



EFFECT OF SHORT TERM YOGA PRACTICES ON COGNITIVE FUNCTION AND ATTITUDE TOWARDS VIOLENCE IN SCHOOL CHILDREN- A RANDOMIZED CONTROL STUDY

G.K. Reddy

Research Scholar, SVYAS University, Bangalore.

Sony Kumari

Assistant Professor, SVYAS University, Bangalore.

Voice of Research

Volume 3, Issue 4

March 2015

ISSN 2277-7733

Abstract

The effectiveness of short term yoga practice on cognitive function and attitude towards violence in school children (n = 100) was examined. The participants were divided into two groups -Yoga and Control group. Yoga group was given 10 days yoga intervention programme for one hour every day. Results indicated that yoga intervention contributed significant result in cognitive function and no significant result in ATV (attitude towards violence) in school children.

Keywords: School children, cognitive function, attitude towards violence, yoga

Cognition: A term psychologists use to refer to the activity of knowing and the mental processes by which human beings acquire and use knowledge to solve problems, the cognitive processes that help us to understand and to adapt to the environment include such activity as attending, perceiving, learning, thinking and remembering in short, the unobservable events and undertaking that characterize the human mind. Cognition is a term referring to the mental processes involved in gaining knowledge and comprehension. These processes include thinking, knowing, remembering, judging, and problem-solving. These are higher-level functions of the brain and encompass language, imagination, perception, and planning.

Cognition and its development: The activity of knowing and the processes through which knowledge is acquired. Change that occur in mental activities such as attending, perceiving, learning, thinking and remembering.

Cognitive equilibrium & Meta cognition: Piaget's term for the state of affairs in which there is a balanced or harmonious, relationship between one's thought processes and the environment. One's knowledge about cognition and about the regulation of cognitive activities.

Cognitive function in school children: Developing an understanding of the world around you is a lifetime process that begins at birth. Knowing about the regularity and predictability of the universe is important. This knowledge, called cognitive development, is learned through mental processes and sensory perceptions. Warm, supportive interactions with others, as well as the ability to use all five of the sensory modes—seeing, hearing, touching, tasting, and smelling—are required for maximum development of the mental or cognitive processes. High-quality child development centers have always placed priority on children's intellectual learning. Today the emphasis is greater than ever, because new

research is being reported that helps teachers better understand the mental or cognitive processes that are at work in the child.

Violence: The intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, mal development, or deprivation.

Effect of violence in school children: High profile acts of violence, particularly in schools, can confuse and frighten children who may feel in danger or worry that their friends or loved-ones are at risk. They will look to adults for information and guidance on how to react. Parents and school personnel can help children feel safe by establishing a sense of normalcy and security and talking with them about their fears.

Attitude: Attitude is a readiness of the psyche to act or react in a certain way. Attitude is an evaluation of an attitude object to vary from extremely negative to extremely positive, but also admits that people can also be conflicted or ambivalent toward an object meaning that they might at different times express both positive and negative attitude toward the same object. This has led to some discussion of whether individual can hold multiple attitudes toward the same object.

Violence attitude in school children: Children who exhibit explosive or noncompliant behaviour can be a difficult challenge to school personnel and parents. These children are chronically violent or aggressive and may be defiant, start fights, push, kick, hit or grab, throw things, verbally threaten classmates or staff, or destroy property. Some children respond to verbal prompts to interrupt and stop this type of behaviour. Others melt down with little obvious provocation and, once they "lose it," cannot be reached until they have exhausted their rage. Typically, these children do not handle transitions or unexpected change



well and have low tolerance for frustration. This is different from violent behaviour that is “episodic” (i.e., out of the norm for the child and perhaps the result of an isolated event at school or home) or “goal oriented” (i.e., employed to achieve a specific desire or targeted at a specific person). Aggression is usually defined by behavioural scientists as behaviour that is intended to harm another person. Common forms of aggression are physical (for example, punching), verbal (for example, saying or writing hurtful things to another person), and relational (for example, intentionally and publicly not inviting someone to a party to harm his social relationships). Violence usually is conceived as more extreme forms of physical aggression that are likely to result in physical injury. The most extreme form of violence is homicide, but any form of aggressive behaviour that is likely to result in an injury serious enough to warrant medical attention is considered violence. Thus, fights involving weapons as well as fistfights by adolescents old enough to be able to inflict serious injuries are considered acts of violence.

