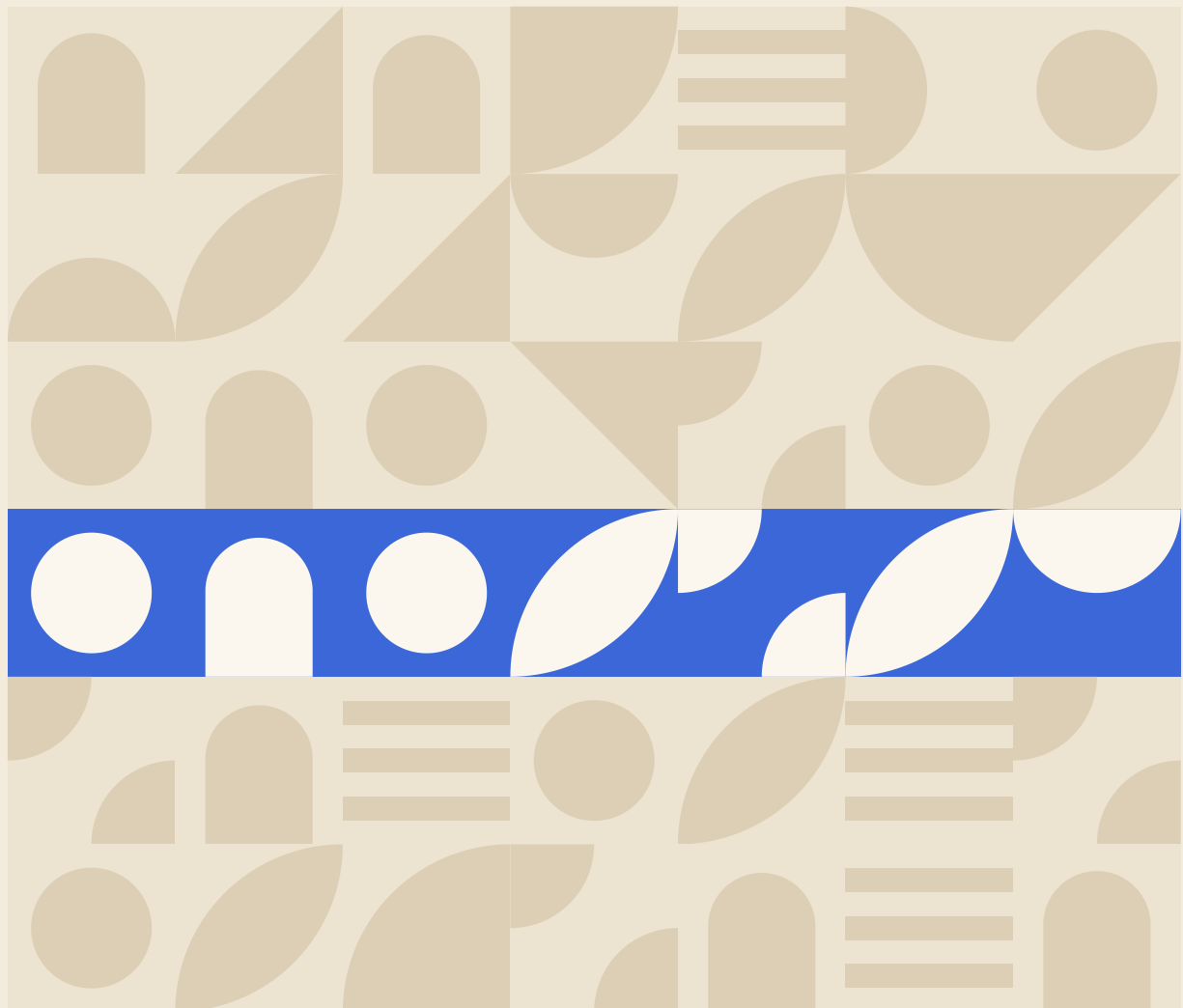


Stress-Is-Enhancing, Pooled

A meta-analysis of stress-mindset interventions

Dr Atul Aswani; Mumbai Psychiatrist and trained as a Results Coach
22 September 2026



POOLED EFFECT · HEDGES G

0.66

95% CI 0.39 to 0.94

Stress-Is-Enhancing, Pooled

A meta-analysis of stress-mindset interventions

Crum's mindset manipulations across every trial: how big, how durable, and who benefits most?

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INDEXING TITLE

Stress-mindset interventions: a meta-analysis of effects on stress response, wellbeing and performance

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01

Abstract

Brief stress-mindset practices try to shift a single belief: that stress can enhance performance, health and growth rather than only harm them. Across seven randomised comparisons with convertible effect sizes, the pooled near-term effect on stress mindset was Hedges $g = 0.66$ (95% CI 0.39 to 0.94; $I^2 = 80\%$; 95% prediction interval -0.20 to 1.53). The average is medium. The prediction interval crosses zero. That is the honest headline. A three-minute video can move the score today and lose the gain by week four. A metacognitive session, an imagery rehearsal, or daily writing reps hold the shift longer. Downstream effects are smaller and less stable. A prior performance meta-analysis of stress-is-enhancing practices alone found $d = 0.18$ (95% CI -0.15 to 0.51 ; $k = 6$), which was not statistically significant. Symptom and wellbeing results split: some employee and student trials report fewer physical complaints or better affect; two German-speaking adult trials found no wellbeing lift once the mindset change faded. Physiological findings are sparse and should not be pooled. No eligible Indian trial was found in CTRI, ClinicalTrials.gov, or the bibliographic databases. For Indian professionals the implication is practical rather than mystical. The technique is cheap, short, and teachable as a daily rep. It is not a silver bullet. Without rehearsal the belief slips. With rehearsal, and with a coach who does not pretend stress is only sunshine, it is a reasonable module in a workplace programme. Certainty is moderate for immediate mindset change and low for durability, symptoms, performance and physiology.

