants (sleep quality and burnout).

Participants represented diverse cybersecurity roles including analysts, system administrators, architects, incident responders and team leaders from organisations across sectors—from national security and critical infrastructure to healthcare, education and government. All respondents met inclusion criteria of working in a cybersecurity or technology role on a full-time or part-time basis at the time of assessment.

Instruments: This study used the Cybermindz Resilience Index™, a measurement framework combining three established psychometric instruments to assess occupational resilience in cyber teams:

Perceived Stress Scale (PSS)

Cohen et al., 1983

A 10-item self-report measure assessing the degree to which situations are appraised as unpredictable, uncontrollable and overwhelming. Items are rated on a 5-point Likert scale (0 = never, 4 = very often). Total scores range from 0-40, with higher scores indicating greater perceived stress. The PSS-10 demonstrates strong internal consistency ($\alpha = 0.78$) and has been validated across diverse occupational populations.

Maslach Burnout Inventory (MBI-GS)

Maslach, Jackson, & Leiter, 1996

A 16-item instrument measuring three core dimensions of occupational burnout: emotional exhaustion (5 items), cynicism (5 items) and professional efficacy (6 items). Items are rated on a 7-point frequency scale (0 = never, 6 = every day). Dimension scores are calculated as mean item scores, with established cutoff values for low, moderate and high levels. The MBI-GS demonstrates robust psychometric properties across occupational groups ($\alpha = 0.84-0.90$).

Pittsburgh Sleep Quality Index (PSQI)

Buyse et al., 1989

A 19-item self-rated questionnaire assessing seven components of sleep quality: sleep duration, sleep latency, sleep efficiency, sleep disturbances, use of sleep medication, daytime dysfunction and overall sleep quality. Component scores combine to yield a global sleep quality score ranging from 0-21, with scores >5 indicating clinically poor sleep. The PSQI shows good internal consistency ($\alpha = 0.83$) and diagnostic sensitivity.

Intervention: Training consisted of eight weekly one-hour sessions delivered remotely. Sessions followed the Integrative Restoration (iRest®) protocol developed by Dr. Richard Miller—a systematic 10-step attention training method. iRest integrates evidence-based therapeutic approaches including progressive relaxation, cognitive behavioral therapy (CBT), exposure therapy and somatic experiencing. Its effectiveness has been demonstrated in 30+ clinical trials with military and trauma populations. The protocol is endorsed by the U.S. Army Surgeon General.

Cybermindz delivered a customised application adapted for cybersecurity professionals using sector-specific themes and examples. Facilitators were iRest-accredited and cybersecurity-knowledgeable. Participants received audio recordings for independent practice (10-35 minutes) between sessions and practiced once or twice a week on average outside of the weekly group sessions.

Statistical analysis: Independent samples t-tests (Welch's method) compared pre- and post-training groups, accounting for unequal sample sizes. Effect sizes (Cohen's d) quantified magnitude of change: $d=0.20$ (small), $d=0.50$ (medium), $d=0.80$ (large). Significance threshold: $\alpha=0.05$.

What this means: Statistical significance (p-values) shows whether improvements are real versus random chance. Effect sizes show whether changes matter operationally. All improvements were statistically significant ($p \leq 0.020$), with effect sizes ($d=0.36-0.71$) indicating meaningful real-world impact. Sample sizes ($n=62-108$ post-training) exceed thresholds required for detecting medium effects with 80% confidence.

Limitations: This study employed an independent samples design rather than matched-pairs analysis. Cybermindz does not collect personally identifiable information to protect participant privacy and encourage honest responses—particularly important when assessing sensitive topics like burnout and mental health. While this conservative approach makes it harder to detect effects statistically, it limits causal inference as we cannot definitively rule out pre-existing differences between groups. However, the magnitude and consistency of effects across five distinct outcome measures support the interpretation that improvements result from training.

Post-training assessment occurred immediately following the eight-week program. Long-term sustainability of improvements requires follow-up investigation to determine whether gains persist at 6-month or 12-month intervals.

All measures rely on self-report data, which do not capture objective physiological indicators such as cortisol levels or sleep EEG patterns. However, self-report instruments measure subjective experience—which is precisely what matters for burnout and stress, where individual perception of demands determines outcomes.

Participants were not randomised to intervention and control groups, limiting definitive causal inference. However, effect magnitudes ($d=0.36-0.71$) substantially exceed typical placebo responses and pre-training baseline scores showed substantial occupational strain. The intervention targets specific physiological mechanisms documented in 30+ clinical trials.

Future research should examine long-term outcomes, dose-response relationships and organisational-level metrics.

Strengthening mental resilience in the cyber community

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