

Effect of Integrated Yogic Practice Programme on Personal Effectiveness among Male College Students

Arun Pratap Rajak¹, Yatendra Kumar Singh², Kamta Prasad Sahu³

¹Research Scholar, Department of Yogic Sciences, Lakshmibai National Institute of Physical Education, Gwalior, India

²Professor, Department of Physical Education, and Registrar, Lakshmibai National Institute of Physical Education, Gwalior, India

³Associate Professor and Head, Department of Yogic Sciences and Human Consciousness, Dev Sanskriti Vishwavidyalaya, Haridwar, India

Corresponding author: Arun Pratap Rajak, Department of Yogic Sciences, LNIPE, Gwalior 474002, India. Email: apraj534@gmail.com

Abstract

Background: Personal effectiveness, the capacity to convert personal resources into goal-directed and socially adaptive behaviour, underpins students' academic and interpersonal functioning. Experimental evidence on whether integrated yoga strengthens it is scarce.

Objective: To examine the effect of a 12-week integrated yogic practice programme on overall personal effectiveness and its eleven dimensions in male college students.

Methods: In a randomised pre-test–post-test control group design, 170 male undergraduates aged 18–22 years at a technology institute in Gwalior, India, were allocated to an experimental ($n = 85$) or control ($n = 85$) group; 150 completers (75 per group) were analysed. The experimental group attended 60 one-hour sessions (five days a week) comprising Sukshma Vyayama, Surya Namaskar, ten asanas, Deep Relaxation Technique, Bhastrika and Bhramari pranayama, Soham meditation and yogic counselling. Controls continued routine activities. Personal effectiveness was measured with the 39-item Personal Effectiveness Scale (Dhar & Dhar). Data were analysed with paired t-tests and analysis of covariance (ANCOVA) with pre-test scores as the covariate.

Results: Groups were equivalent at baseline ($t(148) = 0.60, p = .55$). Scores in the experimental group rose from 141.42 ± 4.69 to 175.48 ± 3.83 ($t(74) = 57.45, p < .001$), while control scores were unchanged (140.98 ± 4.21 to $141.25 \pm 3.75; p = .67$). Adjusted post-test means differed by 34.15 points (95% CI 32.95–35.35; $F(1, 147) = 3151.15, p < .001$, partial $\eta^2 = .955$). All eleven dimensions improved significantly in the experimental group after Bonferroni correction; none changed in the control group.

Conclusions: The integrated yogic programme was associated with substantial gains in self-reported personal effectiveness. Because the observed effect is far larger than those typically reported for yoga interventions, replication with an active control, blinded assessment and intention-to-treat analysis is required before its magnitude is generalised.

Keywords: yoga; personal effectiveness; college students; yogic counselling; pranayama; randomised controlled study

1. Introduction

The years spent in higher education coincide with considerable psychological demand. Students must manage academic workload, examinations, career uncertainty and new social arrangements, frequently alongside irregular sleep, sedentary routines and extended screen time. College populations report high rates of stress, anxiety and depressive symptoms, which are linked with poorer learning and motivation (Beiter et al., 2015; Pascoe et al., 2020). In India, the National Education Policy 2020 calls for the holistic development of students, extending beyond cognitive attainment to social, emotional and ethical capacities (Ministry of Human Resource Development, 2020). Institutions therefore need affordable programmes that not only reduce distress but also build competence.

Personal effectiveness is one such competence-oriented construct. It refers to the degree to which individuals use their knowledge, skills, attitudes and self-regulatory capacities to pursue goals efficiently while maintaining constructive relationships with others. Dhar and Dhar operationalised the construct for Indian respondents through eleven empirically derived dimensions: patience, assertiveness, acceptability, pragmatism, agility, accomplishment, optimism, confidence, augmentative behaviour, perseverance and modesty (Dhar & Dhar). In Indian organisational samples, personal effectiveness has been positively associated with emotional maturity factors such as emotional stability and social adjustment (Nehra & Rangnekar, 2021), which suggests that it rests partly on regulatory capacities that may be trainable. For technology undergraduates approaching professional life, these dimensions reflect qualities that educators and employers expect.