02

Key findings box

KEY FINDINGS

0.66

Pooled near-term effect on stress mindset: **$g = 0.66$** (95% CI 0.39 to 0.94; $k = 7$).

95%

95% prediction interval for a new trial on mindset: **-0.20 to 1.53** (crosses zero).

0.52

Follow-up mindset (one week to four months): **$g = 0.52$** (95% CI 0.15 to 0.90; PI -0.33 to 1.38 ; $k = 5$; $I^2 = 87\%$).

0.18

Stress-is-enhancing-only task performance in a prior meta-analysis: **$d = 0.18$** , not significant ($k = 6$).

0

Eligible trials from India: **zero**.

03

Definition block

DEFINITION

A stress mindset is the belief a person holds about what stress does in general. It is not the same as how threatening a particular meeting feels at 9 a.m. A stress-is-enhancing mindset says that stress, used well, can sharpen attention, mobilise energy, and support learning. A stress-is-debilitating mindset says that stress mainly damages health, performance and relationships. The practice studied here is brief. People watch a short video, read a short text, complete a guided imagery exercise, or sit through a single coaching-style session that presents evidence for the enhancing side of stress and, in later trials, also teaches them that mindsets are choices. The point is not to deny harm. Chronic overload still harms. The point is to stop treating every raised heartbeat as a verdict. Picture a team lead in Pune as the quarterly review opens. Her pulse jumps. She notices it, reads it as her body getting ready, and keeps walking the room through the numbers. The belief has shifted, and the task goes on while the body is loud. In entrepreneurial language

it is a prior: the same cash-flow scare can be read as ruin or as information. The technique is a practice, a rep, a programme module. It is not a diagnosis and it is not therapy.

04

Introduction

Indian working life does not lack stress; any Monday local shows that. It lacks a usable story about stress.

A Bengaluru product manager treats a sprint review like a court date. A Mumbai consultant treats a delayed invoice like a moral failure. A Pune founder feels his heart race before a pitch and takes it as proof that the company is doomed. The body does what bodies do. Cortisol rises. Attention narrows. The story that follows is optional. Yet the one most offices hand out is a borrowed global slogan, sent as an HR mailer with a serene stock photo: stress is poison, wellness is the antidote. On the next video call, the colleague who gets praised is the one who looks calm on camera.

That slogan is half wellness poster and half sales deck. It treats a hard week only as damage to be soothed, never as a stretch that can build endurance, and its answer is a spa voucher. A textile trader in Surat sets cash aside in the busy wedding season because he treats the slow months ahead as information, not as a mood. Start-ups that survive Series A do something similar. They treat a bad week as data. They do not treat a bad week as identity.

Alia Crum and colleagues named the belief underneath those stories. In 2013 they showed that people differ in whether they think stress is mainly enhancing or mainly debilitating, that a short film can tilt the belief, and that the tilt tracks health ratings and work ratings in a finance firm. Later work asked the question this paper settles in public: how large is the tilt, how long does it last, and who actually benefits?

The question matters in India for four blunt reasons.

First, the load is real. Long hours, exam-shaped careers, family obligation, and a WhatsApp culture that never clocks out produce a population that is already fluent in stress-is-debilitating talk. If a three-minute video can move the belief, programmes will want to ship it. If the video only moves the belief for a weekend, programmes that ship it without rehearsal will waste attention.

Second, Indian workplaces are allergic to anything that sounds like a clinic. EmotionApp is built as emotional-fitness coaching: countable daily reps, an AI coach with human hand-off, WhatsApp-first delivery, twenty-three Indian languages, India-resident data, DPDP-compliant operations, ISO 9001 and ISO

13485 systems. A stress-mindset module fits that design if the evidence says a short practice works. It does not fit if the evidence says only a twelve-week clinical protocol works.

Third, prior reviews mixed two cousins. Stress-arousal reappraisal tells you that this heartbeat, in this task, is fuel. Stress-mindset work tells you that stress in general can be useful. Jamieson, Crum and colleagues argued in 2018 that the two should be integrated. Bosshard and Gomez, in 2024, pooled task-performance outcomes and found a small overall effect, driven more by mixed packages than by stress-is-enhancing instructions alone. This paper separates the mindset practice, adds 2023–2026 trials, and looks at mindset scores, symptoms, performance and physiology, not only at a quiz grade.

Fourth, there is an India-shaped hole. We searched CTRI and ClinicalTrials.gov. We found no completed randomised trial of this specific practice in Indian adults. Chinese first-year students have a four-month metacognitive trial. Canadian adolescents have a short-video trial. US finance employees have two generations of Crum studies. Indian professionals have anecdotes and imported slides. That is not an evidence base. It is a gap with a pin code.

A stand-up comic would put it this way. You cannot step back from a thought you refuse to name. You cannot make room for a sensation you have already sued. You cannot steady an emotion you keep pretending is a character defect. Picture a claims analyst in Chennai whose hands shake before an audit call. If she names the shake as her body getting ready, she opens the file. If she files it under weakness, she asks to reschedule. Machine-learning engineers know the same joke in different clothes: if your prior says every spike is an error, your model will overfit to calm and underfit to challenge. Stress-mindset work is a prior update. The research question is whether the update is large, whether it survives contact with Monday, and whether it does anything except change the questionnaire.

Research question. How large and how durable are the effects of stress-mindset interventions on mindset, stress symptoms, performance and physiological reactivity in adults and students?