Literature Review

Faculties’ beliefs in their collective instructional efficacy contribute significantly to their schools’ level of academic achievement. Findings shows there are diverse ways in which perceived self-efficacy contributes to cognitive development and functioning. Faculties’ beliefs in their collective instructional efficacy contribute significantly to their schools’ level of academic achievement.

Progressive behavior both in Grades 1 through 3 (ages 5–8) and Grades 4 through 6 (ages 9–12), the effects on social cognition were only evident in the later grades. Furthermore, the effect of violence exposure on aggression in the later grades was partially mediated by its effect on social cognition. These findings suggest that witnessing community violence has an effect on children’s aggressive behavior through both imitation of violence and the development of associated cognitions as children get older.

The yoga intervention produced improvements in physical measures (e.g., timed 1-legged standing, forward flexibility) as well as a number of quality-of-life measures related to sense of well-being and energy and fatigue compared to controls. Those in the yoga group showed significant improvement in quality-of-life and physical measures compared to exercise and wait-list control groups.

Three hundred and twelve sets of pre–post data were analysed. There was an increase in PA of PANAS by 13% and OPA by 17%. The NA reduced by 47% and ONA by 48% It is feasible and safe to conduct a weeklong yoga camp in an urban setting, and integrated yoga practices can reduce the negative affect and increase the positive affect within one week.

Method

Sample: The sample consisted of 100 school students, Chaitanya Vidyanikethan Educational Society, Hyderabad. The school is situated in rural area. The age ranges were between 13 to 15 years. 8th & 9th standard from both sex (boys and girls) Total sample size 100 was divided into two groups. Experimental group 50 No. and control group 50 No.

Measure: DLST (Digit Letter Substitution Test), scale is developed by Natu MV, Agarwal AK. (1997). was used to measure the cognitive function (perception, thinking, memory, recollect, analyze, judgment, fast dissension). ATV (Attitude towards Violence) scale is used to measure the attitude towards violence in school children.

Procedure: The DLST and ATV scales were administered to all the members participating in this study, before and after the intervention. The intervention which was given to yoga group was short term yoga practices which consist of Starting prayer (Om sahanavavatu.....) loosening exercise, breathing exercise, relaxation techniques like QRT, DRT, asana (physical postures), pranayama (breathing practices).Meditation and closing prayer (Sarve bhavanthu.....) daily 1 hr and 15 minutes for 10 days. Loosening exercise: condition exercise from toe to head. Breathing exercise: hands in & out, hands stretch, ankle stretch. Relaxation techniques: like QRT (quick relaxation technique), DRT (deep relaxation technique). Asana: Standing-Ardhachakration, padahasthsan, Ardhakati chakrasan, Pariorutha, Trikonasan. Sitting- vajrasan, shasankasan, ustrasan, bharadvajasan. Pranayama: Kapalabathi, bastrika, bhramari, Nadisuddi pranayama. Meditation: silence. Whereas the control group was given PE (physical exercise) daily 45 minutes for 10 days.

Results and Discussion: Intense short term yoga practice in school children lead to significant improvement in cognitive function and no significant result shown in attitude towards violence.

Table 1 - DLST (within group result) Paired Sample T test

Scale/Gro up	Pre/po st	MEA N	Percent age of Mean	Std. Deviatio n	Sig {2-tailed test}
DLST(Y)	PRE	45.22	42%	8.09	0.000
	POST	64.30		11.69	
DLST(C)	PRE	49.5	24%	6.84	0.000
	POST	61.4		7.87	

Table 2 - ATV (within group result) wilcoxon signed rank test

Scale/Gro up	Pre/po st	MEA N	Percent age of Mean	Std. Deviatio n	Sig {2-tailed test}
ATV(Y)	Pre	16.3	3.0%	4.2	.572
	Post	15.8		4.1	
ATV(C)	Pre	17.9	12.8%	3.3	.003
	Post	15.6		3.4	