Yoga offers a plausible means of developing these capacities. Contemporary models describe yoga as strengthening both top-down self-regulation, through attention and meta-awareness cultivated in meditation and breath focus, and bottom-up regulation, through physiological down-regulation achieved by slow breathing, relaxation and movement (Gard et al., 2014). Voluntary breath regulation is thought to shift autonomic balance towards parasympathetic activity (Brown & Gerbarg, 2005; Jerath et al., 2006), and yoga-related increases in vagal tone and GABAergic activity have been proposed as a basis for improved stress tolerance (Streeter et al., 2012). Meditation training is associated with improvements in attention control, emotion regulation and self-awareness (Tang et al., 2015). Progressive mastery of more demanding practices also provides success experiences, the strongest source of self-efficacy (Bandura, 1997), and the counselling component of Indian yoga programmes, grounded in the *yamas*, *niyamas* and *yogaḥ karmasu kauśalam* (skill in action), may translate these gains into deliberate behavioural change.

Controlled studies in student populations generally support the psychological benefits of yoga. In a 12-week randomised trial with 129 university students in Spain, yoga reduced perceived stress and anxiety and improved emotional wellbeing, with between-group effect sizes of roughly $d = 0.4$ to 0.8 (Castellote-Caballero et al., 2024). A meta-analysis of yoga in medical and dental education found reductions in blood pressure, heart rate, stress and anxiety relative to controls (Maity et al., 2024), and among college students enrolled in ten-week yoga or mindfulness classes, gains in self-compassion were the strongest predictor of reduced stress (Gorvine et al., 2019). Most of this evidence, however, concerns reductions in distress rather than growth in positive, performance-related competencies, and personal effectiveness has seldom been measured with a standardised multidimensional instrument. Controlled studies of integrated programmes in Indian technical institutions also remain scarce.

The present study therefore examined whether a structured 12-week integrated yogic practice programme improves overall personal effectiveness and its eleven dimensions among male college students, relative to a no-intervention control group. It was hypothesised that (H1) after adjustment for baseline scores, the experimental group would show significantly higher post-intervention personal effectiveness than the control group, and (H2) improvements in the experimental group would be evident across the eleven dimensions of the scale.

2. Methods

2.1 Study design and setting

A randomised, two-arm, parallel-group pre-test–post-test control group design was used. The study was conducted at Rustamji Institute of Technology (RJIT), BSF Academy, Tekanpur, Gwalior, Madhya Pradesh, India. Reporting follows the CONSORT 2010 statement where applicable (Schulz et al., 2010). This article reports the personal effectiveness outcome of a larger doctoral study that also assessed personality traits, adjustment, and selected physiological variables (breath-holding capacity, anaerobic capacity, resting pulse rate and blood pressure); those outcomes are reported separately.

2.2 Participants and sampling

A multistage procedure was followed. RJIT was selected by lottery from five technology institutions in Gwalior. All male undergraduate students aged 18–22 years at RJIT constituted the target population. Students were eligible if they were in good general physical and mental health, were willing to attend the 12-week programme and provided written informed consent. Exclusion criteria were Of 500 students assessed for eligibility, 330 were excluded (185 did not meet the inclusion criteria, 90 declined and 55 were excluded for other reasons, such as incomplete information or inability to commit to the schedule). The remaining 170 students were randomly allocated by lottery to the experimental group ($n = 85$) or the control group ($n = 85$). During the intervention period three participants in each group discontinued for personal or academic reasons or irregular attendance. Before analysis, a further seven participants per group were excluded because of incomplete data or values identified as statistical outliers. The final analysed sample comprised 150 students (75 per group; Figure 1). Mean age was 20 ± 2 years in the experimental group and 20 ± 2 years in the control group.

