Comparison of core strength between yoga student and sports person

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Abstract
The purpose of the present study was to compare of core strength between yoga student and sports person. The study was conducted on university level female yoga student and sports person Punjab, 17-24 years of age group. A total thirty (N=30) in which 15 yoga student and 15 sports person were selected as subject. The data were collected at the physical education department from Punjabi university Patiala. Core strength was measured by the plank test. After the collecting the data t test was applied. The level of significance to test the hypothesis was 0.05. The analysis of the data revealed insignificant difference was found between yoga student and sports person.

Keywords: Strength, core strength, yoga, sports person etc.

Introduction
General fitness is part of overall health. It means having a healthy body weight as well an ability to perform physical fitness activities without tiring easily. Specific fitness is the opposite of this form of fitness. It refers to how well a person is able to master specific levels in a sport. Fitness for weight loss and maintenance is considered general in that it can consist of different physical activities to achieve health. General fitness training combines activities that provide all-over toning as well as cardiovascular benefits. For instance, cycling or swimming at a moderate pace gets the heart pumping and increases oxygen through the body. These exercises also tone and strengthen the body in a general, all-over way. Building muscles such as through weight lifting or training is also considered as general fitness. When workouts are done to enhance performance in a certain sport, this is specific, rather than general, fitness. Exercise strategies in specific fitness are designed for that sport. For instance, personal trainers specializing in a certain sport such as golf will help clients with arm movements and balance exercises to help improve the swing. Balance is important in golf, as poor posture can throw off an otherwise good swing and connection with the ball. In general fitness, golf may be used as an activity to help tone arms as well as just participate in an outdoor sport (Carl, 1969) [1].

Strength: The ability to carry out work against a resistance. Strength is the maximal force you can apply against a load. Training to improve muscle strength includes lifting weights or otherwise increasing the resistance against which you work. Strength is one of the main fitness components, important for success in many sports. Certain sports, such as weight lifting, wrestling and weight throwing, it is the most important physical attribute. In many other sports, including team sports like rugby, good strength is also very important as part of the overall fitness profile. A vote of the top sports requiring Strength has the obvious sport of weightlifting ranked highest. See also another list ranking sports in which strength is important. Strength, power and muscular endurance are fitness components with many things in common. They require the application of muscular force to overcome resistance while in motion; they involve muscular contraction of a specific muscle or muscle group; and they are measurable components of fitness. Training programs can improve these fitness components. Muscular strength is the ability of a muscle or muscle group to exert force to overcome the most resistance in one effort. Strength can be measured based on the amount of weight lifted. Upper-body and lower-body strength are measured separately. Strength tests include the bench press for upper body, the squat for lower body and the dead lift for lower back and leg assessments. Relative strength is based on a ratio of weight lifted to body weight.
For example, if two people lifted the same weight, the person who weighs less has greater relative strength (Little, 1991).2

1. Static strength
This is used when you try to move an immovable object, or carry a heavy object. There is no movement of the object. Used when exerting a force in a short, fast burst. The muscles do not change length (isometric contraction).

2. Explosive strength
This is similar to power. For example throwing a ball or long jump.

3. Dynamic strength
Repeatedly applying force, over a long period. Similar to muscular endurance. For example when performing reps when weight training. (Voza, 2015).

Core-strength
The strength of the underlying muscles of the torso, which help determine posture. Core strength almost sounds like a cliché at this point, but for those of us who work with athletes, it’s crucial. In fact, when it comes to finding that sweet spot of performance, safety, and quality of life, core strength is probably the most important kind of strength you can have. What’s the big deal? First and foremost, your core ties together your upper and lower body. It’s not uncommon to see athletes who’s upper or lower bodies are brutally strong in isolation, but who fall apart when asked to perform lifts heck, or even a yoga class that demands they tie the two together. Second, core strength is critical for injury prevention. When the core is weak, humans have a natural tendency to default to a position of spinal extension or leaning back particularly at the low back. For many people, this precarious position is how they spend their days. While not the major cause of injury in and of itself, being stuck in this position makes it very likely that you’ll deal with nagging aches and pains around your knees, hips, and lower back. Learning to control extension via better core control and strength will go a long way to keeping you healthy over time. Last but not least, strengthening your core can take your performance to the next level. Many athletes find it’s the kind of “everything I did just got better” solution they didn’t know they were looking for. So, yeah, building a stronger core makes sense. But what does a “strong core” mean? More than any other muscle group, a strong core must be balanced. It must be able to re-

Statement of the problem
The present study entitled is to find out “Comparison of core strength between Yoga Student and Sports Person”.

Procedure and methodology
Selection of subjects
The study was conducted on university level female Yoga Student and Sports Person of Punjab, 17-24 years of age group. A total thirty (N=30) in which 15 yoga student and 15 sports person from Punjabi University Patiala were selected as subject.

