



EFFECT OF YOGA INTERVENTION ON SELF-CONTROL, SELF-EFFICACY, AND AGGRESSION AMONG SCHOOL STUDENTS

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ABSTRACT:

The contemporary education system emphasizes physical and cognitive development but often neglects mental health, contributing to issues like aggression, poor self-control, and low self-efficacy among school children. This study examined the efficacy of a one-month yoga intervention on these psychological outcomes in 102 students aged 13-17 years. Participants were randomly assigned to a yoga group or a control group. The yoga group engaged in a structured program of asanas, pranayama, and relaxation techniques three times a week, while the control group continued their regular routines. Assessments using the Reactive and Proactive Aggression Questionnaire, Brief Self-Control Scale, and General Self-Efficacy Scale were conducted at baseline and post-intervention. Results indicated significant reductions in aggression and improvements in self-control and self-efficacy in the yoga group, with no changes in the control group. These findings suggest that yoga can enhance psychological well-being in school settings, offering a valuable complement to traditional education.

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INTRODUCTION

Modern education systems prioritize physical, intellectual, and cognitive development, yet often overlook the mental and emotional well-being of students. This imbalance has contributed to a rise in mental health issues among school children, including aggression, poor self-control, and low self-efficacy [1]. Over 20% of children and adolescents globally experience mental health problems, with depression, anxiety, and aggressive behavior being particularly prevalent [2]. In India, studies report depression rates as high as 38% among school children, with aggression linked to low self-esteem and poor emotional regulation [3,4]. Aggression, defined as actions intended to harm others, is a significant concern in school environments, often stemming from stress, low self-esteem, and poor coping mechanisms [5]. Self-control, the ability to regulate emotions and behaviors, is crucial for academic success and social integration, while self-efficacy, the belief in one's ability to succeed, influences motivation and resilience [6,7]. Deficits in these areas can lead to long-term psychological and social challenges [8]. Yoga, an ancient Indian practice, offers a holistic approach to well-being by integrating physical postures (asanas), breathing exercises (pranayama), and

relaxation techniques. Rooted in Patanjali's eight limbs of yoga and the Panchakosha theory, it promotes harmony across physical, mental, and spiritual dimensions [9]. Emerging evidence suggests yoga can improve psychological well-being, self-regulation, and cognitive function in children [10,11]. However, few studies have explored its impact on aggression, self-control, and self-efficacy in Indian school children. This study addresses this gap by investigating the effects of a structured yoga intervention on aggression, self-control, and self-efficacy among school students. We hypothesized that yoga would reduce aggression and enhance self-control and self-efficacy compared to a control group.

METHODOLOGY

PARTICIPANTS

One hundred and two school students aged 13-17 years (mean age = 15.2 years, SD = 1.3) from eighth and ninth grades participated. Participants were recruited from a public school in Rajasthan, India, and randomly assigned to either the yoga intervention group (n=51) or the control group (n=51). The study was approved by the Institutional Ethics Committee of Shri Khushal Das University, and

informed consent was obtained from participants and their parents.

STUDY DESIGN

A randomized controlled trial design was employed. The yoga group received a one-month intervention consisting of yoga asanas, pranayama, and relaxation techniques, conducted three times a week for 60 minutes per session. The control group continued their regular school routines without additional interventions.

VARIABLES STUDIED

- **Aggression:** Measured using the Reactive and Proactive Aggression Questionnaire (RPQ), which assesses reactive (impulsive) and proactive (planned) aggression [12].
- **Self-Control:** Assessed with the Brief Self-Control Scale (BSCS), evaluating impulse regulation and goal-directed behavior [13].
- **Self-Efficacy:** Measured by the General Self-Efficacy Scale (GSE), which gauges perceived competence in handling challenges [14].

ASSESSMENT TOOLS

- **RPQ:** A 23-item self-report questionnaire with scores ranging from 0 to 46, where higher scores indicate greater aggression.
- **BSCS:** A 13-item scale with scores from 13 to 65, where higher scores reflect better self-control.
- **GSE:** A 10-item scale with scores from 10 to 40, where higher scores indicate greater self-efficacy.