Table 3 - DLST & ATV (Between Groups) Independent t Test Mann Whitney test

scale	Pre/post	Sig{2-tailed test}
DLST	Pre	0.003
	Post	
ATV	Pre	.654
	Post	

In table-1, the data was normally distributed therefore parametric test (Paired sample T test) within group was conducted . In yoga group the percentage mean is increased by 42% (p> .05) and the control group is increased by 24% (p>.05).; In table -2, Data was not normally distributed therefore Non-Parametric test (Wilcoxon signed rank test) within group was conducted . Here there is 3.0% percentage change in yoga group (p< .05) and there is 12.8% change in ATV in control group (p>.05).; In table -3, Betweens group DLST & ATV (Independent t test & Mann Whitney test) was administered and result showed significant result (p> .05) in DLST and no significant result in ATV.; In addition they have experienced other benefits like physical flexibility digestion, sleep, mental relaxation and stress free and they are very cooperative with teachers and parents. This study lends further support to supposed linkages between yoga and personality development at physical and mental level in school children. However, there is need for a more detailed study to spell out the processes and mechanisms of yoga intervention in school children.

Conclusion

This study was conducted with aim to see the effect of short term yoga intervention on cognitive function and attitude towards violence in school children at the end of the study we observed significant improvement in cognitive function and mean percentage change is high in yoga (42%) compare to control (24%) and, no significant result shown in attitude towards violence but there is a sign of improvement in ATV in terms of mean percentage change by 3 % in Experimental group. This is an first attempt to measure ATV (Attitude towards Violence) in school children’s.

References

Uhlén, Mathias, and et al. “A human protein atlas for normal and cancer tissues based on antibody proteomics.” *Molecular & Cellular Proteomics* 4.12 (2005): 1920-1932.

Cherry, Kendra. *The Everything Psychology Book: Explore the human psyche and understand why we do the things we do.* Everything Books, 2010.

Wertsch, James V., and Peeter Tulviste. “LS Vygotsky and contemporary developmental psychology.” *Developmental psychology* 28.4 (1992): 548.

Lewis, Marc D. “The promise of dynamic systems approaches for an integrated account of human development.” *Child Development* 71.1 (2000): 36-43.

By P.F. Hearron|V. Hildebrand — Pearson Allyn Bacon Prentice Hall Updated on Jul 20, 2010

WHO-2014, global campaign for violence prevention

NASP has additional information for parents and educators on school safety, violence Prevention, children’s trauma reactions, and crisis response at www.nasponline.org. ©2006, National Association of School Psychologists, 4340 East West Highway #402, Bethesda, MD 20814

Main, R. (2004). *The rupture of time: Synchronicity and Jung’s critique of modern western culture.* Routledge.

Wood, W. (2000). “Attitude Change: Persuasion and Social Influence”. *Annual Review of Psychology*51: 539–570.

By Diane Smallwood, PsyD, NCSP, South Brunswick (NJ) School District

Journal Issue: Children and Electronic Media, Volume 18 Number 1 Spring 2008

Educational Psychologist, Albert Bandura, Volume 28, Issue 2, 1993, pages 117-148

Child Development, Nancy G. Guerra, L. Rowell Huesmann, and Anja Spindler, Volume 74, Issue 5, pages 1561–1576, October 2003, Sample: 4458.

Accepted for publication in a peer reviewed journal, Barry S. Oken, Daniel Zajdel, Shirley Kishiyama, Kristin Flegal, Cathleen Dehen, Mitchell Haas, Dale F. Kraemer, PhD, Julie Lawrence, and Joanne Leyva, 2006; 12(1): pp.40–47. Sample : 135

International journal of yoga, Lakshmi Narasimhan, R Nagarathna, and HR Nagendra, v.4(1); Jan-Jun 2011, Int J Yoga. 2011 Jan-Jun; 4(1): 13–19. pp. 312 sets of samples

Natu MV, Agarwal AK. Testing of stimulant effects of coffee on the psychomotor performance: An exercise in clinical pharmacology. *Indian J Physiology Pharmacol.* 1997; 9:11–4.