



**ORIGINAL RESEARCH PAPER**

Physical Education

**ANALYSIS THE EFFECT OF PRANADHARANA ON SELECTED PHYSIOLOGICAL VARIABLES**

**KEY WORDS:**

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**ABSTRACT**

The study examined Pranadharana's effect on selected physiological variables. KVS No. 1, Dhanbad randomly chose 20 male students ages 12-15 for this investigation. The subjects were separated into an experimental and control group. Experimental group practised Pranadharana, whereas control group didn't. Before and after six weeks of treatment, each patient was measured quantitatively. Resting Heart Rate, Respiratory Rate, Positive and Negative Breath Holding Capacity were administered. Resting Heart Rate is heartbeats per minute at rest. Resting Respiratory Rate is measured by counting abdominal movements per minute. Stopwatches were used to record positive and negative breath holding capacity. The study used random grouping. Pranadharana's effect on physiological indicators was analysed using covariance. The analysis of covariance showed that Pranadharana had an effect on Resting Respiratory Rate (F= 13.503, against required value of 4.45) but not on Resting Heart Rate, Positive Breath Holding Capacity, or Negative Breath Holding Capacity.

**Introduction**

The human aspect is regarded as ever in today's fast-growing science and technology environment. Unsatisfying goals. The system of modern living, which restricts physical exertion and increases leisure time. These factors have increased public and professional interest in physical activity and health. People "get" that being physically active makes one look, feel, and stand healthier.

Yoga, a diverse topic, is now world-famous. It can be used in Education, PE, and sports. Health and family welfare, psychology and medicine, and one of the valuable means for developing human resources for better performance and productivity. However, accepting yoga as medicine and therapy is controversial because it is generally believed that yoga is a spiritual science with emancipation as a goal and cannot be treated only as a therapy.

Breath is prana and mindfulness is dharana. As pranadharana focuses on breathing and the feeling of breathing in different bodies, it links the physical to the psychological body by following the breath (Niranjananda, 1993).

Pranadharana is meditation on the breath and the sensation of breathing in the different bodies: the physical body - air breath; the mental body - different breath - vitalities; the casual body - pranic breathing; the psychic body - prana essence, prana pulse. By following the breath, we link the physical and psychic bodies. Breathing in and out, inhalation and exhalation, expansion and relaxation, flaring up and flaring down of energy are subtle components of breathing that must be experienced to develop Prana perception (Niranjananda, 1993).

Prana is breath, dharana is consciousness. In sukhasana, focus on your breath. Observe your in-and-out breath. Mind is relaxed by breathing awareness. Meditation is easy. Based on relevant literature and expert opinion, it was expected that pranadharana practise would not affect selected physiological measures.

**Methodology**

20 male KVS No.1 Dhanbad students aged 12-15 were studied. All 20 subjects were randomly divided into two groups (experimental and control). The following physiological variables were chosen for the study:

S. No.	Variables	Criterion measures
1	Resting heart rate	Number of heart beats per minute
2	Resting respiratory rate	Rate of respiration in unit counts per minute

3	Positive breath holding capacity	Time of retaining the breath recorded to the nearest second
4	Negative breath holding capacity	Time of holding the breath recorded to the nearest second.

Stopwatch and nasal clip were used to assess heart rate, respiratory rate, positive and negative breath holding capacity. Before collecting data, instruments were calibrated and tested to ensure accuracy. Two groups: control and experimental. Group "A" did Pranadharana, while group "B" did not. Before starting actual experimental programme, groups were given a two-day orientation on Pranadharana. Before this, a pre-test was done on all the factors on which Pranadharana would be tested. Group "A" practised experimental treatment for 6 weeks after orientation. Group "A" practises Pranadharana 5 days a week. Group "B" subjects didn't complete experimental training but did their regular activities. Group "A" training sessions lasted 45 minutes from 8:00 am to 8:45 am. All factors were retested after six weeks. Pre and post-test data were analysed statistically for future investigation and inferences. Analysis of covariance was used to examine the influence of Pranadharana on selected physiological indicators.

**Result**

The statistical findings performing to all the selected variables are presented in table 1, 2, 3 and 4.

