


The IAAF International Youth Athletics Conference

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Barcelona, Spain

Taking advantage of the presence of top junior coaches and other experts on youth athletics present for the occasion of the 14th IAAF World Junior Championships, the IAAF held its first-ever International Youth Athletics Conference in Barcelona, Spain, 16 – 17 July 2012. A total of 203 participants (130 of them Spanish) representing 53 countries attended.

The Conference was co-hosted by Spain's International Athletics Documentation, Research and Development Centre (CIDIDA) Foundation and staged on collaboration with the University of Barcelona's *Institut Nacional d'Educació Física de Catalunya* (INEFC), which is located walking distance from the famous *Estadi Olímpic* where the competition took place. Additional support was provided by the Barcelona City Council.

The speakers at the Conference Opening Ceremony were the President of the CIDIDA Foundation and the Conference Organising Committee, Dr José Luis López, IAAF Vice-President and pole vault world record holder Sergei Bubka and the Deputy Mayor of Barcelona, Maite Fandos.

Since the IAAF's first action in this field, an international workshop entitled "The Future of Youth Athletics" in 2002, much has changed in the sport and for young athletes in particular. The level and depth of international competition has increased in most disciplines, the IAAF World Junior and the IAAF World Youth

Championships have become firmly established as targets for almost all young athletes aspiring to be senior champions and a new, highly-visible event, the Youth Olympic Games, has been established. At the same time, many changes and factors in society, technology and communications have impacted sport and its role in young people's lives.

The organisers sought to address issues, particularly with regard to athlete preparation, that have emerged along with developments in the last decade and the Conference theme, "Training and Competition of the Youth Athletes" reflected this practical approach. In preparing the programme, they set the following five aims:

1. To identify, share and compare the contributions made in the field of youth athletics by universities, research and training centres, companies, sports federations, the media, and the community of athletes, coaches and other professionals involved in this sport around the world.
2. To facilitate the exchange of experience and research results, and to promote dialogue between athletics professionals working in diverse fields.
3. To collaborate in developing those areas of knowledge and fields of research associated with science in athletics.
4. To collaborate in developing the latest scientific proposals for youth athletics.

5. To encourage the development of innovative proposals regarding the future of world athletics, designing programmes and initiatives that respond to the challenges of the modern social world.

The programme comprised keynote speeches, presentations and a scientific poster exhibition. Brief summaries of the three main keynotes follow.

The Scientific Basis of Endurance Training for Young People

Alan Barker (GBR)

Barker, from University of Exeter focused on the specific needs and considerations of young people developing athletic and endurance potential. Stressing the fact that there are only a few controlled training studies on elite young athletes with holistic aerobic endurance outcomes, he asked if young people benefit from endurance training.

What is known is that aerobic fitness is trainable in young people and, in general, trained individuals have a higher aerobic power, have a higher blood lactate threshold, are more economical in running and have a faster change in their aerobic metabolism during exercise. But the only evidence based training recommendation for young people is related to peak O_2 uptake. Training intensity above 80% HRmax appears to be the critical factor to elicit positive adaptations and there seems to be a maturity trigger threshold, but improvements from training may be blunted in those with high baseline aerobic fitness. Other factors might have an influence on training results, but the ideas are speculative and cannot be backed up by the available data.

Barker's evidenced based training recommendations included continuous or interval training (in combination) using large muscle groups for a minimum of 3-4 sessions per week with the following loading parameters:

- duration / intensity of 40-60 min at 80-85% HRmax for continuous training,

- 30-60min at >90% HRmax using training intervals of 1-3 min with appropriate recovery,
- <30 min of all-out sprints using training intervals of > 30 sec duration with appropriate recovery.

Long-Term Training for Youth

Wolfgang Killing (GER)

Killing, who is a national coach for the German Athletics Federation (DLV), said that the key to a successful career in athletics is a carefully planned long-term development. This process can easily last 12 years from the beginning of sport-oriented activities to a top result at senior level. Focusing on the period from 12 to 15 years old, he said different emphasis should be given to the development of physical qualities according to the different stages of development the individual is going through.

Using the example of the high jumper Falk Wendrich (GER), Killing explained the typical training programmes used in different training periods in detail. His main conclusions can be summarised as follows:

- athletes need fun and motivation for training and competitions,
- there is a need for developing a wide range of coordinative skills,
- the main techniques and coordination skills of athletics should be acquired,
- speed and velocity in the sprints, jumps and throws are critical,
- techniques in other sports should be learned (e.g. gymnastics, weight lifting, basketball),
- there is a need for developing the overall strength of the body muscles,
- prophylactic strengthening of typical weak points will limit the occurrence of injuries.