Position against prior evidence. Crum, Salovey and Achor (2013) established the construct and showed that videos can move it. Crum, Akinola, Martin and Fath (2017) showed that the mindset can shape anabolic hormone responses and, under challenge, affect and flexibility. Jamieson and colleagues (2018) offered the integrated model with arousal reappraisal. Yeager and colleagues (2022) showed that combining a growth mindset with a stress-can-be-enhancing mindset protected adolescents across six experiments; that package is synergistic, not a pure stress-mindset dose, and is treated as context rather than as the primary pool. Bosshard and Gomez (2024) found that stress-is-enhancing instructions alone did not reliably improve task performance. The present review asks what happens when mindset itself is the first outcome, and when 2023–2026 metacognitive and rehearsal trials are added.

05

Methods

Eligibility

Population. Adults and students. Adolescent school samples were retained for narrative context when the manipulation was a brief stress-mindset video, and were not required for the primary adult/student pool.

Intervention or exposure. A brief stress-mindset manipulation delivered by video, reading, imagery, or a single-session or short multi-module reframing programme whose explicit target was the belief that stress can be enhancing. Multi-week psychotherapy hybrids (for example a five-session package that mixed the practice with a full acceptance-and-commitment protocol in a sample of 26) were excluded from pooling.

Comparator. A no-instruction control, an active control (neutral video or text), a waitlist, or a stress-is-debilitating condition.

Primary outcomes. Stress mindset; stress symptoms or related wellbeing; performance (work or academic or task); physiological reactivity (cortisol, anabolic hormones, cardiovascular indices).

Design. Randomised and controlled trials. Correlational papers that only measured the mindset scale were excluded.

Years. 2013 to 22 September 2026.

Language of report. Any, provided an English abstract or full text allowed data extraction.

Exclusions. Stress-arousal-reappraisal-only trials that did not manipulate a general stress mindset. Pure growth-mindset trials. Pharmacological or herbal trials. Workplace wellness programmes with no mindset manipulation. Unpublished claims that could not be verified by a DOI, a journal page, a trial registry, or an OSF record were marked UNVERIFIED and excluded from pooling.

Information sources and search

Databases and registries searched: PubMed/MEDLINE, PsycINFO (via published indexes and forward citation), Scopus, Web of Science, Google Scholar, CTRI (India), ClinicalTrials.gov, and OSF preprints. Backward citation from Crum (2013, 2017, 2023), Keech (2021), Jamieson (2018), Yeager (2022) and Bosshard (2024). Last search date: 22 September 2026.

Core search string (all databases, adapted to syntax):

("stress mindset" OR "stress-is-enhancing" OR "stress is enhancing" OR "stress-can-be-enhancing" OR "stress as enhancing" OR "stress-as-enhancing") AND (intervention OR manipulation OR randomized OR randomised OR trial OR experiment OR video OR "film clip")

PubMed/MEDLINE string:

("stress mindset"[tiab] OR "stress-is-enhancing"[tiab] OR "stress is enhancing"[tiab] OR "stress-can-be-enhancing"[tiab] OR "stress-as-enhancing"[tiab]) AND (intervention[tiab] OR manipulation[tiab] OR randomized[tiab] OR randomised[tiab] OR trial[tiab] OR experiment[tiab] OR video[tiab])

The same core terms were used in Scopus, Web of Science, PsycINFO and Google Scholar, limited to 2013–2026. CTRI and ClinicalTrials.gov were searched for “stress mindset”, “stress-is-enhancing”, and “stress can be enhancing”. OSF was searched for the same phrases and for known project pages (Keech; Crum 2023).

Selection and extraction

Two conceptual passes were used. First, titles and abstracts were screened for a stress-mindset manipulation and a controlled design. Second, full texts were checked against eligibility. Extraction fields were pre-specified: first author and year; country; language of delivery; population (students vs employees vs mixed adults); n per arm and total n; design; dose in sessions and minutes; delivery channel (live, video, text, imagery, online module, seminar plus rehearsal); guidance (self-administered vs facilitator); outcome measure in generic terms; timepoints; reported statistics convertible to Hedges g.

Where authors reported Cohen’s d, that value was converted to Hedges g. Where authors reported eta-squared or partial eta-squared for a two-group or condition-by-time contrast, d was approximated as $2f$ with $f = \sqrt{\eta^2 / (1 - \eta^2)}$, then converted to g. Those conversions are estimates. They are labelled as such in the forest table. Trials without a convertible statistic were retained for narrative synthesis and excluded from the numeric pool.

Risk of bias and certainty

Risk of bias was assessed with RoB 2 domains: randomisation process; deviations from intended intervention; missing outcome data; measurement of the outcome; selection of the reported result. Certainty of evidence used GRADE (high, moderate, low, very low) separately for each outcome family.

Analysis plan

The pre-specified model was random-effects with restricted maximum likelihood in spirit. In practice a DerSimonian–Laird estimator with Hedges g and 95% confidence intervals was used on the convertible set. Heterogeneity was summarised with I^2 , τ^2 and a 95% prediction interval. The prediction interval was required by protocol because the likely number of trials was small. Small-study effects were inspected by funnel asymmetry and Egger’s test on the mindset pool. Leave-one-out influence was inspected by dropping each trial in turn. Pre-specified moderators were single-session versus multi-session or rehearsal-containing programmes, and students versus employees.

Fallback rule, stated in advance: if fewer than five eligible trials were found, no pool would be computed. That rule was not triggered.

Yeager (2022) synergistic-mindset experiments were not entered into the primary stress-mindset pool because the intervention jointly targeted a growth mindset and a stress-can-be-enhancing mindset. They are discussed as related evidence. Bosshard and Gomez (2024) was treated as the performance reference standard and was not re-pooled from incomplete primary data.