Sample size was estimated a priori with G*Power 3.1.9.7 (Faul et al., 2007) for an ANCOVA with two groups and one covariate, assuming a medium effect ($f = 0.25$; Cohen, 1988), $\alpha = .05$ and power = .80. The required total sample was 128 (64 per group); the analysed sample of 150 exceeded this requirement.

2.3 Intervention

The experimental group took part in a supervised integrated yogic practice programme for 12 weeks, five days a week, with each session lasting 60 minutes (60 sessions in total). All sessions were conducted by a certified yoga instructor. Each session followed the fixed sequence and three-phase progression shown in Table 1; Soham meditation synchronised awareness of *So* and *Ham* with inhalation and exhalation.

Yogic counselling addressed one theme per day, drawn from yama–niyama principles and practical yogic philosophy. Themes included positive thinking, self-discipline, stress management, emotional control, motivation, self-confidence, interpersonal relationships, ethical values and a healthy lifestyle, and participants

were encouraged to frame personal *sankalpas* (resolves) relating to patience, perseverance and courage. The control group continued its usual academic and daily routine and received no structured yogic, exercise or psychological programme during the study period. Attendance was recorded.

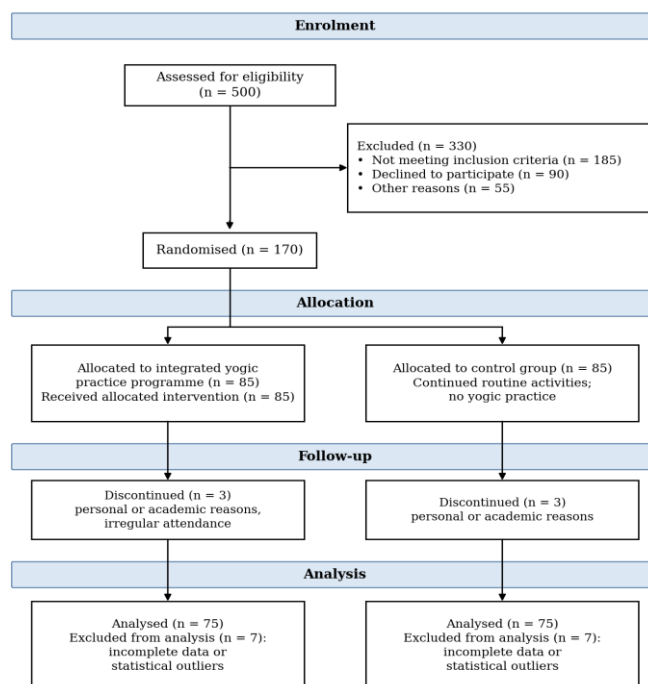


Figure 1. Flow of participants through enrolment, allocation, follow-up and analysis.

Table 1

Structure and progression of the integrated yogic practice programme

Practice	Weeks 1–4	Weeks 5–8	Weeks 9–12
Loosening practices (Sukshma Vyayama)	5 min	5 min	5 min
Surya Namaskar	6 rounds; 1 min rest	9 rounds; 1 min rest	12 rounds; 1 min rest
Ten asanas (each) ^a	30 s hold; 30 s rest	40 s hold; 20 s rest	50 s hold; 10 s rest
Deep Relaxation Technique	5 min	5 min	5 min
Bhastrika pranayama	15 strokes; 30 s rest	20 strokes; 30 s rest	25 strokes; 30 s rest
Bhramari pranayama	5 rounds; 30 s rest	7 rounds; 30 s rest	10 rounds; 30 s rest
Soham meditation	5 min	5 min	5 min
Yogic counselling	1 theme per day	1 theme per day	1 theme per day

Note. Sessions were held five days a week for 60 minutes. ^aTadasana, Ardha Chakrasana, Padahasthasana, Vakrasana, Uttanpadasana, Sarvangasana, Saral Matsyasana, Bhujangasana, Dhanurasana and Markatasana.

