Technical and Training strategies of the Triple Jump:

An open discussion

ADRIAN GHIOROAIE

Thursday, December 19, 2019

THE UNIVERSITY OF TOLEDO

CONTENT

- Components of the Triple Jump
  - The Run
  - The Take-off
  - First Phase
  - Second phase
  - Third phase and landing
- Technical aspects and differences
- Training Cues
- Training strategy and examples

Components of the Triple Jump

The run → Take off → First phase → Second phase → Third phase → Landing

Components of the Triple Jump

❑The run

- ➢Approach body posture- upright
- ➢Tall "Up on your feet"
- ➢Higher center of mass (Hips, Pelvis)
- ➢Higher knees/low heel recovery
- ➢Usually larger strides
- ➢Controlled speed. More rhythm
- ➢Should differ from the LJ approach when giving cues to athletes

Components of the Triple Jump

❑The take-off:

- ➢Its different, not many similarities to HJ, LJ, or PV
- ➢Has to be controlled (As tall as possible on the board, while still functional and optimal)
- ➢Consistent with prior stride length (No reaching)
- ➢Readiness, but not overly tight
- ➢Center of mass(hips) moving (thrown) over take off board.
- ➢*Do not jump ahead of the board. Its not the same as the long jump
- ➢Ideal timing of the body. Sync sequence- ank[illegible] upper body, arms.

Components of the Triple Jump

❑First phase

- One of the toughest and unique skill in track and field: ***"ground reaction forces that triple jumpers experience when landing into the step and jump (15 to 20 × body weight [BW]"***
- Ankle readiness
- Landing from the Hop (first phase) NO HEEL first at ground touch. Mid foot toward top foot. Heel is for stability
- Recovery after the Hop Impact-Taking off again -Most difficult part of the triple jump
- Lead thru the jump with the opposite take off leg at 90-degree angle until take off leg completes the cycle.
- Keep pushing with the hips, center of mass forward/ But have the body going in the same direction in sync
- Tall extended body in the air. Low heel recovery
- Redirect the impact forward. Find ways to minimize impact.
- Ankle in the air, Ready but neutral, no extreme dorsiflex or plantarflex
- Minimize losing speed
- Fast and confident ground contact. Timing ankle con[illegible] rest of the body is of the essence.
- Ideal leg front-body timing:

Components of the Triple Jump

First phase

- "Contrary to popular belief, the leg is planted in front of the body at touchdown. Television (TV) presenters commented that Jonathan Edwards' leg landed directly under his body, but this was an inaccurate observation due to TV footage being reviewed at 25 frames per second (fps). Our analyses from high speed cine film at 100 fps clearly showed that his ankle was in front of his body at touchdown"
- *WHAT WOULD IT TAKE TO BREAK THE WORLD RECORD IN THE MEN'S TRIPLE JUMP?*
- Written by Philip Graham-Smith, Qatar and [illegible] Brice, United Kingdom

TOLEDO

Components of the Triple Jump

❑Second phase

- ➢Physics and strategy similar with the 1st phase.
- ➢Angle and height are very important. Finding the ideal for each jumper style
- ➢Other leg swings from the back and takes the lead until touch down
- ➢Size and distance of the 2nd phase. Find what is optimal for the jumper
- ➢Maintain speed, balance and direction
- ➢Crucial in preparation for last phase.
- ➢Should not be exaggerated for the sake of reaching a certain distance

