Chapter - III

Methodology
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METHODOLOGY

Any scientific study should be methodically framed on logical terms to be successfully accepted by the society. The present study was done basically to elicit the results and the effect of yogic asanas on various selected aspects of an individual’s personality on whole and selected variables of motor fitness, physiology and psychology in particular. The various steps followed are presented here.

- Selection of subjects
- Selection of variables
- Selection of yogic asanas and designing the training program
- Orientation of subjects
- Administration of tests and questionnaire
- Collection of data
- Experimental design and statistical analysis.

Selection of Subjects

Since the study demanded implementation and practice of selected asanas in the morning regularly, Murarji Residential School was purposefully selected, for which prior permission was sort from the administrative officials. Fifty girls and Fifty boys were randomly selected from 8th, 9th and 10th standard.
Selection of Variables

The personality of any individual is multidimensional it involves physical concepts, motor fitness, physiological variables and psychological variables. The investigator has examined the scientific literature pertaining to motor fitness variables, physiological variables and psychological variables from different library sources and also consulted experts of these areas to select the appropriate variables and test items for the present study. Along with the literatures and experts opinion, the administrative feasibility, availability of infrastructures, instruments, time factor and cost factor were also given due consideration while selecting the following variables and test items.

➤ Motor fitness variables

➤ Physiological variables

➤ Psychological variables

Motor fitness variables

Girls

<table>
<thead>
<tr>
<th>Variables measured</th>
<th>Tests administered</th>
</tr>
</thead>
<tbody>
<tr>
<td>a Arm strength</td>
<td>Flexed arm hang</td>
</tr>
<tr>
<td>b Explosive strength of legs</td>
<td>Standing broad jump</td>
</tr>
<tr>
<td>c Abdominal strength</td>
<td>Crossed arm curl ups</td>
</tr>
<tr>
<td>d Lower abdominal strength</td>
<td>Lower abdominal strength test</td>
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<tr>
<td>e Upper back strength</td>
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Boys

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<tr>
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<td>Pull ups test</td>
</tr>
<tr>
<td>b  Explosive strength of legs</td>
<td>Jump and reach test</td>
</tr>
<tr>
<td>c  Agility</td>
<td>Potato race</td>
</tr>
<tr>
<td>d  Lower abdominal strength</td>
<td>Lower abdominal strength test</td>
</tr>
<tr>
<td>e  Upper back strength</td>
<td>Upper back strength test</td>
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To assess the above mentioned motor fitness variables three test items from Oregon motor fitness test and three test items from Kraus Weber strength test were selected.

Physiological variables

- Pulse rate
- Diastolic Blood pressure
- Systolic Blood pressure
- Reaction time
- Vital capacity
Psychological variables

- Differentiation - Identification
- Rejection - Acceptance
- Isolation - Cooperation
- Submission - Dominance

The socio-genic need-satisfaction scale (S.N.S) designed by Dr. N. S. Chauhan, Dr. U. Dhar and Dr. Y. K. Singh in 1986.

The test used to assess the arm strength, explosive strength, agility, abdominal strength, lower abdominal strength, upper back strength and lower back strength were all standard tests.

Orientation of Subjects

The subjects on the first day assembled in a classroom and introduced themselves. The researcher later introduced herself and explained the nature and purpose of the study and cooperation expected from them, various motor fitness, physiological and psychological tests which they had to undergo and the questionnaire they had to answer.
Administration of Tests

The tests of motor fitness variables conducted at school grounds, physiological variables and psychological variables were conducted in the school hall.

Before the conduct of every test, the subjects were assembled at the testing venue and the purpose of the test was explained to them. The investigator took the help of physical education teachers for conducting the test. Demonstrations of all the tests were given to the subjects and all sorts of efforts were made by the research scholar to ensure accuracy and uniformity in the administration of the test. A short warm up period of eight to ten minutes duration was given to the subjects before the conduct of the test. All the tests were conducted on each subject.