2.4 Outcome measure

Personal effectiveness was assessed with the Personal Effectiveness Scale (PES) developed by Dhar and Dhar. The scale contains 39 statements rated on a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree), giving a total score of 39–195, with higher scores indicating greater personal effectiveness. Factor analysis yielded eleven dimensions (item counts in Table 4). In the development sample of 150 executives and academics, split-half reliability corrected by the Spearman–Brown formula was 0.94, and the index of reliability, reported as evidence of validity, was 0.97.

2.5 Procedure

Pre-test data were collected from both groups in the week before the intervention began, under standardised conditions and with identical instructions state whether administration was in groups, in Hindi or English, and by whom. Post-test data were collected using the same procedure within 5 days after the final session.

2.6 Statistical analysis

Analyses were performed in SPSS version 20. Normality (Shapiro–Wilk) and homogeneity of variance (Levene) were checked; baseline equivalence was tested with an independent t-test and within-group change with paired t-tests. The primary between-group analysis was a one-way ANCOVA on post-test PES total scores with pre-test scores as the covariate; the assumption of homogeneity of regression slopes was checked by testing the group $\times$ pre-test interaction. Effect sizes were expressed as partial η^2 for ANCOVA, Cohen's d_z ($t/\sqrt{n}$) for within-group change, and Cohen's d with pooled standard deviation for between-group differences (Lakens, 2013). Changes in the eleven dimensions were examined with paired t-tests and a Bonferroni-adjusted significance level of $.05/11 = .0045$. Because several dimensions contain only one or two items and their scores departed from normality, dimension-level results are treated as secondary. The analysis was per protocol, including participants who completed the programme and had complete data. All other tests were two-tailed with $\alpha = .05$.

2.7 Ethical considerations

The study was approved by the Institutional Ethics Committee of LNIPE. All participants gave written informed consent and could withdraw at any time; data were anonymised.

3. Results

3.1 Assumptions and baseline equivalence

PES total scores were normally distributed in both groups at pre-test (experimental $W = 0.970$, $p = .075$; control $W = 0.979$, $p = .240$) and post-test (experimental $W = 0.980$, $p = .282$; control $W = 0.974$, $p = .131$). Variances were homogeneous (Levene's $F(1, 148) = 0.003$, $p = .956$). At baseline the experimental (141.42 ± 4.69) and control (140.98 ± 4.21) groups did not differ, $t(148) = 0.60$, $p = .55$, $d = 0.10$.

3.2 Within-group change

As shown in Table 2, the experimental group's mean PES score increased by 34.05 points, equivalent to 24.1% of its baseline mean, $t(74) = 57.45$, $p < .001$, $d_z = 6.63$. The control group changed by 0.27 points, $t(74) = 0.43$, $p = .666$, $d_z = 0.05$.

Table 2
Pre-test and post-test Personal Effectiveness Scale scores and within-group change

Group	n	Pre-test M (SD)	Post-test M (SD)	Change M (SD)	t(74)	p	d_z
Experimental	75	141.42 (4.69)	175.48 (3.83)	34.05 (5.13)	57.45	< .001	6.63
Control	75	140.98 (4.21)	141.25 (3.75)	0.27 (5.33)	0.43	.666	0.05

Note. Possible score range 39–195. $d_z = t/\sqrt{n}$. Baseline between-group comparison: $t(148) = 0.60$, $p = .55$, $d = 0.10$.

3.3 Between-group comparison

The ANCOVA results are presented in Table 3. The pre-test covariate was significantly related to post-test scores, $F(1, 147) = 6.33$, $p = .013$. After adjustment, the experimental group's post-test mean (175.44, $SE = 0.43$) was significantly higher than the control group's (141.29, $SE = 0.43$), $F(1, 147) = 3151.15$, $p < .001$, $\text{partial } \eta^2 = .955$. The adjusted mean difference was 34.15 points (95% CI 32.95 to 35.35), and the unadjusted standardised post-test difference was $d = 9.04$. H1 was therefore supported.

