



ORIGINAL RESEARCH PAPER

Physical Education

EFFECT OF PLYOMETRIC TRAINING ON SPEED AND AGILITY AMONG UNIVERSITY PLAYERS

KEY WORDS: effect of Plyometric training, speed, agility, university players

Dr. Awdhesh Kumar Shukla

Assistant Professor, University of Lucknow.

ABSTRACT

The intention of the present study was find out the effect of Plyometric training on speed and agility strength among University players. For achieving the purpose of the study overall of 30 subject have been decided on as samples from the age organization of 20 to 23 years University players. The chosen topics have been divided into companies similarly with 15 every as experimental institution with plyometric training and manage institution. The experimental organization became given plyometric training for a period of six weeks in a time table of weekly 3 days for the duration of one hour every. The pre and posttest had been carried out on speed and agility earlier than and after the 8 weeks experimental education. Analysis of covariance became used as a statistical device to decide the huge difference, if any interesting between pre and submit test statistics on speed and Agility. The level of significance turned into fixed at 0.05 degrees. The statistical findings of the study found out that the experimental group executed the plyometric education substantially improved the performance of velocity and agility.

INTRODUCTION

The word plyometrics is virtually a derivation from the Greek phrases plythein or plyo, this means that to increase and metric, this means that to measure. Plyometrics are education techniques used by athletes in all types of sports to boom electricity and explosiveness. Plyometric drills generally contain stopping, starting, and converting guidelines in an explosive way. Plyometrics may be defined as "leaping sporting events that in vole a rapid deceleration of frame mass followed at once by using speedy acceleration of that frame mass in a contrary course". Plyometric defined that any type of explosive movement for a chain of repetitions at excessive speeds and high ranges of intensity. It increases generally boom, speed and build power. Plyometric are physical activities that goal to develop explosive capability with the aid of conditioning the neuromuscular and elastic traits of the muscle. It's far an education modality which regularly calls for the trainees to leap, hop, sure and skips.

Most researchers and practitioners proportion a not unusual view that plyometric training is one of the processes in every discipline often used for athletes, notably people with the quick-shortening cycle (SSC). These training are designed to enhance explosiveness and dynamic efficiency. Previous studies have shown that thru plyometric training, jumping and sprinting competencies and precise trajectory sports will be progressed. An effective method for enhancing the walking economic system, joint balance and the severity of knee accidents turned into additionally observed.

Intensive training with excessive-depth interval education additives which includes stamina, electricity, cardio and anaerobic is a need in recreational football games, it is able to use a multifaceted schooling fashion, that concurrently stimulates multiple health areas. As a part of this evaluation, studies that can offer evidence-primarily based advice on the way to control the nice schooling environment to maintain most intensity and cargo for exceptional companies of contributors are of tremendous interest.

Velocity is described as the capacity to transport or to cowl a distance in a quick time. In many sports activities, dash performance is critical. Therefore, the interest of a success athlete in learning simple talents in sprinting became excessive. with a view to expand a successful and green sprint training techniques, a variety of schooling wishes to be executed, as younger athletes want to be enormously acting in all of their game's bodily factors (e.g. power, stamina and exercising techniques). The test calls for a single maximum dash with a pronounced time of over 20 metres. There can be a radical warm-up, together with this begin of some exercise and acceleration.

The ability to maintain a solid frame function and trade the route quickly without lack of stability frame manipulate or pace is defined as agility. Agility components had been labeled as stability, coordination, power and velocity. It's far critical for expert, recreational and "tactical" athletes who want the capacity to alternate sports or operate on all aircraft speedy. Progressed agility blessings consist of improved frame stability during brief motion, increased intramuscular manipulate, and reduced hazard of injury or re-injury. The Agility T-test is an agility test for athletes that involve going forward, sideways and backwards.

Training for maximum sports activities calls for completely exceptional physical attributes to be pressured regularly, with a view to maximize sports efficiency in the course of the match. Quick-run plyometric training, inclusive of two sessions, had changed the stiffness of muscle-tendon each week for five years and has improved the energy, ability, and SSC feature of decrease limbs in individuals. The output of a quick-time period experiment following a 6-week schooling plan should raise gamers' capacity, which ought to be of big difficulty to coaches, practitioners and scientists.

Plyometrics are training techniques used by athletes observations recommend that plyometric training may additionally in all forms of sports activities to increase energy and be safe and powerful for children and kids explosiveness. Plyometrics consists of a speedy supplied that age suitable education guidelines are stretching of a muscle (eccentric movement) immediately accompanied.

Researchers have proven that plyometric education, therefore, the cause of this study become too while used with a periodized strength-schooling program, determine the results of a 8-week plyometric training can contribute to enhancements in vertical bounce program on specific physical competencies (legs muscle power, overall performance, acceleration, leg strength, muscular energy, legs muscle electricity, again muscular tissues strength, Flexibility, improved joint cognizance and universal proprioception.