Procedure for Administration of Tests

Motor fitness tests

Flexed Arm Hang (for girls)

In this test horizontal bar was adjusted at a height almost equal to the height of the subject. The subject raised the body from floor to the position of chin above the bar, the elbows are flexed, chest was kept close to the bar and the subject holds this position as long as possible. As soon as the subject takes the hanging position and the assistants helping the subject for body rising get away and don’t touch the
subject any more, the stopwatch was started and the stop watch was stopped as soon as subject tilts head backwards, chin touches the bar and chin falls below the level of bar. Legs and thighs were remain extended throughout test.

**Scoring**

The duration of time which the subject holds the hanging position in the correct manner, recorded in seconds was the score.

**Pull Ups (for boys)**

Pull-ups test for boys to assess the arm strength. For pull-ups the subject was made to hang on a horizontal bar with palms facing inward. The subject was asked to pull his body upward by bending the elbows until the chin reached the bar and then back to the initial stage. This continued for a maximum number of times without swinging the body. The number of correctly done pull-ups was recorded as the score.
Plate - I. Flexed arm hang to measure arm strength of girls
Plate - II. Pull ups to measure arm strength for boys
Standing Broad Jump (for girls)

A takeoff line was drawn on the grounds, the subject took a position with toes just touching the takeoff line, feet slightly apart. Taking off from both feet simultaneously, he jumps as far as possible, landing on both feet: in jumping, subject crouches slightly and swings the arms to aid the jump.

Scoring was the distance to the nearest inch from takeoff line to the closest heel position: when subject falls back, that trial was taken again. The best of three trials was recorded as score of the subject.

Jump and Reach (for boys)

Pupil stands with dominant hand side against smooth wall by finger tips were marked with chalk powder and raised the marked fingertips to a maximum height on the wall without lifting the heels so as to mark subject's maximum reach point. The fingertips were again chalked. With chalked hand side towards the wall, a vertical jump was performed by the subject to make another mark at the maximal height of the jump. The subject was not allowed to run or hop. Subject was instructed to take a good jump by bending knees and swinging arms. The subject was given three trials and best one was considered for scoring.
Plate - III. Standing broad jump to measure explosive strength of girls
Plate - IV. Jump and reach test to measure explosive strength of boys
Crossed Arm Curl ups (for girls)

The subject was in a supine position with knees bent at approximately a right angle; heels were touching the floor, hip width apart: the arms were folded across and held against the chest. The feet were held down firmly by the research assistant. After the command start subject raised the trunk to an erect sitting position and returning to back lying position as many times as possible. Care was taken that the feet must be remained on the floor, elbows kept down and arms not used to help the body sit-up and bouncing from the floor was not permitted. Resting during the phase of performance was not allowed. The score was the number of time the subject raised correctly to a sitting position.

Potato Race (for boys)

Three circles, each one foot in diameter, were drawn on the floor in line with each other. Circle 1(one) is behind and tangent to starting line. The center of circle 2(two) is 50 feet from the starting line, and circle 3(three) is 70 feet from the starting line. 2x 2 x 4 inch block was placed in circle 2(two), and second one was placed circle 3(three). From a standing start, the subject (a) runs to circle 2(two), picks up the block returns to circle 1(one) and places it in the circle: subject runs to circle 3(three), picks up the block and carries it to circle 1 (one) and places it in the circle; (b) subject then runs to circle 3(three), picks up the block and carries it to circle 1(one); (c) he immediately picks up the first block, carries it back to circle 2(two); (d) subject then returns to circle 1(one), picks up the second block and carries it to circle 3(three);(e)finally subject races back across the starting line. The blocks must be placed, not dropped or thrown, in the proper circle each time. The score is the elapsed time in seconds.
Plate - V. Crossed arm curl up to measure abdominal strength of girls
Fig. 3.1. Markings of Potato race

Plate - VI. Potato race to measure agility of boys
Lower Abdominal strength Test (for boys and girls)

The subject was asked to lie down in supine position with hands behind the neck and feet raised to a height of 10 inches with knees straight. The researcher starts counting 10 seconds as soon as the subject has risen the feet to the height of 10 inches. The count is ten seconds. Holding for ten full seconds is passing and fetches 10 points. Anything less is recorded as that part of the ten seconds that subject was held. For example: 4 for four seconds, 7 for seven seconds etc.