Table 3

Analysis of covariance of post-test Personal Effectiveness Scale scores with pre-test scores as covariate

Source	SS	df	MS	F	p	Partial η^2
Pre-test (covariate)	87.70 ^a	1	87.70	6.33	.013	.041 ^a
Group	43,627.43	1	43,627.43	3,151.15	< .001	.955
Error	2,035.21	147	13.85			
Corrected total	46,052.83	149				

Note. Adjusted means (evaluated at pre-test = 141.21): experimental 175.44 ($SE = 0.43$; 95% CI 174.59–176.29); control 141.29 ($SE = 0.43$; 95% CI 140.44–142.14). $R^2 = .956$. ^aDerived from the reported F and error mean square;

3.4 Dimensions of personal effectiveness

All eleven dimensions improved significantly in the experimental group at the Bonferroni-adjusted level (all $p < .001$), with within-group effect sizes ranging from $d_z = 0.95$ for perseverance to $d_z = 4.04$ for patience (Table 4). The largest raw gains occurred in assertiveness (7.68 points) and patience (7.24 points). Relative to the number of items, gains were greatest for modesty (1.44 points per item) and pragmatism (1.42) and smallest for optimism and perseverance (0.57 each). No dimension changed significantly in the control group (all $p \geq .051$). H2 was supported at the within-group level.

Table 4

Within-group change in the eleven dimensions of personal effectiveness

Dimension	Items	Exp. MD	Exp. t(74)	Exp. p	Exp. d_z	Ctrl MD	Ctrl t(74)	Ctrl p	Ctrl d_z
Patience	8	7.24	34.98	< .001	4.04	0.23	0.99	.324	0.11
Assertiveness	7	7.68	23.27	< .001	2.69	0.51	1.99	.051	0.23
Acceptability	5	4.03	16.61	< .001	1.92	0.28	1.37	.174	0.16
Pragmatism	4	5.68	23.35	< .001	2.70	0.03	0.11	.916	0.01
Agility	4	5.01	24.57	< .001	2.84	0.35	1.62	.110	0.19
Accomplishment	2	2.23	15.19	< .001	1.75	0.23	1.46	.148	0.17
Optimism	4	2.29	11.03	< .001	1.27	0.12	0.46	.644	0.05
Confidence	1	1.01	12.09	< .001	1.40	0.11	1.30	.196	0.15
Augmentative	1	1.08	11.67	< .001	1.35	0.03	0.33	.741	0.04
Perseverance	2	1.15	8.24	< .001	0.95	0.04	0.23	.818	0.03
Modesty	1	1.44	13.36	< .001	1.54	0.01	0.11	.913	0.01

Note. MD = mean difference (post-test – pre-test); Exp. = experimental group ($n = 75$); Ctrl = control group ($n = 75$). Bonferroni-adjusted $\alpha = .0045$.

4. Discussion

This study examined the effect of a 12-week integrated yogic practice programme on the personal effectiveness of male college students. Students who completed the programme reported markedly higher personal effectiveness than controls after adjustment for baseline scores, and improvements appeared in every one of the eleven dimensions measured by the scale, whereas the control group remained unchanged. This extends the largely distress-focused literature on yoga in higher education to a positive, performance-related competence.

The profile of change across dimensions is consistent with the components of the programme. The largest absolute gains were in patience and assertiveness. Patience items (listening, managing time, not blaming others) depend on lowering arousal and sustaining attention, which relaxation, Bhramari and Soham meditation target (Gard et al., 2014; Tang et al., 2015); assertiveness items (determination, coping, expressing one's view) match the counselling themes on self-confidence and relationships. Pragmatism, which covers initiating new work, taking moderate risks and achieving pre-set goals, showed one of the largest gains per item; progressive mastery of more demanding practices may have provided the kind of success experiences that build self-efficacy (Bandura, 1997). By contrast, optimism and perseverance showed the smallest per-item gains, perhaps because these are more trait-like dispositions that need longer exposure or real-world achievement feedback to change.

