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Opinion

# The Effect of an 8 Week Fish-Fish Training Program on Improving Vertical Leg Power of Secondary School Learners

**Nemashakwe Tapiwa, Sipho Heleni Rutsate and Eberhard Munetsi Tapera***

*Department of Sports Science and Coaching, National University of Science and Technology, Zimbabwe*

***Corresponding Author:** Eberhard Munetsi Tapera, Department of Sports Science and Coaching, National University of Science and Technology, Zimbabwe.

**Received:** August 17, 2022; **Published:** August 26, 2022

***Keywords:*** *Indigenous; Traditional; Leg Power; Fish-Fish*

The effect of indigenous traditional games in improving bio-motor abilities in sports has not been investigated much, both internationally and locally. This study sought to study the effect of fish-fish, a Zimbabwean indigenous game in improving vertical leg power of secondary school learners. Our study was motivated by the poor performance of athletes in hurdles and high jump during the Masvingo Provincial and National Athletics competitions of 2019.

Vertical leg power is a sport-related fitness component which can also be regarded as a bio-motor ability that influences success in all modern sports like volleyball (smashing, spiking, blocking) basketball (jump shooting, blocking, dunking), high jump (take-off) and soccer (heading), that involve jumping upwards explosively.

The game of fish-fish is played by at least 3 participants where 2 people hold a skipping rope on either end, while the third, fourth, etc. player jumps up vertically and in resonance with the skipping of the rope. Essentially the game involves rhythmic bouncing from the ground before the rope touches the same. Failure to swiftly bounce over the rope leads to one's body, especially the legs being hit by the rope which results in disqualification. One or more players may play fish-fish at any given time. Like most indigenous traditional games, fish-fish is simple in structure, requires minimal equipment (a rope and a safe, flat playing surface) and can accommodate many participants simultaneously, characteristics that make them amenable for use in lowly resourced environments like our local schools.

Data for the study was obtained from 30 mixed-sex Form 1 secondary school students randomly selected from al the Form One 2020 classes at Mushaviri Secondary School of Gutu District, Masvingo Province Zimbabwe. The 30 participants were divided into two groups, one an experimental group, n = 15 and another, a control group, n = 15. The experimental group did fish-fish training for 45 minutes a day, for 5 weekdays per week, for 8 weeks. No specific training was assigned to the control group. The Sargent Jump Test was conducted on both groups, before, at mid-experiment, and after the intervention, in order to determine the leg power scores of the participants. A One Way ANOVA (at $p = 0.05$) was performed on the data to determine the effect of the fish-fish intervention on the leg power of the participants from the pre-test, through the mid-test, to the post-test.

The study found significant improvements in leg power in both groups investigated ($p = 0.00$; $p = 0.007$), for the experimental and control group, respectively, showing on one hand, that fish-fish improves leg power of secondary school learners, and on the other that the control group was not strictly controlled. The research findings are not conclusive and thus call for further research into this area of study under stricter settings. There is however no comparative data against which to compare the findings of this study. We therefore recommend the cautious adoption of fish-fish as a training modality in secondary school PE and Sports programs as it promises great potential to improve vertical leg power. We also recommend that further similar studies use more rigorous controls especially in the control group.

### The Sargent jump test scores

| Participant | Group/Stage of intervention | | | | | |
|---|---|---|---|---|---|---|
| | Experimental/cm | | | Control/cm | | |
| | Start | Mid | End | Start | Mid | End |
| 1 | 36 | 39 | 46 | 15 | 23 | 24 |
| 2 | 28 | 33 | 31 | 23 | 19 | 19 |
| 3 | 19 | 25 | 54 | 26 | 30 | 36 |
| 4 | 36 | 38 | 43 | 24 | 37 | 43 |
| 5 | 34 | 34 | 38 | 25 | 27 | 29 |
| 6 | 33 | 38 | 46 | 27 | 33 | 30 |
| 7 | 26 | 24 | 50 | 33 | 37 | 37 |
| 8 | 25 | 48 | 43 | 42 | 44 | 52 |
| 9 | 26 | 42 | 49 | 28 | 30 | 41 |
| 10 | 25 | 44 | 53 | 21 | 24 | 32 |
| 11 | 41 | 51 | 57 | 19 | 33 | 43 |
| 12 | 31 | 46 | 58 | 24 | 26 | 33 |
| 13 | 46 | 50 | 63 | 35 | 37 | 41 |
| 14 | 31 | 33 | 50 | 26 | 40 | 35 |
| 15 | 32 | 36 | 51 | 19 | 24 | 28 |
| Mean | 31.3 | 38.8 | 48.8 | 25.8 | 30.9 | 34.9 |
| Standard Deviation | 6.9 | 8.3 | 8.1 | 6.8 | 7.1 | 8.4 |

### One way anova results

1. The study found statistically significant improvements in vertical jump scores of the experimental group ($p = 0.05$).
2. The study found statistically significant improvements in vertical jump scores of the control group ($p = 0.007$).

**Volume 5 Issue 9 September 2022**
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