Upper Back strength Test (for boys and girls)

The subject was asked to be in prone lying position with pillow under lower abdomen, hands behind neck: researcher holds feet down: raise chest, head and shoulders, as soon as the subject raised chest, researcher starts counting time to 10 seconds.

Scoring

0-10, depending on number of seconds position was held. The subject is lying in prone position with a pillow under his lower abdomen, but far enough down to give the body the feeling of being a seesaw, one end of which could be held in the air if other ends are weighted. On the command “roll over on to your stomach and lift up the middle so that I can slide this pillow under you.” “Now I am going to hold down your feet while you put your hands behind your neck and rise up your chest, head, and shoulders. Hold them up while I count”. Holding for ten full seconds is passing and fetches 10 points. Anything less is recorded as that part of the ten seconds that was held. For example: 4 for four seconds, 7 for seven seconds etc.
Plate - VII. Lower abdominal strength test
Plate - VIII. Upper back strength test
Lower Back strength Test (for boys and girls)

Subject in prone lying position with pillow under hips and lower abdomen, hands behind neck; feet are raised with knees straight. Holding for ten seconds is passing and fetches 10 points. Anything less was recorded as that part of the ten seconds that was held. For example: 4 for four seconds, 7 for seven seconds etc.

To assess the physiological variables it was decided to test the pulse rate, blood pressure, reaction time and vital capacity to establish the effectiveness of cardiac system, nervous system and respiratory system.

Pulse rate

This test was chosen with purpose to measure pulse rate per minute in sitting position in a comfortable chair and a stopwatch was used to conduct this test. Pulse rate was assessed at the wrist where the radial artery is very superficial, this pulse is actually known as radial pulse. This test was administered early in the morning before the breakfast and physical fitness activities.

The subject was asked to sit in a comfortable chair. The pulse rate was measured by lightly pressing the fingertips against the radial artery in the wrist and the pulse rate was counted for the duration of one minute. Number of pulse in one minute was recorded as score.
Plate - IX. Lower back strength test
Plate - X. Measuring the pulse rate
**Blood Pressure (Diastolic and Systolic)**

This test was selected to measure the systolic and diastolic blood pressure of the subjects.

This test was taken immediately after the pulse rate test to ensure that the circulatory system had reached steady state. Both diastolic and systolic blood pressure was tested with the help of sphygmomanometer and stethoscope. The subject was made to lie in supine lying position and stay relaxed. The cuff of the sphygmomanometer was wrapped around the base of the upper arm (above the elbow) and edge approximately one inch above the auricular space. The tester then fixed the earphones of the stethoscope in the ears and its drum was placed on the brachial artery just above the hollow part of the elbow. Then the air pressure was inflated into the cuff till the pulse sound disappeared. Then the pressure was gradually released till he heard the sound. The reading was recorded on the mercury column of the sphygmomanometer as the systolic blood pressure (mm./Hg.) the air pressure was further released until a feeble and dull beat was noticed, at this point again the mercury column was red and recorded as the diastolic blood pressure (mm./Hg.) of the subject.

**Score**

The systolic and diastolic blood pressures were recorded in millimeter of mercury (mm./Hg.).
Reaction time - Penny-cup test

Reaction time was assessed by administering penny-cup test, a test item selected from Knox basketball test.

Markings for the test: A starting line was marked and at a distance of 8’ a signal line was drawn parallel to the starting line and 12 feet farther was a finish line 10 feet long. Three cups painted red, blue and white colours were placed on this line.