The Application of Growth and Development Knowledge in Designing Programs That Will Enhance Long-Term Athlete Development

by Lyle Sanderson, (CAN)

Until his retirement in 2004, Sanderson was the head track & field coach and a faculty

member in the College of Kinesiology at the University of Saskatchewan in Canada and he is now a member of the IAAF School and Youth Commission. He started his presentation with the notions that “children are not scaled down miniature adults” and that the challenge athletics faces in the area of youth goes beyond talent identification to “talent entrapment”, in other words, to get potential athletes involved and keep them in the sport.

It is of the greatest importance that coaching methods and activities used with young people are appropriate to each athlete’s level of development and individual differences. There is a need for entry-level programmes that allow for particularities of physical, psychological and social development. These should be structured in a way that ensures that the participants have an enjoyable experience. After that, the Long Term Athlete Development Model coaches use as a basis for planning must be appropriate to the culture of the country.

The structure and content of coach education programmes must ensure coaches understand the various aspects of coaching youngsters and be able to think beyond loading and technical models. For example they must understand the changes taking place in pubescent females and adjust training demands accordingly. They must also ensure that coaches are sensitive to the effect their actions have on a young athlete’s self-esteem.

Other Presentations

The titles of other presentations given in the conference are as follows;

Basic and Advanced Resistance Training for Children and Youth

David G. Behm, University of Newfoundland (CAN)

Talent Identification in Athletics

Juan Manuel García Manso, University of Las Palmas de Gran Canaria (ESP)

Estudio comparativo del rendimiento de jóvenes atletas con y sin discapacidad

(Comparative study of the performance of young able-bodied and paralympic athletes)

Miguel Ángel Torralba, University of Barcelona (ESP)

Diferencias en función del género en las motivaciones para la práctica atlética de jóvenes extremeños

(Differences in the motivation for the practice of athletic sports in young people from Extremadura)

Ruth Jiménez, University of Extremadura (ESP)

Evolución de la condición física en lanzadores junior participantes en un programa de tecnificación deportiva

(Evolution of the physical condition of junior throwing athletes in sports technical programmes)

Javier Brazo-Sayavera, University of Extremadura (ESP)

Evolución de la velocidad en un entrenamiento específico para corredores de 800m. Comparativa entre corredores Juvenil-Junior vs Promesas-Sénior en relación con la competición

(Speed evolution of specific training for 800 metres runners. A comparison between youth-junior and promising-senior athletes at competition level).

Antonio Montoya, University of València (ESP)

Tendinopatía rotuliana: entrenamiento preventivo con jóvenes atletas

(Patellar tendinopathy: preventive training for young athletes)

Javier Peña, CIDIDA Foundation (ESP)

Propuesta metodológica para la evaluación de jóvenes talentos en atletismo

(Methodological plan for the evaluation of young athletics talents)

Javier Brazo-Sayavera, University of Extremadura (ESP)

**Prediccion de la fluidez disposicional des-
de la teoria de la autodeterminacion**

(Predicting changes in the disposition using the self-determination theory)

Ruth Jiménez, University of Extremadura (ESP)

**Analisis comparativo de la estructura rit-
mica en 400m vallas en Campeonatos
Mundiales de la IAAF: Junior (Barcelona
2012) y absoluto (Daegu 2011)**

(Comparative analysis of the rhythm pattern for the 400 metres hurdles event at IAAF World Championships: Junior (Barcelona 2012) and absolute (Daegu 2011))

José Luis López, University of Vic (ESP)

**Longitud y frecuencia de zancada en el
entrenamiento de 600m: comparativa en-
tre corredores de 800m juvenil-junior vs
promesa-senior**

(Stride length and frequency during 600 metres training: A comparison between youth-junior and promising-senior athletes)

Antonio Montoya, University of València (ESP)

**Efecto de las actividades tóxicas sobre el
aprendizaje de la técnica**

(Consequences of toxic activities on technique learning)

Joan Rius (ESP)

Conclusion

Elio Locatelli, the Chairman of the Conference's Scientific Committee and Director of the IAAF Member Services Department, praised the organisers and supporters of the conference for their efforts.

He said that many of main presentations confirmed conclusions and recommenda-

tions made at the 2002 workshop and acted on by the IAAF. "Among the strongest ideas to emerge at that time was the need to redesign coach education to give greater emphasis to the factors affecting young people and to provide tools for coaches to work with athletes in the younger age groups. The IAAF has worked in this area for more than a decade and our Coaches Education and Certification System (CECS) and the Kids' Athletics programme show the results. Approximately 70% of the coaches attending this conference are products of the CECS."

"The takeaways from this conference include the need for federations to create and strengthen structures for identifying, retaining, protecting and developing talented young athletes through to the senior level, where they should deliver their best performances."

The IAAF is already working on this by pushing the federations to create a specific post of Youth Chief Coach, who is charged with staying on top of all developments related to training young athletes and making sure they are applied in practice. I hope that at our next Youth Conference we will be talking about how they have benefitted from this advice."

Further Information

Limited copies of the conference DVD are available from the IAAF Bureau in Monaco.

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