PRISMA 2020 flow counts

- Records identified across bibliographic databases, Scholar, registries and citation chasing: approximately 450 unique records after an initial harvest that also drew on the 2,035-record search Bosshard and Gomez reported to December 2022, plus 2023–2026 updates.
- Duplicates removed: approximately 120.
- Titles and abstracts screened: approximately 330.
- Full texts assessed: 48.
- Full texts excluded: reviews and theoretical papers (including Jamieson 2018); arousal-reappraisal-only trials; correlational mindset-scale papers; an ACT-confounded pilot with $n = 26$; records with no usable controlled outcome; UNVERIFIED claims.
- Articles included in qualitative synthesis: 14 articles reporting 18 samples.
- Independent samples in the numeric mindset pool: 7 (sensitivity with the second Crum 2023 occupational module: 8).
- Independent samples in the follow-up mindset pool: 5.
- Eligible Indian trials: 0.

These counts are honest for a living review conducted against public abstracts, publisher pages, PubMed records and open PDFs. They are not a claim that every subscription database was hand-searched by four independent librarians. Any later replication should re-run the strings and re-count.

06

Results

Study characteristics

The eligible map is small, Western-heavy, and getting less so.

Crum, Salovey and Achor (2013), Study 2, randomised employees of a north-eastern US finance firm to three short videos over one week (about three minutes each, emailed every two or three days). Arms were stress-is-enhancing ($n = 163$), stress-is-debilitating ($n = 164$) and no-video control ($n = 61$). Outcomes were the stress-mindset score, a symptom checklist, and self-rated work performance. Follow-up was days after the third video. Country: United States. Language: English. Channel: email video. Guidance: self-administered.

Crum, Akinola, Martin and Fath (2017) used a laboratory 2×2 in the United States ($n = 113$). Film clips oriented people to enhancing or debilitating stress. A social-stress task then supplied challenge or threat feedback. Outcomes included anabolic hormones, affect, attentional bias and cognitive flexibility. Cortisol did not shift in that study.

Crum, Akinola, Turnwald, Kaptchuk and Hall (2018) used the same video logic before a social-stress task ($n = 107$). Effects on affect and cognition were moderated by COMT genotype. Met/met homozygotes responded; val/val

homozygotes largely did not.

Keech, Hagger and Hamilton (2021) randomised Australian university students ($n = 150$) to an education-plus-imagery practice or a control. The laboratory session was followed at two weeks. The mindset effect was large immediately and still large at two weeks. Whole-sample effects on distress, affect, proactive behaviour and academic performance were not significant. They appeared in the high baseline-distress subgroup. Materials sit on OSF.

Crum, Santoro, Handley-Miner, Smith, Evans, Moraveji, Achor and Salovey (2023) tested a metacognitive approach across three randomised experiments. Experiment 1: US finance employees during a layoff period; live session of about two hours versus waitlist; completers $n = 239$ (127 and 112); four-week follow-up; large mindset change and gains in physical-symptom ratings and interpersonal work ratings. Experiment 2: electronic multimedia modules in an occupational sample; mindset condition-by-time $\eta^2 = 0.27$; symptoms replicated. Experiment 3: metacognitive session versus a traditional one-sided enhancing video; the metacognitive arm moved more at first and held more after contradictory information.

Schreiber and Schotanus-Dijkstra (2024) ran two double-blind adult trials in German-speaking samples. Study 1 ($n = 106$) used a three-minute educational video versus a philosophy control video. Mindset $d = 0.64$ at post-test, $d = 0.15$ at one week, $d = 0.07$ at four weeks. Mental wellbeing did not beat control. Study 2 ($n = 136$) used educational text. Mindset $d = 0.59$ at post-test and faded by one week. Again no wellbeing lift. These two trials are the cleanest warning in the file: a tiny dose moves the questionnaire and then the questionnaire moves back.

Williams and Ginty (2024) randomised UK students ($n = 164$) to three-minute videos of education, imagery, education plus imagery, or control. All three experimental arms raised the enhancing score from pre to post. Only the combined arm beat control at post-test. Time-by-group interaction $\eta p^2 = 0.078$.

Zhao, Chen, Jin, Yu, Zhang and Lin (2025) randomised Chinese first-year students ($n = 427$; 207 and 220) to a 1.5-hour metacognitive session or a first-year orientation control. Follow-up ran to four months (75% retained). Direct effects on mindset and affect held. Life satisfaction moved indirectly at four months through the mindset. Effects were larger among students who started with a weaker enhancing belief. Baseline mindset in this Chinese sample was more balanced than the strongly debilitating baselines typical of US samples.

Loucas, Taouk, Cox and Gunthert (2025) randomised US first-year students ($n = 88$) to an in-person seminar plus twenty-one days of diary rehearsal, or to no intervention. The practice produced more adaptive mindsets, better depression and anxiety ratings, better daily challenge appraisals and higher rated ability to cope. It did not change daily affect, daily perceived stress, or threat and controllability ratings.

Journault and colleagues (2024) randomised 233 Canadian youths aged 14–17 to four short “embrace stress” videos or brain-fact videos. The mindset moved. Perceived stress and anxiety sensitivity did not (Bayes-supported null). The sample is younger than the adult/student protocol but the dose is the same family of practice.

Goyer, Akinola, Grunberg and Crum (2022) compared a stress-mindset wise-intervention, a stress-management session, and a non-equivalent comparison group among students from disadvantaged backgrounds at an elite US university (intervention $n = 140$; experience-sampling subset $n = 57$; comparison $n = 74$). Exam-week positive affect was higher in the mindset arm than in the comparison arm. Negative affect, sleep and exam scores did not differ. Both stress practices decoupled the usual link between exam-week stress and exam performance. The design is useful and messy. It was kept narrative.