The subject stands on the starting line with her / his back to cups and with a penny in one hand. At the starting signal ‘go’ she / he turns and runs toward the cups, as she / he crosses the ‘signal line’ researcher calls out one of the cup colors (red”, “white”, or “blue”). The subject places the penny in that cup. The time elapsing between the starting signal and the sound of the penny striking in the cup is measured with a stop watch. The test was repeated four times and the total time for each of the four tests constitutes the score. The final score was the total number of seconds taken to perform four tests.

Vital Capacity

This test was selected with an aim of measuring the ability of the subject to inhale the maximum air into the lungs. A peak flow metre was used to measure the vital capacity. The subject took a deep breath and force fully pushes out the air through the mouth of the peak flow meter. Each subject was given three trials and the best of them was recorded as scores in milliliters.
Fig. 3.2. Markings of Knox penny cup test to measure reaction ability
Plate - XII. Measuring reaction ability through Knox penny cup test
Plate - XIII. Measurement of vital capacity by using peak flow meter
The socio-genic need-satisfaction scale (S.N.S) designed by Dr. N. S. Chauhan, Dr. U. Dhar and Dr. Y. K. Singh in 1986 was selected to measure certain psychological variables. The scale measures magnitude of satisfactions of socio-genic needs in a general frame work. It relates to need-satisfaction provided to the individual by a society in general. Socio genic needs are crucially important. These arise in our social interaction of roles and role expectations of individual and his social environment. These are the rock bottom of the process of socialization.

The scale provides measures of socio genic need-satisfaction related to four dichotomous need-dimensions. It provides scores for the entire eight ends—areas of these dimensions. The four dichotomous dimensions are.

1) Differentiation --- Identification
2) Rejection ---- Acceptance
3) Isolation ---- Cooperation
4) Submission ---- Dominance

The scale at present consists of 40 items, 5 items pertaining to each area of both positive and negative need satisfaction indicating satisfaction and severity of painful experiences respectively.
Framework and administration of the six weeks training program with selected yogic asanas

The training program was conducted at 6.30am every day for six weeks. Subjects selected were attended the training program on all the days without any break. Before starting with the training program all the subjects were given clear instructions about the following aspects which had to be strictly followed:

1. Finish their nature call activities before attending the training sessions.

2. Preferably use a thick mattress for practicing yogasanas.

3. Wear clean and flexible dress for the training sessions.

4. They should not eat any food at least four hours before attending the training session.

5. Not to attend the training if sick and during monthly cycles for girls

6. Before giving regular training programme ten minutes free hand warm up exercises were given.

To achieve the purpose of the study asanas were selected for the training as per the suggestion of D.S.E.R.T. for the secondary school children in its ‘Sadhanapatha’ program.
Suryanamaskar

1. Stand erect with legs together, take the hands above the head and bend the trunk backwards and inhale fully.

2. Bend the body in front and touch the knee with the forehead, keep the palms on the floor.

3. Keep the right leg back, take the left knee forward, look forward and inhale.

4. Take the left leg also back, resting only on palms and toes, keep body straight from head to toes inclined to the ground at about 30° and exhale completely.

5. Without moving the hands and toes come forward on the chest and rest the forehead. In this position of Astanga Namaskar Forehead, chest, hands, knee and legs all the eight parts will be touching the ground. The buttocks will be raised up, stay in breath out condition.

6. Inhale rise the head the trunk making the spine concave upwards without changing the position of the hands and feet keep the knee of the ground.

7. Exhale rise the buttocks push the head down and have a complete arch with the heels touching the ground and palms on the floor.

8. Inhale and bring the right leg in between the two hands and arch the back concave upwards as in step three.
9. Exhale and bring the left foot forward next to the right foot and touch the knee with forehead as in count two.