**TABLE 1 ANALYSIS OF COVARIANCE FOR RESTING HEART RATE**

	GROUPS		S.V.	d.f.	SS	MSS	F-ratio
	Experi mental	contr ol					
Pre test means	78.60	82.50	A.G.	1	76.05	76.05	.730
			W.G.	18	1848.90	102.71	
Post test means	78.40	82.20	A.G.	1	72.20	72.20	.756
			W.G.	18	1842	102.33	
Adjusted post test	80.334	80.266	A.G.	1	.022	.022	.018
			W.G.	17	23.57	1.38	

Significant at .05 level,  $F_{0.05}(1,18) = 4.41$ ,  $F_{0.05}(1,17) = 4.45$

Table-1 shows Pranadharana and control group resting heart rates. Pre-test and post-test F-ratios of .730 and .756 are insignificant. The F-ratio for the adjusted post test means was .018, which was not significant at the 0.05 level of significance. There were no significant differences in resting heart rate between Pranadharana and the control group.

**TABLE 2 ANALYSIS OF COVARIANCE FOR RESTING RESPIRATORY RATE**

	GROUPS		S.V.	d.f.	SS	MSS	F-ratio
	Experimental	control					
Pre test means	17.80	18.80	A.G.	1	5	5	.570
			W.G.	18	155.20	8.62	
Post test means	16.50	18.80	A.G.	1	26.45	26.45	2.729
			W.G.	18	170.10	9.45	
Adjusted post test	17.008	18.292	A.G.	1	7.99	7.99	13.43*
			W.G.	17	10.06	.59	

Significant at .05 level,  $F_{0.05}(1,18) = 4.41$ ,  $F_{0.05}(1,17) = 4.45$

Table 2 of the analysis of covariance for Pranadharana and control group resting respiratory rate shows insignificant F-ratios of .570 and 2.729 for pre- and post-test averages. The F-ratio for the adjusted post-test means was 13.43, which was more than 4.45 at the 0.05 level of significance. This shows that experimental and control groups had different resting respiratory rates.

**TABLE 3 ANALYSIS OF COVARIANCE FOR POSITIVE BREATH HOLDING CAPACITY**

	GROUPS		S.V.	d.f.	SS	MSS	F-ratio
	Experimental	control					
Pre test means	41.36	43.87	A.G.	1	31.57	31.57	.21
			W.G.	18	2825.01	156.94	
Post test means	41.97	43.78	A.G.	1	16.34	16.34	.141
			W.G.	18	2911.17	161.73	
Adjusted post test means	43.24	42.51	A.G.	1	2.68	2.68	2.97
			W.G.	17	15.37	.905	

Significant at .05 level,  $F_{0.05}(1,18) = 4.41$ ,  $F_{0.05}(1,17) = 4.45$

Table 3 of the analysis of covariance for Pranadharana and control group positive breath holding capacity pre-test averages shows negligible F-ratios of .21 and .141. F-ratio for the corrected post-test means was 2.97, which was less than the needed F-value of 4.45 at 0.05 levels of significance between Pranadharana and the control group in positive breath holding ability.

**TABLE 4 ANALYSIS OF COVARIANCE FOR NEGATIVE BREATH HOLDING CAPACITY**

	GROUPS		S.V.	d.f.	SS	MSS	F-ratio
	Experimental	control					
Pre test means	21.28	17.18	A.G.	1	83.96	83.96	2.98
			W.G.	18	508.36	28.24	
Post test means	21.41	17.16	A.G.	1	90.31	90.31	3.74
			W.G.	18	506.83	28.15	
Adjusted post test means	19.36	19.20	A.G.	1	.118	.118	1.89
			W.G.	17	1.837	.108	

Significant at .05 level,  $F_{0.05}(1,18) = 4.41$ ,  $F_{0.05}(1,17) = 4.45$

Table 4 of the analysis of covariance for Pranadharana and control group negative breath holding capacity shows an insignificant F-ratio of 2.98 and 3.74 for pre- and post-test means. The adjusted post-test F-ratio was 1.89, which was less than the required 4.45 at the 0.05 level of significance. In negative breath holding capacity, there were no significant differences between Pranadharana and the control group.

**Conclusion**

The analysis of covariance was done to determine the effect of

Pranadharana on 20 male KVS No.1 dhanbad students. The study found that Pranadharana affected Physiological Variables. In the study, Pranadharana did not enhance resting heart rate, a fitness indication. Resting heart rate depends more on long-term physical fitness than respiratory efficiency, hence the idea is accepted. In the research study, Pranadharana practise enhanced Resting Respiratory Rate because it is related to breathing, which is readily improved, and Pranadharana is a breathing exercise that may have direct impact on breathing. Positive and negative breath holding capacity did not alter. Pranadharana-related. Pranadharana is a meditation practise related with prayer, not the respiratory system. Pranadharana had no significant effect on Resting Heart Rate, Positive Breath Holding Capacity, or Negative Breath Holding Capacity, confirming the hypothesis. The hypothesis that Pranadharana has no significant influence on selected physiological variables was not accepted for Resting Respiratory Rate.

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