Components of the Triple Jump

❑ *Third phase and Landing*

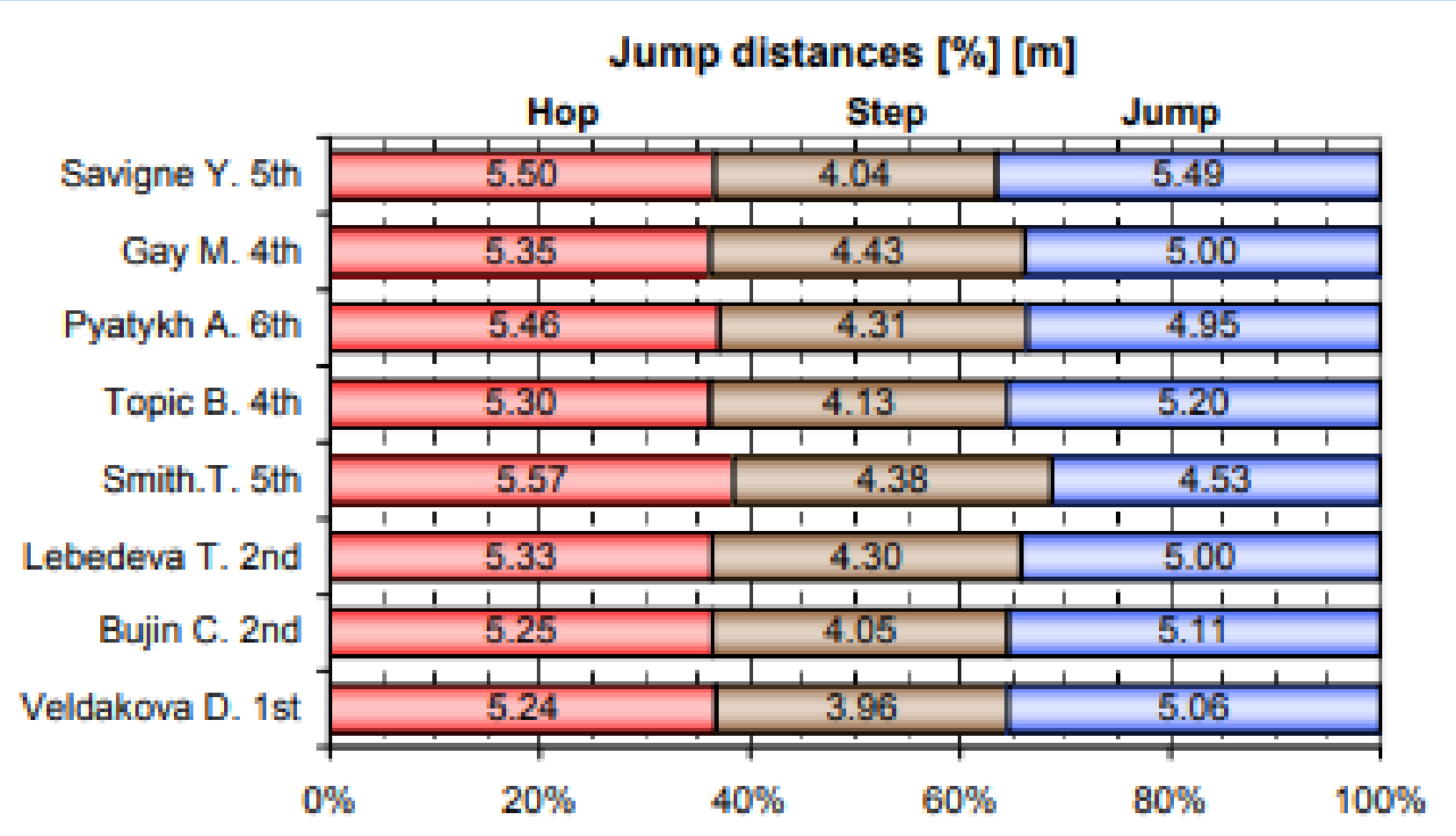
- ➢ Timing. Flow. Rhythm
- ➢ Leading with the take off leg until the last moment before touching the sand.
- ➢ 2nd phase leg coming together with the lead leg right before the sand.
- ➢ Last moments before hitting the sand; chair position, both legs reunited and reaching forward with the heels. 90 degrees
- ➢ Parachute position vs. always leading with leg in front
- ➢ Distance can be made or lost at landing