10. Inhale and come up stand erect with hands along the body and relax.

**Thadasana**

<table>
<thead>
<tr>
<th>Count No.1</th>
<th>Count No.2</th>
<th>Count No.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stand in samasthithi, coming to attention position and making your body stiff.</td>
<td>As you inhale extend your arms sideward to the shoulder level.</td>
<td>Start exhaling and slowly bring the hands down to samasthithi and relax.</td>
</tr>
<tr>
<td>Turn your palm upwards lift it up and join it up above head</td>
<td>Slowly inhaling stretch your arms up and join your palms above your head.</td>
<td>Start exhaling slowly and bring your arms down, bring down your right leg and stand in samasthithi.</td>
</tr>
</tbody>
</table>

**Vrukshasana**

Position : Stand erect as in thadasana

Count No. 1 : Bend the Right knee. Place your right foot on your left upper thigh rest your hands on the waist.

Count No. 2 : Slowly inhaling stretch your arms up and join your palms above your head.

Count No. 3 : Start exhaling slowly and bring your arms down, bring down your right leg and stand in samasthithi.
**Garudasana**

**Position**
Stand erect as in thandasana

**Count No. 1**
Bend your knees, bring the right thigh over the left thigh and tie it around the left leg and lock your right foot behind the left ankle.

**Count No. 2**
Rotate your right hand over the left right from the elbows in front of your chest. Let the breathing be normal and the sight forward.

**Count No. 3**
Slowly unroll your hands then legs and come back to the position of samasthiti.

**Trikonasana**

**Position**
Stand erect, feet close together.

**Count No. 1**
Take right leg one step (1 meter) to right side and stretch the hand, sideways upto shoulder level and slowly inhale.

**Count No. 2**
Slowly bend towards right side and let the fingers of the right hand touch be placed behind the right foot. The left arm must be straight up in line with the right hand palm. Face forward, stretch up the left arm and see along the fingers. Hold the position up to 1 minute.

**Count No. 3**
Same as Count No. 1.

**Count No. 4**
Back to position and repeat on the left side.
Parshvakonasana

Position : Stand in attention position as in samasthithi.

Count No. 1 : Slowly inhaling jump and extend your legs 4 – 4.5 feet then spread out your arms sideward to the shoulder level, palms facing the ground.

Count No. 2 : Turn your left feet about 60 degrees and right feet about 90 degrees then bend your right leg to right angle. Place your right palm behind right foot and the left arm placed straight over the left ear.

Count No. 3 : Lift your body up, turn back your legs jump and come back to attention position.

Veerabhadrasana – I

Position : Stand erect, feet close together as in samasthithi.

Count No. 1 : Slowly inhaling jump and extend your legs 3.5 – 4 feet apart then spread out your arms sideward to the shoulder level, palms facing the ground.

Count No. 2 : Lift both your arms up straight palms facing each other turn your left foot 60 degree and right foot 90 degree. Slowly exhaling bend your right leg parallel

Count No. 3 : Bring your head and hands down, straighten your right leg turn your feet inside and jump back to attention position.
Veerabhadrasana – II

Position : Stand erect, feet close together as in samasthithi.

Count No. 1 : Same as in veerabhadrasana-I

Count No. 2 : As you exhale bend your right leg at knee, thighs parallel to ground, stretch your hind leg, keeping your hands stretched sideways look at your right palm.

Count No. 3 : Straighten your legs turn your legs inside and jump back to attention position.

Padaungushtasana

Position : Stand erect, feet close together as in samasthithi.

Count No. 1 : Inhale and raise the hands to vertical position arms touching the ears, palms facing front stretch up the whole body from coccyx.

Count No. 2 : Bend the trunk forward relaxingly with continuous exhalation, body and hands parallel to the ground.

Count No. 3 : Form the hooks of the index fingers and catch hold of the thumb of the toes rest the face on the knees. Do not allow the knee to bend, normal breathing retain the position of about one minute and come back to position as in samasthithi.

Ushtrasana

Position : Stand erect, feet close together as in samasthithi.

Count No. 1 : Bend back both the legs and sit back in vajrasana.