The direction of the findings agrees with controlled studies reporting psychological benefits of yoga among students (Castellote-Caballero et al., 2024; Gorvine et al., 2019; Maity et al., 2024). Their magnitude, however, does not. A 12-week randomised trial in university students reported between-group effect sizes of about 0.4 to 0.8 (Castellote-Caballero et al., 2024), and the meta-analytic standardised reduction in stress among medical students was 0.77 (Maity et al., 2024). In the present study the standardised post-test difference exceeded $d = 9$, group membership accounted for over 95% of the variance in adjusted post-test scores, and the post-test score distributions of the two groups did not overlap. Effects of this size are exceptional for any behavioural intervention and should be interpreted cautiously.

Several features of the design may have inflated the observed effect, while the counselling curriculum explicitly addressed self-confidence, positive thinking, self-discipline and interpersonal relationships, content that closely mirrors many PES items. Participants may therefore have learned which responses were valued, a form of demand characteristic (Orne, 1962). Second, the passive control group did not control for expectancy, group belonging or daily contact with an instructor; even active control conditions cannot fully rule out such effects unless expectations are matched (Boot et al., 2013). Third, analysis was per protocol, and the exclusion of fourteen participants, including some identified as statistical outliers, may have reduced variance and enlarged standardised effects. Fourth, the within-group standard deviations were very small (about 4–5 points on a possible range of 156), which further magnifies standardised effect sizes. The results therefore show a large and consistent improvement in self-reported personal effectiveness, but the true effect in routine educational settings is likely to be considerably smaller.

With these reservations, the programme was feasible on campus, low-cost and completed by 82 of 85 allocated students; it aligns with NEP 2020 and could be built into wellness courses or student support services in technical institutions.

4.1 Limitations and future research

The sample was drawn from a single institution and included only men aged 18–22 years, which limits generalisability. The control group was passive, outcome assessment relied solely on self-report, and blinding of assessors was not achieved. The analysis excluded participants who discontinued or were classified as outliers rather than following the intention-to-treat principle. No follow-up assessment was conducted, so the durability of the gains is unknown. The PES was standardised on working professionals, and five dimensions have only one or two items. No process measures were collected, so mechanisms could not be tested. Future trials should use an attention-matched active control, blinded assessment, prospective registration, intention-to-treat analysis, mixed-sex multi-site samples, follow-up at three to six months and behavioural or informant-rated outcomes, with mediation analyses of mindfulness and self-efficacy.

5. Conclusion

A 12-week integrated programme of Sukshma Vyayama, Surya Namaskar, asanas, relaxation, pranayama, Soham meditation and yogic counselling was associated with substantial improvements in overall personal effectiveness and in all eleven of its dimensions among male college students, while no change occurred in a control group. Given the exceptional size of the observed effect, confirmation in rigorously controlled, blinded and multi-site trials is needed before firm conclusions about its magnitude are drawn.

References

- Bandura, A. (1997). *Self-efficacy: The exercise of control*. W. H. Freeman.
- Beiter, R., Nash, R., McCrady, M., Rhoades, D., Linscomb, M., Clarahan, M., & Sammut, S. (2015). The prevalence and correlates of depression, anxiety, and stress in a sample of college students. *Journal of Affective Disorders*, 173, 90–96. <https://doi.org/10.1016/j.jad.2014.10.054>
- Boot, W. R., Simons, D. J., Stothart, C., & Stutts, C. (2013). The pervasive problem with placebos in psychology: Why active control groups are not sufficient to rule out placebo effects. *Perspectives on Psychological Science*, 8(4), 445–454. <https://doi.org/10.1177/1745691613491271>
- Brown, R. P., & Gerbarg, P. L. (2005). Sudarshan Kriya yogic breathing in the treatment of stress, anxiety, and depression: Part I—Neurophysiologic model. *Journal of Alternative and Complementary Medicine*, 11(1), 189–201. <https://doi.org/10.1089/acm.2005.11.189>
- Castellote-Caballero, Y., Carcelén-Fraile, M. C., Aibar-Almazán, A., Rivas-Campo, Y., & González-Martín, A. M. (2024). Yoga as a therapeutic approach to mental health in university students: A randomized controlled trial. *Frontiers in Public Health*, 12, Article 1406937. <https://doi.org/10.3389/fpubh.2024.1406937>
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates.
- Dhar, S., & Dhar, U. (2020). *Manual for Personal Effectiveness Scale*.
- Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39(2), 175–191. <https://doi.org/10.3758/BF03193146>
- Gard, T., Noggle, J. J., Park, C. L., Vago, D. R., & Wilson, A. (2014). Potential self-regulatory mechanisms of yoga for psychological health. *Frontiers in Human Neuroscience*, 8, Article 770. <https://doi.org/10.3389/fnhum.2014.00770>