METHODOLOGY

This research was conducted to investigate the effect of 6 weeks plyometric training on speed and agility among university players. For achieving the purpose of the study total of 30 subjects have been selected as samples from the faculty boys. Their age group among 15 to 17 years and the chosen topics have been divided in to two businesses similarly with 15 each as experimental organization with plyometric exercise and manipulate organization. The experimental

organization practiced Plyometric education for a duration of six weeks in a time table of weekly three days at some point of one hour every. The pre and posttest had been conducted on selected physical fitness variables of pace, agility.

The speed was assessed through 50 meter sprint, agility turned into accessed via 4x10 meter commute run turned into assessed through vertical jump. Analysis of covariance changed into used as a statistical tool to determine the full-size distinction, if any exciting among pre and put up test statistics on pace, agility and explosive power. The extents of importance become constant at 0.05 degrees.

The only hour plyometric training included Squat jump (jumping squat, bounce squat), Tuck soar, Tuck squat jump, energy skipping, exchange leg bounding, field jumps, Lunge jump, Vertical depth leap: starting from the pinnacle of a field, leap down and lower back up as fast as viable, broad leap, Straddle bounce, unmarried and double leg hops up to 20 meters, double footed jump over hurdles. The intensity of training became improved as low, medium and excessive in each two weeks in a modern way.

RESULTS AND DISCUSSIONS

The analysis of the data obtained on speed and agility of pre and post tests are tabulated and presented in the tables I and II.

Table-I The Analysis of Covariance on Speed

Test	Group		Sum of Squares	df	Mean Square	F value
	Exp.	Con.				
Pre test	8.17	8.26	10.7883	29	0.3852	0.133
Post test	7.61	8.1	6.9263	29	0.2473	7.10*
Adjusted Mean	7.64	8.07	1.796	29	0.0665	20.45*

It changed into found from the table-I that there was no considerable difference in the pretest ($F=0.133 < 4.20$) and posttest ($F=7.10 < 4.20$) for 29. However a significant difference was observed in adjusted posttest ($F=20.45 > 4.21$) for df 29 at 0.05 stage of confidence. This discussion clearly indicated that there has been a power on velocity through Plyometric training among University players. The suggest value truly indicated that the experimental group turned into higher development on speed because of 6 weeks Plyometric training.

Table-II The Analysis of Covariance on Agility

Test	Group		Sum of Squares	df	Mean Square	F value
	Exp.	Con.				
Pre test	10.64	11.18	26.4223	29	0.943	2.38
Post test	9.81	11.13	40.0075	29	1.428	9.17*
Adjusted Mean	10.07	10.87	4.343	29	4.343	7.66*

It became determined from the table-II that there have been no widespread distinction within the pretest ($F=2.38 < 4.20$). The giant differences were determined in posttest ($F=9.17 < 4.20$) for df 29 at 0.05 stage of self belief and changed posttest ($F=7.66 < 4.21$) for df 29 at 0.05 level of self belief. This discussion certainly indicated that there was a massive improvement in agility because of six weeks Plyometric training among university. The suggest value clearly indicated that the experimental organization changed into better improvement on agility because of six weeks Plyometric training.

CONCLUSIONS

This research indicates that plyometric training is an essential component of the recreationally educated players' education program primarily based on outcomes that help the theoretical concepts for the use of these sorts of training to boom speed and agility overall performance. Therefore, this can assist players to enhance their performance in the course

of players and save you injury among leisure University players. The Plyometric training is beneficial to improve the bodily fitness features of a speed and agility among University players. In addition the results of this observe indicated that the Plyometric training can be blanketed programme of the university players.

REFERENCES

1. **KASETSART J. (2015)** Effects of 4-week Plyometric Training on Speed, Agility, and Leg Muscle Power in Male University Basketball Players: A Pilot Study, volume 3, No 4, pp 1-4.
2. **MICHAL LEHNERT ET AL (2009)** Changes in Speed and Strength in Female Volleyball Players during and after a Plyometric Training Program, Volume 39, Volume 1, pp 59-66.
3. **MUHAMMAD HAZMAN BIN SHAMSHUDDIN ET AL (2020)** Effects of Plyometric Training on Speed and Agility among Recreational Football Players, Volume 8, No 5, pp 174-180.
4. **RAYA MA ET AL (2013)** Comparison of three agility tests with male servicemembers: Edgren Side Step Test, T-Test, and Illinois Agility Test. Journal of rehabilitation research and development, Volume 50, no 7, pp 951-60.
5. **MANOURAS N ET AL (2016)** The efficacy of vertical vs. horizontal plyometric training on speed, jumping performance and agility in soccer players, Volume 11, No 5, pp 702-9.
6. **MOHAMED ABD EL-MAWGOUD ELSAYED (2012)** Effect of Plyometric Training on Specific Physical Abilities in Long Jump Athletes, Volume 7, No 2 pp 105-108, ISSN 2078-4724.