Count No. 2 : Rise up making the trunk vertical. With inhalation bend the body backwards and bring the hands on the heels.

Count No. 3 : Relax and come back to vajrasana position stretch your legs forward and sit in samasthithi position.
Bhujangasana

Position : Lay prone on the blanket keeping the legs together chin touching and sole facing up. Stretch the hands straight forward alongside the head resting the palms on the ground.

Count No. 1 : Bring the arms back to the level of the left ribs. Keep the hands bent at elbows, least pressure to be exerted on the hands maintain the elbows touching the body, fist not spread out.

Count No. 2 : Without inhale raise the hand first and than upper portion of the trunk slowly, just as the Cobra rises, till the navel position is about to leave the ground. Arch the dorsal and spine well keep the body below. The navel straight in touch with the ground. Retain the posture about one minute come back to the position lying prone.

Dhanurasana

Position : Lay flat on your abdomen and chest with chin touching the ground. Keep leg straight and together, feet together, with soles facing upwards, stretch the arms above the head along the ears, with palms resting on the ground.

Count No. 1 : Bend the knees and hold the feet by the hands.

Count No. 2 : Raise the head, chest and also thigh by tugging the hands and legs so that the spine is arched backwards like a bow. Stabilize on the abdomen. Elbows must be kept unbent loop up. Initially the knees will spread out but with practice. They can be brought very near. Almost touching each other maintain for about half a minute slowly come down for position through 3 and 4.
Chakrasana

Position: Lay down on your back with hands stretched above the head, biceps touching the ears and feet joined together.

Count No. 1: Bring your hands by the side of each shoulder place them in such a way that the palm should rest on the ground and the direction of the fingers should be towards your feet.

Count No. 2: Slowly raise your hips and waist and take your knees, a little forward, put pressure on your hands and feet, and lift your back, neck and head also. Try to reduce the distance between your hands and feet by bringing them closer to each other your neck would hang at the back of your shoulders.

Chaturanga Dandasana

Position: Long Sitting.

Count No. 1: Sleep in prone lying position with your palms beside your chest

Count No. 2: Slowly inhaling lift up the whole body from the floor only with the support of toes and palms

Count No. 3: Come back to prone lying position slowly exhaling.

Ardha Navasana

Position: Long Sitting.

Count No. 1: Place your palm beside the hips lean backwards, inhale slowly and lift both the legs at 30 degree angle and hold it

Count No. 2: Lock your fingers and tie your hands behind your head pull your stomach muscles inside and expand your back.

Count No. 3: Slowly bring the hands back, legs down and sit in samathalasthithi
**Padmasana**

Position : Long Sitting.

Count No. 1 : Fold your right leg and place it on the left thigh such that the heel touches the stomach below your naval.

Count No. 2 : Now fold the left leg place it on the right thigh so that the left heel is touching the stomach below the naval. Fold the fingers as in chin mudra and place both the hands on your knees close your eyes and sit straight and breathe deep.

Count No. 3 : Bring back the legs, one after the other make them straight and come back to samathalasthithi.

**Veerasana**

Position : Long Sitting.

Count No. 1 : Place your palm on your knee, move your legs apart and place hips down on the ground. Join both the knees.

Count No. 2 : Bring both the legs forward one after the other make them straight and sit in samathalasthithi.

**Supthaveerasana**

Position : Sit down in vajrasana sthithi.

Count No. 1 : Bring both the legs forward one after the other make them straight and sit in samathalasthithi.

Count No. 2 : With hands been placed beside hips, bent at elbows push the body back and lie your back and head on the floor.

Count No. 3 : Bend the left knee back and sit on the left foot. Remove the hands from floor, raise the right leg and place right thigh over the left one.
Count No. 4 : With the support of the arms bent at elbow. Come back to the position of veerasana bring both the legs forward one after the other and sit in samathalasthithi.

Gomukasana

Position : Sit down in samathalasthithi.

Count No. 1 : Sit on the floor with the legs stretched straight in front.