Technical aspects and differences

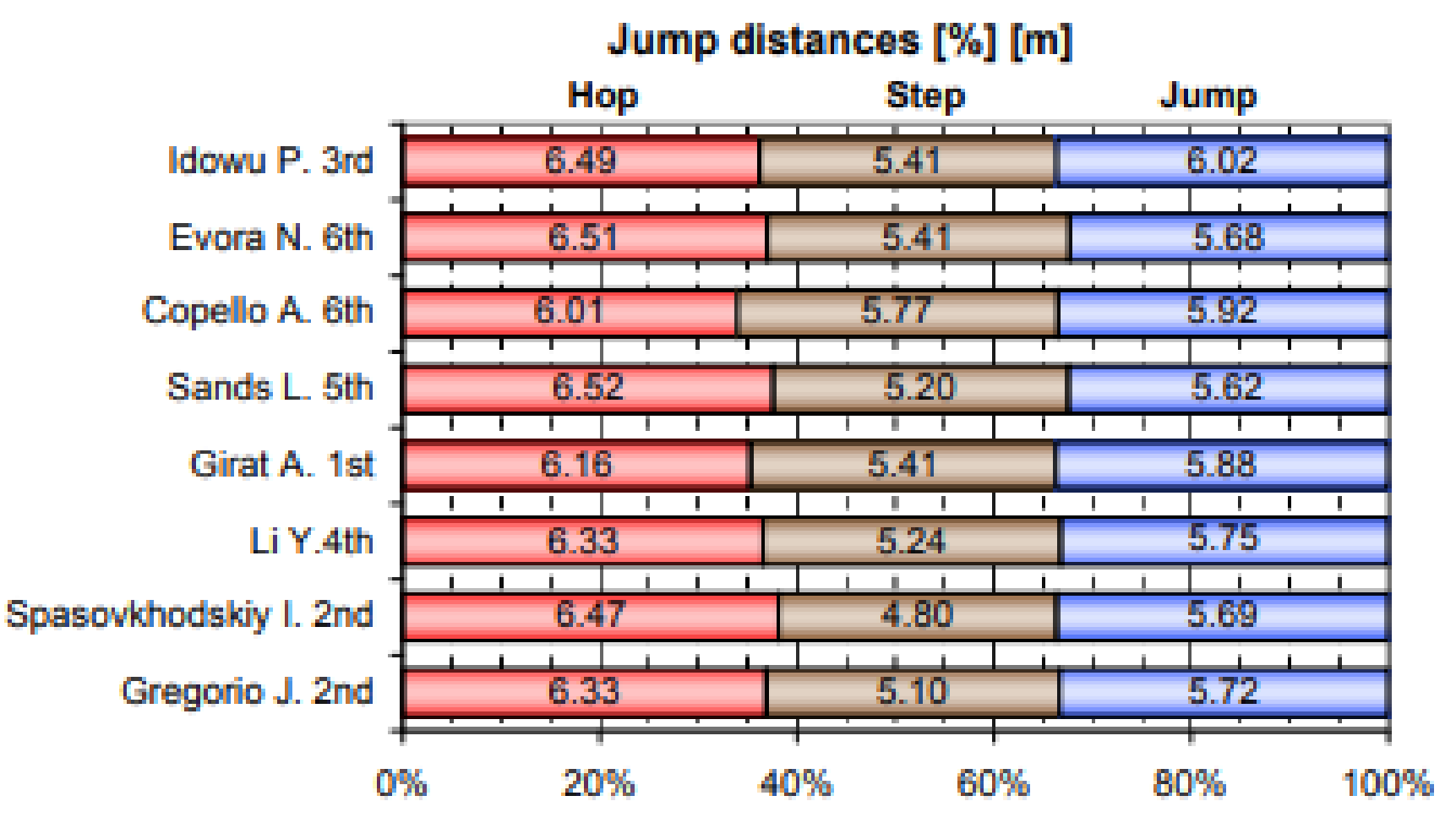
❑Distribution

- Hop step and jump distance differences among jumpers.
- Common mistake forcing the 2nd phase.
- Comparing IAAF recent studies with the WR jump, males.
- In Edwards' world record jump, the 18.29 meters was divided into 6.05, 5.22 and 7.02 meters, thus the distribution is about 33%, 29%, and 38%, respectively.