INTERVENTION

The yoga intervention was designed based on traditional yoga practices and included:

- **Asanas:** Suryanamaskar, Tadasana, Vrikshasana, and others.
- **Pranayama:** Anulom Vilom, Bhramari, and Kapalbhathi.
- **Relaxation:** Guided meditation and Shavasana.

Sessions were led by a certified yoga instructor and tailored to the developmental needs of adolescents.

DATA ANALYSIS

Data were analyzed using Jamovi software. Within-group changes were assessed using paired t-tests, and between-group differences were evaluated with independent t-tests. A significance level of $p < 0.05$ was used.

RESULTS

PARTICIPANT CHARACTERISTICS

The yoga and control groups were comparable at baseline in terms of age, gender, and outcome measures ($p > 0.05$). No significant differences were found in pre-intervention scores for aggression, self-control, or self-efficacy.

WITHIN-GROUP CHANGES

- **Yoga Group:**
 - Aggression scores decreased significantly from baseline (M=15.2, SD=4.3) to post-intervention (M=10.8, SD=3.7), $t(50)=6.42, p<0.001$.
 - Self-control scores increased from baseline (M=39.5, SD=5.1) to post-intervention (M=45.3, SD=4.8), $t(50)=-5.87, p<0.001$.
 - Self-efficacy scores improved from baseline (M=28.4, SD=3.9) to post-intervention (M=33.1, SD=3.5), $t(50)=-6.15, p<0.001$.
- **Control Group:**
 - No significant changes were observed in aggression (M=14.9 to M=14.5, $p=0.62$), self-control (M=39.7 to M=40.1, $p=0.71$), or self-efficacy (M=28.6 to M=28.9, $p=0.58$).

BETWEEN-GROUP DIFFERENCES

Post-intervention, the yoga group had significantly lower aggression scores (M=10.8 vs. M=14.5, $p<0.01$), higher self-control scores (M=45.3 vs. M=40.1, $p<0.01$), and higher self-efficacy scores (M=33.1 vs. M=28.9, $p<0.01$) compared to the control group.

TABLE 1: PRE- AND POST-INTERVENTION SCORES FOR YOGA AND CONTROL GROUPS

Outcome	Group	Pre-Intervention (M±SD)	Post-Intervention (M±SD)	p-value (within-group)
Aggression	Yoga	15.2 ± 4.3	10.8 ± 3.7	<0.001
	Control	14.9 ± 4.1	14.5 ± 4.0	0.62
Self-Control	Yoga	39.5 ± 5.1	45.3 ± 4.8	<0.001
	Control	39.7 ± 5.0	40.1 ± 4.9	0.71
Self-Efficacy	Yoga	28.4 ± 3.9	33.1 ± 3.5	<0.001
	Control	28.6 ± 3.8	28.9 ± 3.7	0.58

DISCUSSION

This study demonstrates that a one-month yoga intervention significantly reduces aggression and

enhances self-control and self-efficacy among school students. These findings align with previous research

highlighting yoga's benefits for psychological well-being and self-regulation in children [15,16]. The reduction in aggression may be attributed to yoga's ability to modulate the autonomic nervous system, reducing stress and improving emotional regulation [17]. Enhanced self-control likely results from yoga's focus on mindfulness and impulse inhibition, which are critical for executive function [18]. The improvement in self-efficacy resonates with Bandura's theory, where mastery experiences through yoga practice boost confidence [19]. Comparatively, the control group showed no significant changes, underscoring the intervention's effectiveness. These results are consistent with studies showing yoga's superiority over standard care in improving mental health outcomes [20]. However, the short intervention duration is a limitation, and future studies should explore longer-term effects and optimal program designs. The study's implications are significant for educational settings, suggesting that integrating yoga into school curricula could address rising mental health challenges cost-effectively. Yoga's accessibility and scalability make it a promising tool for promoting holistic development alongside academic growth.

CONCLUSION

This research provides preliminary evidence that a structured yoga intervention can reduce aggression and improve self-control and self-efficacy in school children. By addressing key psychological domains, yoga offers a valuable complement to traditional education, fostering both academic and emotional growth. Future studies should investigate the long-term sustainability of these benefits and explore broader implementation strategies to maximize yoga's impact on student well-being.

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