- Gorvine, M. M., Zaller, N. D., Hudson, H. K., Demers, D., & Kennedy, L. A. (2019). A naturalistic study of yoga, meditation, self-perceived stress, self-compassion, and mindfulness in college students. *Health Psychology and Behavioral Medicine*, 7(1), 385–395. <https://doi.org/10.1080/21642850.2019.1688154>
- Jerath, R., Edry, J. W., Barnes, V. A., & Jerath, V. (2006). Physiology of long pranayamic breathing: Neural respiratory elements may provide a mechanism that explains how slow deep breathing shifts the autonomic nervous system. *Medical Hypotheses*, 67(3), 566–571. <https://doi.org/10.1016/j.mehy.2006.02.042>
- Lakens, D. (2013). Calculating and reporting effect sizes to facilitate cumulative science: A practical primer for t-tests and ANOVAs. *Frontiers in Psychology*, 4, Article 863. <https://doi.org/10.3389/fpsyg.2013.00863>
- Maity, S., Abbaspour, R., Bandelow, S., Pahwa, S., Alahdadi, T., Shah, S., Chhetri, P., Jha, A. K., Nauhria, S., Nath, R., Nayak, N., & Nauhria, S. (2024). The psychosomatic impact of yoga in medical education: A systematic review and meta-analysis. *Medical Education Online*, 29(1), Article 2364486. <https://doi.org/10.1080/10872981.2024.2364486>
- Ministry of Human Resource Development. (2020). *National Education Policy 2020*. Government of India.
- Nehra, N. S., & Rangnekar, S. (2021). Linking the emotional maturity factors and personal effectiveness: A study of cement and power manufacturing organisations in India. *International Journal of Business Excellence*, 24(3), 408–436.
- Orne, M. T. (1962). On the social psychology of the psychological experiment: With particular reference to demand characteristics and their implications. *American Psychologist*, 17(11), 776–783. <https://doi.org/10.1037/h0043424>
- Pascoe, M. C., Hetrick, S. E., & Parker, A. G. (2020). The impact of stress on students in secondary school and higher education. *International Journal of Adolescence and Youth*, 25(1), 104–112. <https://doi.org/10.1080/02673843.2019.1596823>
- Schulz, K. F., Altman, D. G., & Moher, D. (2010). CONSORT 2010 statement: Updated guidelines for reporting parallel group randomised trials. *BMJ*, 340, Article c332. <https://doi.org/10.1136/bmj.c332>
- Streeter, C. C., Gerbarg, P. L., Saper, R. B., Ciraulo, D. A., & Brown, R. P. (2012). Effects of yoga on the autonomic nervous system, gamma-aminobutyric-acid, and allostasis in epilepsy, depression, and post-traumatic stress disorder. *Medical Hypotheses*, 78(5), 571–579. <https://doi.org/10.1016/j.mehy.2012.01.021>
- Tang, Y.-Y., Hölzel, B. K., & Posner, M. I. (2015). The neuroscience of mindfulness meditation. *Nature Reviews Neuroscience*, 16(4), 213–225. <https://doi.org/10.1038/nrn3916>