Selection of variables
In the light of the expert’s opinion, administrative feasibility, availability of subjects, availability of testing equipment and materials, the Core Strength variables were selected for the investigation.

Criterion measures
The following were the criterion measures for this study:

<table>
<thead>
<tr>
<th>S. No</th>
<th>Core strength</th>
<th>Tests</th>
<th>Unit-of Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Core strength</td>
<td>Plank test</td>
<td>Sec</td>
</tr>
</tbody>
</table>

Tools
1. Mats
2. Stop watch
3. Score sheet
4. pen

Collection of data
Data was collected by administration of standard tests for selected the core strength. The tests were administered after giving them a good warm up of same duration and of same sequence every time. The subjects were tested two times.

Administration of the tests
This chapter deals with the description of the procedure for the selection of subjects, reliability and validity of tools, procedure for administering the test and the method employed for statistical treatment of data. Following will be the procedure adopted for the study.

Plank Test
The plank test is a simple fitness test of core muscle strength, and can also be used as a fitness exercise for improving core strength.

Purpose: The plank test measures the control and endurance of the back/core stabilizing muscles.

Equipment required: flat and clean surface, stopwatch, recording sheets, and pen.

Objective:-To measure the difference of core strength between sports person and yoga players.

Procedure: The aim of this test is to hold an elevated position for as long as possible.

Stage 1: Start with the upper body supported off the ground by the elbows and forearms, and the legs straight with the weight taken by the toes. The hip is lifted off the floor creating a straight line from head to toe. As soon as the subject is in the correct position, the stopwatch is started. The assistant is responsible for instructing the athlete as to the position to assume at the appropriate stage. Throughout the test the back, neck and head should be maintained in the posture as per figure below. If the athlete is unable to hold this position then the test is to be stopped. The athlete is to hold this position for 30 seconds.

Stage 2: The athlete lifts their right arm off the ground and extends it out in front of them parallel with the ground. The athlete is to hold this position for 15 seconds.

Stage 3: The athlete returns to the Start Position, lifts the left arm off the ground and extends it out in front of them parallel with the ground. The athlete is to hold this position for 15 seconds.
Stage 4: The athlete returns to the Start Position, lifts the right leg off the ground and extends it out behind them parallel with the ground. The athlete is to hold this position for 15 seconds.

Stage 5: The athlete returns to the Start Position, lifts the left leg off the ground and extends it out behind them parallel with the ground. The athlete is to hold this position for 15 seconds.

Stage 6: The athlete returns to the Start Position, lifts the left leg and right arm off the ground and extends them out parallel with the ground. The athlete is to hold this position for 15 seconds.

Stage 7: The athlete returns to the Start Position, lifts the right leg and left arm off the ground and extends them out parallel with the ground. The athlete is to hold this position for 15 seconds.

Stage 8: The athlete returns to the start position, Start with left side the upper body supported off the ground by the left elbow and forearm, and the legs straight with the weight taken by the outside of the left feet. The hip is lifted off the floor. The athlete is to hold this position for 15 seconds.

Stage 9: The athlete returns to the start position, Start with right side the upper body supported off the ground by the right elbow and forearm, and the legs straight with the weight taken by the outside of the right feet. The hip is lifted off the floor. The athlete is to hold this position for 15 seconds.

Stage 10: The athlete returns to the Start Position. The athlete is to hold this position for 30 seconds.

Statistical procedure
The comparison of various selected core strength between yoga student and sports persons was carried out by computing plank test. After collecting the data unpaired t test was applied. The significant level set at 0.05.

Table 1: Significant of mean differences of core strength variable between yoga student and sports persons

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yoga Student</td>
<td>15</td>
<td>139.40</td>
<td>53.01</td>
<td>0.16</td>
</tr>
<tr>
<td>Sports Persons</td>
<td>15</td>
<td>136.13</td>
<td>57.65</td>
<td></td>
</tr>
</tbody>
</table>

t.05 (28) = 2.04

The table & figure 1 shows that the mean and standard deviation values with regard to yoga student on variable core strength were recorded as 139.40 and 53.01 respectively whereas in sports person it was recorded as 136.13 and 57.65 respectively. The calculated t value (0.16) was lower than the critical value (2.04). It shows insignificant difference between the yoga student and sports person on the variables core strength.

![Fig 1: Significant of mean differences of core strength variable between yoga student and sports persons](image)

Conclusions
On the basis of the findings and within the limitations of the study the following conclusions were drawn:
1. The result of the study proves that insignificant differences were found between yoga student and sports persons for their core strength.

References
5. Gambhir AM. Yoga and Core Strength, 2014. Retrieved from [link]