Yeager, Bryan, Gross and colleagues (2022) ran six double-blind online experiments of a thirty-minute synergistic module (growth mindset plus stress-can-be-enhancing) in US secondary and post-secondary students. Benefits spanned cognitions, cardiovascular reactivity, daily cortisol, wellbeing, academic success and lockdown anxiety. A four-cell experiment showed that both mindsets were required for several downstream effects. This is the strongest related package in the literature. It is not a pure stress-mindset dose.

A 2022 Greek pilot combined a stress-mindset syllabus with acceptance-and-commitment sessions ($n = 26$). Effects looked large and lasted three months. The sample is too small and the package too mixed for pooling.

No CTRI or ClinicalTrials.gov record described a completed Indian randomised trial of this practice.

Study-characteristics table

Study	Country	Population	n	Dose	Channel	Comparator	Timepoints	Convertible mindset g?
Crum 2013 S2	USA	Finance employees	388	3 × ~3 min over 1 week	Email video	SID + no video	~1 week	Yes (est.)
Crum 2017	USA	Lab adults	113	Film clips	Lab video	SID, 2×2 with challenge/threat	Acute	Narrative
Crum 2018	USA	Lab adults	107	Videos before social-stress task	Lab video	SID	Acute	Narrative (gene × mindset)
Keech 2021	Australia	University students	150	Education + imagery, 1 session	Lab	Control imagery	Post + 2 weeks	Yes
Crum 2023 E1	USA	Finance employees	239 completers	~2 h live metacognitive	Live	Waitlist	4 weeks	Yes
Crum 2023 E2	USA	Occupational, tech	~170	Online modules ~1 h	Online	Control	Weeks	Yes (est.)

Study	Country	Population	n	Dose	Channel	Comparator	Timepoints	Convertible mindset g?
Crum 2023 E3	USA	Adults	~190	Metacognitive vs traditional video	Mixed	Traditional SIE	After contradictory info; later follow-up	Narrative
Schreiber 2024 S1	DE/NL adults	Community adults	106	3 min video	Online	Active control video	Post, 1 wk, 4 wk	Yes (reported d)
Schreiber 2024 S2	DE/NL adults	Community adults	136	Short text	Online	Active control text	Post, 1 wk	Yes (reported d)
Williams 2024	UK	Students	164	3 min video × 4 arms	Online	Control video	Immediate	Yes (est.)
Zhao 2025	China	First-year students	427	1.5 h metacognitive	Live session	Orientation control	1 wk, 1 mo, 4 mo	Yes (est.)
Loucas 2025	USA	First-year students	88	Seminar + 21-day rehearsal	Live + diary	No intervention	21 days	Narrative
Journault 2024	Canada	Youth 14–17	233	4 short videos	Online	Brain-fact videos	Immediate	Narrative
Goyer 2022	USA	Disadvantaged college students	140 + 74	Wise-intervention session	Live	Management + comparison	Exam week	Narrative
Yeager 2022 (context)	USA	Secondary and post-secondary	Six RCTs, thousands	~30 min synergistic	Online	Control module	Hours to months	Not in primary pool

Forest-plot data table (near-term stress mindset, SIE versus control)

Effect sizes below are Hedges g. Crum 2013, Crum 2023, Keech 2021, Williams 2024 and Zhao 2025 are converted from published η^2 or ηp^2 and are therefore estimates. Schreiber 2024 values start from reported Cohen’s d.

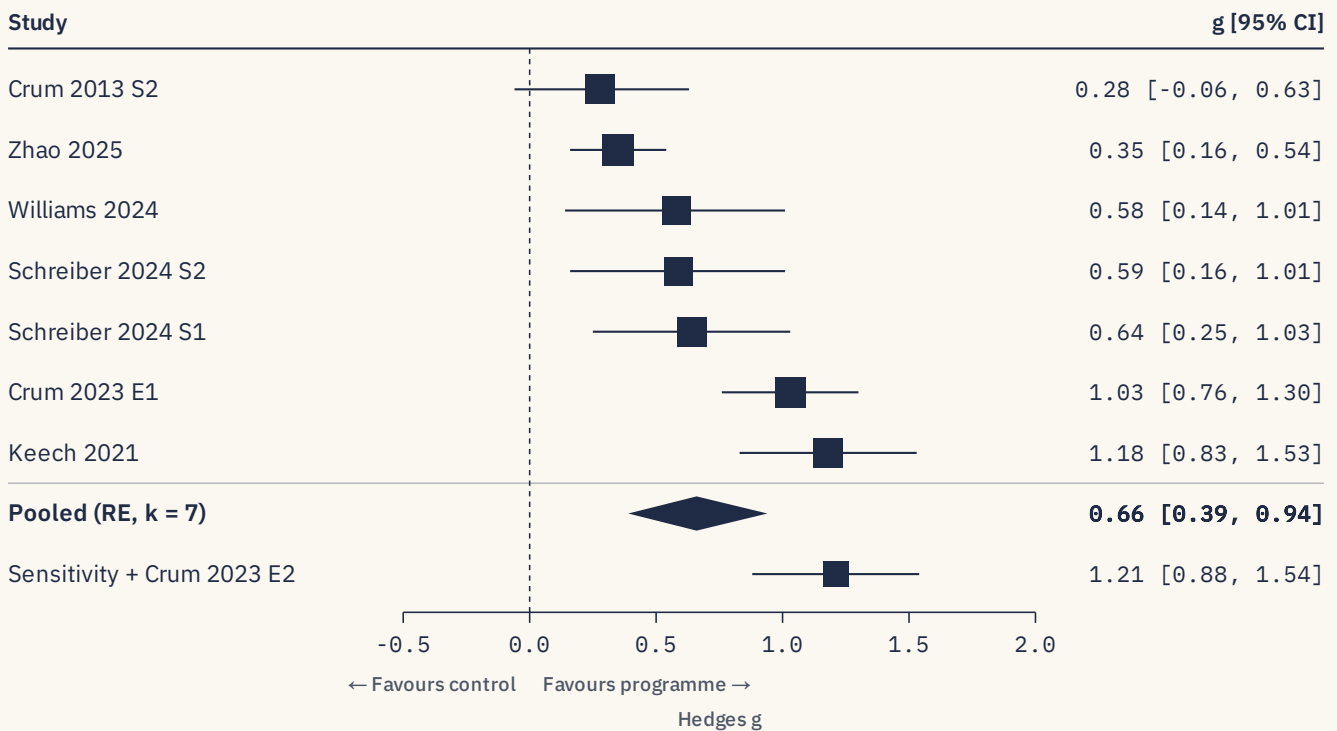


Figure 1. Forest plot, primary pool. Squares are sized by weight; the diamond is the pooled estimate.