Technical aspects and differences



Technical aspects and differences



Biomechanical Analysis of the Triple Jump Men Final

12th IAAF World Championships in Athletics - Berlin 18. August 2009

Technical aspects and differences

- **Jump momentum.**
  - Flow. Goal is center mass lowering at a minimum during the jump
- **Eastern European 80` vs. New**
  - https://www.youtube.com/watch?v=owRm92TdOmo
- **Simplicity in esthetics. JE 18.43 jump video:**
  - https://www.european-athletics.org/competitions/european-team-championships/news/article=the-day-lille-that-changed-edwards-forever/index.html
- **YargelisSavigne:**
  - https://www.youtube.com/watch?v=sINMPccoaaw

Technical aspects and differences

Idowu P. 3rd **17,73m**

Evora N. 6th **17,55m**

Technical aspects and differences

Biomechanical Analysis of the Triple Jump Men Final

12th IAAF World Championships in Athletics - Berlin 18. August 2009

Copello A. 6th **17,36m**

Sands L. 5th **17,32m**

Girat A. 1st **17.26m**

Technical aspects and differences

Biomechanical Analysis of the Triple Jump Men Final

12th IAAF World Championships in Athletics - Berlin 18. August 2009

Li Y.4th **17,23m**

Spasovkhodskiy I. 2nd 16,91m

Gregorio J. 2nd **16,89m**

Technical aspects and differences

Savigne Y. 5th 14,95m

Technical aspects and differences

Biomechanical Analysis of the Triple Jump Women Final

12th IAAF World Championships in Athletics - Berlin 17. August 2009

Gay M. 4th **14,61m**

Pyatykh A. 6th **14,53m**

Technical aspects and differences

Biomechanical Analysis of the Triple Jump Women Final

12th IAAF World Championships in Athletics - Berlin 17. August 2009

Topic B. 4th **14,52m**

Smith.T. 5th **14,48m**

Technical aspects and differences

Biomechanical Analysis of the Triple Jump Women Final

12th IAAF World Championships in Athletics - Berlin 17. August 2009

Lebedeva T. 2nd **14,48m**

Bujin C. 2nd **14,26m**

Veldakova D. 1st **14,25m**

Technical aspects and differences

- Arms single vs double: advocating for double, but without preparing ahead of the board. In between works for many. Throwing arms forward styles
- Dorsiflexion, plantar flex, neutral-ready.
- Energy level of a triple jumper. **Adrenaline**
- Injuries and career life of a triple jumper.
- Gender differences: Bone, muscle, testosterone, hormones, etc
- Inconsistency/ Different jumping style/parameters even within the same [illegible] at the same meet.

Training cues

- Adaptation to event requirements. Readiness to be hit by the ground.
- Bounding, bounding and more bounding. BUT….
- Uniqueness/ differences of the athlete.
- Athlete Strength/Weight ratio
- Triple jump specific strength (explosive strength vs. endurance)
- Overtraining/undertraining.“ Its better to be 10% undertrained then 1% over-trained”
- Optimal peaking. “Freshness”
- Time effectiveness during training. Tiredness
- Short Approaches vs full approaches in training
- Quality vs. Quantity
- Every day is different. Especially in competition season. Do not stress.
- Work to perfection is continuous.
- Flight Optimum trajectory.
- Core strength. Hip mobility
- Ankle drills. Depth Jumps?

Training cues

- **Training strategy example:**

- **Weekly:**
- Monday: Olympic and jumps adapted weightlifting.
- Tuesday : Jumps based
- Wednesday: Sprints based
- Thursday: Olympic and sprint adapted weightlifting
- Friday: Jumps based
- Saturday: Sprints day (longer)

Jumps training

- Jumps training example when in volume period:

- Warm Up and Drills
- Ankle hops/straight knees 5sets x10
- Regular Boundings 7 sets x 10
- Single leg Bounding 5 sets x10 each leg
- 3 triple jumps connected x 3-5 sets
- Take off every 3 steps x3 sets
- Med ball/Core strength
- Cool down

Make it your own

- Personal Experience from being around the sport and observing many styles and body types. Noticing what works. Gut feeling. Holistic view of the event

- For the date savvy, IAAF studies are useful:
- https://www.worldathletics.org/about-iaaf/documents/research-centre
- file:///C:/Users/X1/Downloads/6%20-%20Biomechanics%20Report%20WC%20Berlin%202009%20Triple%20Jump.pdf
-
- file:///C:/Users/X1/Downloads/Men's%20triple%20jump%20-%202017%20IAAF%20World%20Championships%20.pdf
-
- file:///C:/Users/X1/Downloads/Men's%20triple%20jump%20-%202018%20IAAF%20World%20Indoor%20Ch[illegible].pdf


TOLEDO