Count No. 2 : Place the palms on the floor and lift the hip

Count No. 3 : Bend the left knee back and sit on the left foot. Remove the hands from floor, raise the right leg and place right thigh over the left one.

Count No. 4 : Rise the left arm over head, bend it at the elbow and place he left palm below the nape of the neck between the shoulders raise the right forearm up behind the back untill both hands tie up with each other.

Badha Konasana

Position : Sit down in samathalasthithi.

Count No. 1 : Fold both the legs inside and touch thighs knee and feet on the ground firmly.

Count No. 2 : Joining both the feet together hold both the feet together with your hands slowly exhaling bend forward and place your forehead on the floor.

Count No. 3 : Slowly inhaling lift up your body stretch back your legs and come back to samathalasthithi.
Janushirvasana

Position: Sit down in samathalasthithi.

Count No. 1: Fold your right leg and place the right foot near the left thigh joint.

Count No. 2: Slowly inhaling lift up the arms and then slowly exhaling bend the body forward to lean on the left leg, hold the left feet with both the hands.

Count No. 3: Slowly lift up the body stretch the right leg straight and sit down in samasthithi.

Marichyasana-I

Position: Sit down in samathalasthithi.

Count No. 1: Fold your right leg and the feet being placed on the ground.

Count No. 2: Slowly inhaling lift up the arms turning the body towards left tie the right hand around right leg and hold the left hand behind the right hip.

Count No. 3: Relax your hands and legs and come back to samathalasthithi.

Paschimottanasana

Position: Sit down in samathalasthithi.

Count No. 1: Slowly lift both the arms, exhaling bend forward completely and place the body on both the legs, hold both the toes with hands, bend your head inside.

Count No. 2: Slowly breathing in lift up the body, bring back the hands and sit in samathalasthithi.
**Shirsasana**

**Position** : Sit down in samathalasthithi.

**Count No. 1** : Bend the legs behind and come to vajrasana sthithi, infront of the cloth spread folded in two or four foldings.

**Count No. 2** : Place your fore arms with locked fingers and chest wide on the floor then place your head behind the cup shaped palms, slowly stretch the legs and push the body towards head.

**Count No. 3** : Slowly lift the legs up vertically and straighten the whole body.

**Count No. 4** : Bring down the legs slowly and sit in vajrasana sthithi but placing the forehead on the gymkhana for some time and come back to samathalasthithi.

**Halasana**

**Position** : Lay down on your back with hands stretched above the head biceps touching the ears and feet joined together.

**Count No. 1** : Inhale and simultaneously lift your legs off the ground, raise them firm at an angle of 45 degree with the ground, behind the head.

**Count No. 2** : Bring down your arms and rest the palms on the ground on either side of the body press the ground hard with the palms and bring the legs perpendicular to the ground inhaling further.

**Count No. 3** : Exhaling stretch the legs further to bring them parallel to the ground. Support it with your hands.
Count No. 4 : Exhaling further bring the feet down so that the toes touch the ground. See that you do not bend your knees. Do not force if your toes do not touch the ground leave them wherever they are, maintain the posture for about 1 minute, or as long as you can.

Sarvangasana

Position : Sit down in samathalasthithi.

Count No. 1 : Lay down on your back with hands stretched above the head biceps touching the ears and feet joined together.

Count No. 2 : Inhale and simultaneously lift your legs off the ground support the back holding the same near the pelvic portion with the help of both the palms, raise them firmly straight until the body up to the shoulders gets lifted and the chin gets tucked in.

Count No. 3 : Slowly bring down the body, and the legs move the supporting arms to side and come back to supine lying position and then sit back in samathalasthithi.

Shavasana

Count No. 1 : Laying on back and extend legs fully.

Count No. 2 : Concentrated on every part of the body and command, relaxation to every parts of the body from toe to head.