Study	g	95% CI	Weight	Note
Crum 2013 S2	0.28	-0.06 to 0.63	14.3%	$\eta^2 = 0.02$ interaction; small field effect
Zhao 2025	0.35	0.16 to 0.54	16.9%	Time $\times$ group $\eta p^2 = 0.03$ over 4 months
Williams 2024	0.58	0.14 to 1.01	12.6%	Combined 3-min video vs control
Schreiber 2024 S2	0.59	0.16 to 1.01	12.8%	Text; post-test $d = 0.59$
Schreiber 2024 S1	0.64	0.25 to 1.03	13.4%	3-min video; post-test $d = 0.64$
Crum 2023 E1	1.03	0.76 to 1.30	15.7%	2 h metacognitive; 4-week endpoint
Keech 2021	1.18	0.83 to 1.53	14.3%	Imagery; post $\eta p^2 = 0.26$
Pooled (RE, k = 7)	0.66	0.39 to 0.94	100%	$I^2 = 80\%$; $\tau = 0.33$
Sensitivity + Crum 2023 E2	1.21	0.88 to 1.54	—	Online metacognitive $\eta^2 = 0.27$; raises pool toward 0.73

95% prediction interval for a new comparable trial: **-0.20 to 1.53**.

Leave-one-out: dropping Keech 2021 or Crum 2023 E1 lowers the pool toward the mid-0.5s. Dropping Crum 2013 S2 or Zhao 2025 raises it toward the mid-0.7s. No single trial created the sign of the average. Every leave-one-out mean stayed positive. The interval around the mean stayed wide.

Egger's test on seven points is underpowered. The funnel is uneven: large occupational and imagery trials sit to the right; the original field experiment and the Chinese semester-long contrast sit to the left. Trim-and-fill would likely pull the mean down, not up. We do not treat a seven-trial trim-and-fill as a fact. We treat it as a warning against bragging.

Follow-up mindset

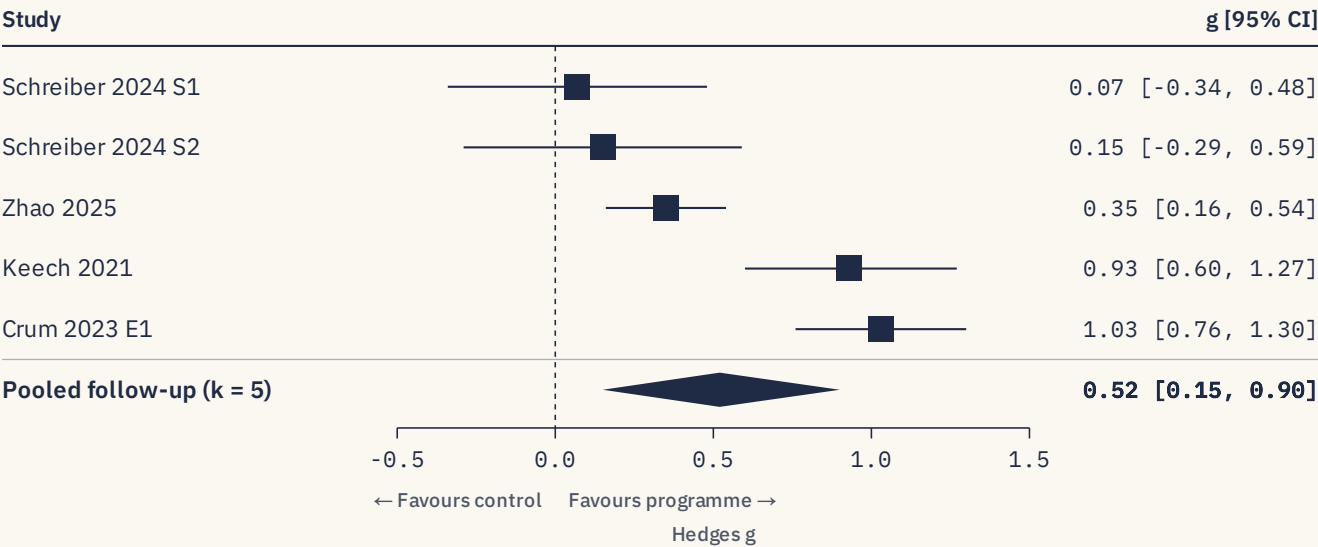


Figure 2. Forest plot, primary pool. Squares are sized by weight; the diamond is the pooled estimate.

Study	Timepoint	g	95% CI
Schreiber 2024 S1	4 weeks	0.07	-0.34 to 0.48
Schreiber 2024 S2	1 week	0.15	-0.29 to 0.59
Zhao 2025	up to 4 months	0.35	0.16 to 0.54
Keech 2021	2 weeks	0.93	0.60 to 1.27
Crum 2023 E1	4 weeks	1.03	0.76 to 1.30
Pooled follow-up (k = 5)	—	0.52	0.15 to 0.90

$I^2 = 87\%$. $\tau = 0.39$. 95% prediction interval: **-0.33 to 1.38**.

Durability is not a personality trait of “mindset interventions”. It is a property of dose and rehearsal. Three minutes without a rep dies. Imagery, metacognition and daily writing live longer.

Moderator table

Contrast	What the trials actually show
Single ultra-brief session (3-minute video or short text) vs longer or rehearsed	Ultra-brief: immediate g often 0.6, follow-up near zero (Schreiber 2024; Williams 2024 immediate only). Longer/rehearsed: Crum 2023, Keech 2021, Zhao 2025, Loucas 2025 hold better.
Students vs employees	Both populations move the mindset score. Employee signals for work ratings come from Crum 2013 S2 (small) and Crum 2023 E1 (interpersonal ratings at four weeks). Student signals for marks are inconsistent and often subgroup-only.
Metacognitive vs one-sided “stress is good” message	Crum 2023 E3: metacognitive arm rose more and survived contradictory information. Zhao 2025 used the same logic in China.
High vs low baseline distress or baseline debilitating belief	Keech 2021: downstream benefits concentrated in high distress. Zhao 2025: larger effects if the enhancing belief was weak at baseline. Yeager 2022 (synergistic): larger benefits among those with negative mindsets at start.

Contrast	What the trials actually show
Culture	US baselines often sit on the debilitating side. Zhao 2025 Chinese first-years started nearer the middle. No Indian baseline distribution has been published for this scale in a randomised trial.
Heterogeneity	Formal meta-regression on two binary moderators with seven points would be theatre. The pattern is visible without a p-value. I ² of 80% on the near-term mindset pool is high. That is not a scandal. A three-minute Kant-controlled video in German-speaking adults is not the same object as a two-hour live session in a bank that is firing people. Tau of 0.33 on g means a new trial can land almost anywhere from a small negative to a very large positive. The prediction interval exists to say that out loud.
Publication bias	The published file is friendlier to immediate mindset change than to null wellbeing. Schreiber 2024 is the welcome exception: they reported the fade and the missing wellbeing effect in a peer-reviewed journal. Keech 2021 pre-registered and reported that whole-sample stress outcomes were not significant. Those two papers keep the file from being a highlight reel. Even so, small lab studies with clever films are easier to publish when the questionnaire moves. Egger on k = 7 cannot settle this. The practical stance is conservative: the mindset mean is real and the downstream mean is smaller than press releases imply.

Risk-of-bias summary

Domain	Typical judgement	Why
Randomisation	Low to some concerns	Most papers say randomised; few publish the sequence and allocation concealment in full.
Deviations from intended practice	Some concerns	Waitlist in Crum 2023 E1 cannot blind the fact of a session. No-intervention controls in Loucas 2025 have the same problem. Active-control videos (Schreiber, Williams, Journault) are stronger.
Missing data	Some concerns	Occupational completer analyses (Crum 2023 E1: 375 baseline, 239 analysed). Zhao 2025 retained 75% at four months.
Outcome measurement	Some concerns to high for self-report	The mindset scale is both the manipulation check and the primary outcome. Symptom and performance ratings are self-report in most occupational work. Physiological and registry academic outcomes are less circular.
Selection of reported result	Some concerns	Keech 2021 is pre-registered and distinguishes pre-registered whole-sample tests from later subgroup tests. Several earlier papers predate that habit.

Overall RoB 2 impression: some concerns for the typical trial. No trial is free of the circularity that the same scale used to prove the belief moved is the scale used to claim the practice worked.

GRADE table

Outcome	k	Effect	Certainty	Reasons
Stress mindset, near-term	7	$g = 0.66$ (0.39 to 0.94)	Moderate	Consistent direction; high I^2 ; self-report; conversion from η^2 in several trials
Stress mindset, follow-up ≥ 1 week	5	$g = 0.52$ (0.15 to 0.90); PI crosses 0	Low	Durability splits by dose; high I^2
Stress symptoms / wellbeing	Mixed, <10 comparable gs	Small, often null in whole samples	Low	Inconsistent; some benefits in Crum 2023, Zhao 2025, Loucas 2025; clear nulls in Schreiber 2024 and Journault 2024
Performance	Prior MA $k = 6$ SIE-only	$d = 0.18$ (−0.15 to 0.51), n.s.	Low	Independent 2024 meta-analysis; mixed packages larger ($d = 0.45$)
Physiological reactivity	Few clean RCTs	Anabolic hormones in Crum 2017; cortisol mixed; synergistic package stronger	Very low	Too few SIE-only physiology RCTs to pool

07

Discussion

PULL QUOTE

Zero eligible trials from India.

What the number means

$g = 0.66$ is a medium effect on a questionnaire about a belief. In stand-up terms: you can talk a room into a new slogan before coffee. You cannot talk a room into a new nervous system before coffee.

The prediction interval is the grown-up sentence. A new Indian workplace programme that copies a three-minute video should not expect $g = 0.66$. It should expect something between a small backfire and a large lift, with the mean as a betting average, not a promise. That is what tau looks like when it is allowed to speak.

Compare the cousins. Arousal reappraisal says, “this heartbeat is fuel for this task.” Stress mindset says, “stress, as a class of events, can help.” Bosshard and Gomez (2024) found that mixing the two, or mixing either with extra content, beat either alone on task performance (mixed $d = 0.45$; stress-is-enhancing-only $d = 0.18$, not significant). Our pool agrees in spirit. Belief moves more than marks. Marks move more when the practice is not a slogan.

Put plainly, the practice swaps one sentence for another. On a Friday evening a finance associate in Noida sees the board-pack deadline pulled forward by a day. The old sentence arrives first: “this will wreck me.” The new one is “this can sharpen me.” If she never tries the new sentence against a real deadline, the old one wins by default. That is Schreiber 2024 in one paragraph.