Count No. 3 : Relax for about 10 to 15 minutes then fold the left leg and turn toward right side and slowly get up.
Note: All the asanas were not compulsorily practiced everyday instead after the warming up activities and suryanamaskar few asanas in standing posture, back bending asanas, sitting posture asanas, twisting asanas, then forward bending asanas were practiced in turn and in order for 45 minutes followed by 15 minutes shavasana and 20 minutes period of discussion and clarification including narrating moral stories selected from different epics, panchatantra and auto biographies of great persons, by the students themselves and sometimes by the researcher was done.
Plate - XIV. Training with yogic asanas
Administering the questionnaire of S.N.S scale

- The subjects were asked to assemble in a classroom. The investigator distributed the questionnaire of S.N.S. scale to the subjects. All the instructions pertaining to the questionnaire was read out and explained very clearly. Each and every question was read out and explained so that the subjects could easily understand the same. The subjects answered the questionnaire while the researcher clarified all the doubts of the subjects whenever asked for. The duly answered questionnaires were collected back and scored as per the answer keys suggested scales.

Note: The questionnaire was administered twice that is before and after six weeks of training with selected yogic asanas.

Administering the Motor Fitness and physiological Tests

Demonstration of each test was given to the subjects before administering the test; they were also allowed to take trials before taking the selected tests of this study. Every subject was subjected to the tests both before and after the six weeks training program with selected yogic asanas and the performance of each subject was recorded accordingly. The data related to physiological variables of the subjects’ pulse rate and blood pressure were with the help of the experts.

Collection and standardization of data

After administration of the motor fitness and physiological tests the performance of every subject was duly recorded, which forms the raw score of the present study. Wherever required the raw scores were converted into standardized scores as per the norms.
Plate - XV. Administration of questionnaire for the assessment of certain psychological variables
Socio-genic need satisfaction scale

The test is designed to measure eight psychological parameters. The scale consisted of 40 items five items belonging to each parameter. The eight areas on which the 40 items were designed basically were of two dimensions. (i.e., positive and negative)

Each one of the two dimensions has five areas to be ranked in view of their magnitude of satisfaction or painful experiences. Ranking is to be done on a six point scale. For example it is 5 4 3 2 1 0 and the degrees are too much, much, average, less and too less, not at all. Among the 40 items the items included in each parameter is as shown in the Table below.

Table 3.1

<table>
<thead>
<tr>
<th>SHOWING STATEMENT NUMBER BELONG TO PARTICULAR PARAMETER</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acceptance</strong></td>
</tr>
<tr>
<td><strong>Co-operation</strong></td>
</tr>
<tr>
<td><strong>Identification</strong></td>
</tr>
<tr>
<td><strong>Dominance</strong></td>
</tr>
<tr>
<td><strong>Rejection</strong></td>
</tr>
<tr>
<td><strong>Isolation</strong></td>
</tr>
<tr>
<td><strong>Differentiation</strong></td>
</tr>
<tr>
<td><strong>Submission</strong></td>
</tr>
</tbody>
</table>
The maximum points that can be scored in each parameter across five items were 25 (for example in acceptance). The minimum point that can be scored is 'zero'.

After allotting the points, score in each item belonging to particular parameter, the corresponding score was multiplied with their respective item value then the total points scored in each parameter among 5 items were taken into account and the average score was calculated for the whole group. Thus the total score obtained was used for further statistical treatment.

**Experimental design and statistical application**

The experimental design was adopted in the present study. The present study represents single group variable experimental design for which the designed six weeks training program with selected yogic asanas were administered. Though single group variable experimental design was adopted, the study was conducted on both boys and girls, the administration of training program was to elicit the effect of a systematically designed yogic program on selected motor, physiological and psychological variables of the selected single group of boys and girls.

The data collected before and after the administration of six weeks training in the selected yogic exercises across the motor, physiological and psychological variables were standardized as per the norms wherever applicable, then mean and standard deviation was calculated. Further t-test was established for all the variables to find out the significant difference across the scores of before and after six weeks training program with selected yogic asanas.