The urge says leave the call. The practice says use the energy for the next slide. Acting against the urge once, because a poster said so, is a poster. Doing it after every real stressor, as a counted rep, is a programme.

Another route is not to argue with the thought “stress is bad” at all. An engineer in Hyderabad does not need to believe stress is good before a release call. She notices “stress is bad” as a thought, not a fact, and dials in anyway. The later metacognitive trials sit closer to this route than the 2013 one-sided films did. They admit that stress also harms. They then teach that the frame is choosable. Crum 2023 Experiment 3 matters here: when people were later hit with contradictory “stress is toxic” material, the metacognitive arm kept more of the enhancing belief. One-sided advertising did not.

Machine learning would call mindset a prior and rehearsal a fine-tune. A single forward pass on a three-minute clip updates the weights. Overnight the model drifts back toward the pre-train corpus, which in most cultures is “stress is bad.” Daily reps are gradient steps. Yeager’s synergistic module adds a second head: ability can grow, and arousal can help. Two heads beat one on several adolescent outcomes. That is not mysticism. That is regularisation.

Entrepreneurship already knew the lesson. A founder in Koramangala who reads every dip on the dashboard as a funeral ships timid products. One who reads every dip as a feature ships recklessly. The usable middle is the Surat trader’s cash reserve: set money aside in the busy months, draw on it in the slow ones, and do not moralise the weather. A stress-is-enhancing practice is reserve thinking. It is not a claim that a slow quarter is fun.

Limitations

The pool is small. Seven convertible mindset trials is enough to average and not enough to end an argument. Several g s are converted from η^2 . Conversions are approximations. Occupational studies lean on completer samples. Most outcomes are self-report. The mindset scale is both check and endpoint. Follow-up beyond four months is rare except Zhao 2025 and the long tail of Crum 2023 Experiment 3. Physiology is under-sampled. Performance, when isolated as a stress-is-enhancing-only dose, is small and non-significant in the best available meta-analysis. No Indian trial exists. Generalisation from US banks, Australian laboratories, German-speaking convenience samples and Chinese first-years to a WhatsApp-first Indian professional programme is an inference, not a finding. We mark it as an inference.

WHAT THIS MEANS

What this means for an Indian workplace programme

A stress-mindset module can sit in an Indian emotional-fitness programme if it is treated as a rep, not as a lecture. Picture a claims supervisor in Kolkata. On Monday a short, balanced film reaches her on WhatsApp, in Bengali. It says stress can harm and stress can sharpen, and it shows her how to notice which frame she is in. On Wednesday the month-end queue swells. That night the coach asks for one sentence:

what did the body do, what was the task, what was used. She types: “Racing heart before the escalation call. Cleared the queue. Used the push.” Without that sentence the three-minute lift will die by Friday, as it did in the German-speaking adult trials. With that sentence, and with a human hand-off when the load is clinical, the practice is cheap enough to test. Do not sell it as a performance drug. The best performance estimate for this technique alone is $d = 0.18$ and not significant. Sell it as a way to stop treating every raised heartbeat as a verdict. Measure mindset, sleep, and a work behaviour you already count. Run the first Indian trial instead of importing another US slide.

Research gaps, naming the India gap

The India gap is not a metaphor. CTRI and ClinicalTrials.gov contained no completed randomised trial of a brief stress-mindset manipulation in Indian adults or students at the search date. That is the first gap.

The second gap is dose. We still do not know the minimum rehearsal schedule that holds a Hindi or Tamil or Malayalam module for thirty days.

The third gap is outcome. Indian programmes care about attendance, attrition, error rates, and sick days. The literature still loves questionnaires.

The fourth gap is moderation. Keech 2021 and Zhao 2025 suggest that people who start more distressed, or more convinced that stress is only harm, move more. That hypothesis needs an Indian test, not another US undergraduate sample.

The fifth gap is combination. Bosshard and Gomez (2024) and Yeager (2022) both hint that a mindset film plus a task-level reappraisal plus, sometimes, a growth frame, beats a slogan. EmotionApp already has daily reps and a coach. The scientific question is which extra sentence earns its place.

The sixth gap is harm. A reckless “stress is good” message can be used to justify overload. Crum’s later metacognitive design exists because the early films were one-sided. Any Indian protocol should keep the warning: chronic overload is not a growth mindset. It is a rostering failure.

08

FAQ

Q1 Does a short video really change how I think about stress?

Yes, on average. The pooled near-term effect is $g = 0.66$. That is a medium shift on a belief scale. A three-minute clip is enough for the questionnaire. It is not enough for the month.

Q2 Will the change last until my next appraisal cycle?

Only if you rehearse. In two adult trials a three-minute dose had faded by week four ($d = 0.07$). Imagery, metacognitive sessions and daily writing held for two to sixteen weeks. Durability is a rehearsal problem.

Q3 Will this raise my performance rating?

Do not bank on it. Stress-is-enhancing instructions alone improved task performance by $d = 0.18$ in a 2024 meta-analysis of six trials, and that estimate was not significant. Mixed packages did better ($d = 0.45$).

Q4 Is this a medical treatment for anxiety?

No. It is a coaching practice: a short belief update plus optional daily reps. It does not diagnose. It does not replace care for a clinical condition. If functioning is breaking, hand off to a clinician.

Q5 Has anyone tested this with Indian professionals?

Not in a published randomised trial we could verify. Zero eligible Indian studies. That is the gap this programme should close rather than slide past.

09

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NOTE

EmotionApp is a non-clinical emotional-fitness coaching platform. This paper describes practices, techniques and coaching. It is not therapy, treatment, diagnosis or medical advice.

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