DOPING AUTORITEIT

Striking the Right Balance
-
Effectiveness of Anti-Doping Policies

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Play The Game, 27 November 2017

Universiteit Utrecht

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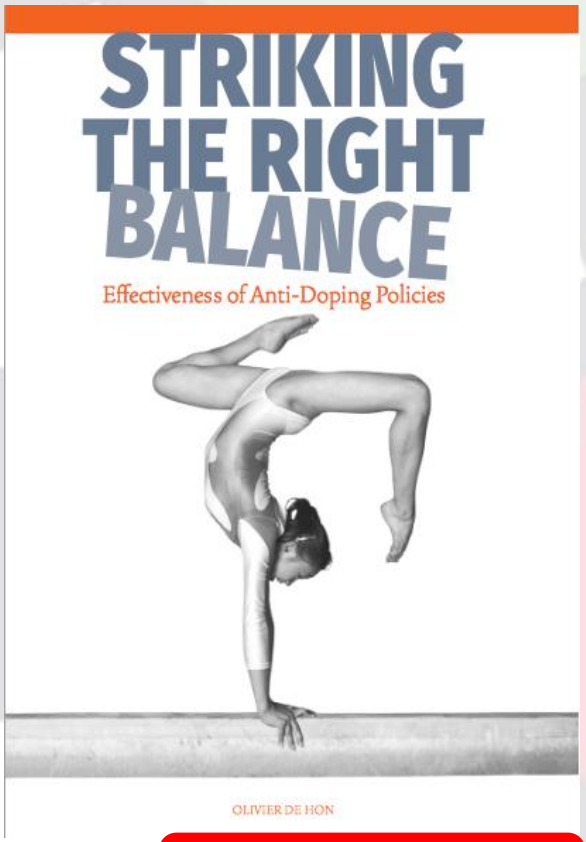
Contents

- Thesis approach
- Studies & results
- Directions/Conclusions



Source: www.doping.nl

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Methodology

- As neutral as possible
- Not independent (NADO)
- Peer-reviewed articles
- Existing & new data
- Practical & policy oriented
- Umbrella view; tennis umpire

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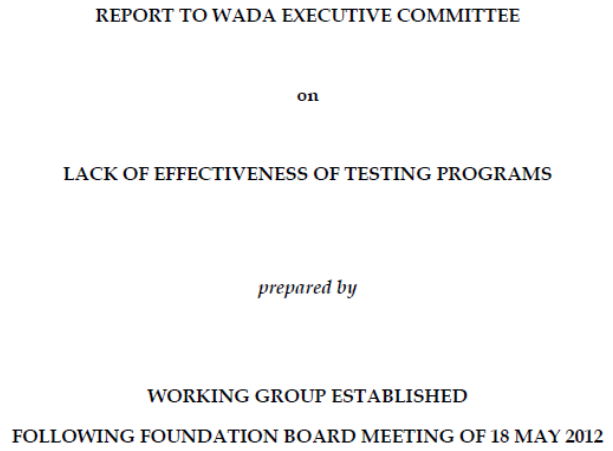
Traditional doping 'effectiveness'

- # Controls
- # Adverse Analytical Findings
- # Educational sessions
- Knowledge of athletes
- Knowledge of others
- $, €, £, ¥
- Compliancy to WADC
- As long as athletes are caught…



REPORT TO WADA EXECUTIVE COMMITTEE

on

LACK OF EFFECTIVENESS OF TESTING PROGRAMS

prepared by

WORKING GROUP ESTABLISHED
FOLLOWING FOUNDATION BOARD MEETING OF 18 MAY 2012

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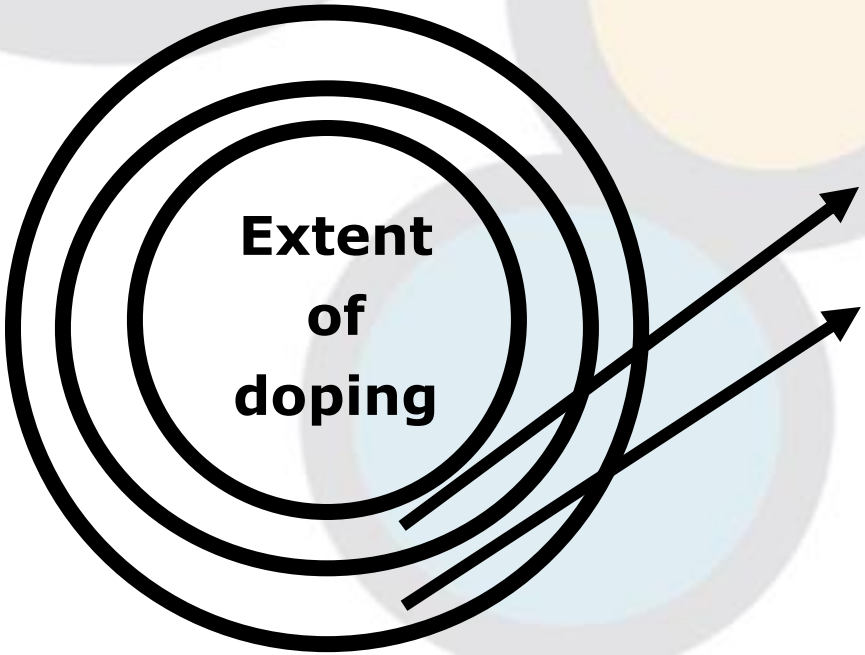
Effectiveness/efficiency/efficacy

- "the degree in which current policies succeed in eradicating doping in sport"



Effectiveness of doping substances

Consequences for athletes

Next step:
striking the right balance
(in terms of burdens, money, …)

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Intentional doping (elite athletes)

- We will never know for sure
- Based on Randomised Response Questionnaires & biomarker-based modelling
- Estimate: 4-62% in various groups of athletes
- Differs with type of sport, level, nationality
- Needs to be studied far more often
- In any case: (much) higher than AAF/ADRV%

Sources: De Hon et al. 2015; Duiven & De Hon 2015

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Intentional doping (continued)

- Parameters should be agreed upon globally
- Other candidates:
  - Perception of athletes regarding influence of doping on competitive results
  - Mathematical analyses of changes in performance over time
  - Outcomes of re-analysis of stored samples
  - …

Source: De Hon et al. 2015

Unintentional doping

- Analysis of WADA's juridical database 2010-2012
- 8 sports, 1831 AAFs, 363 non-AAF ADRVs

➢ In 42% of all ADRVs the athletes were deemed to be less at fault (based on sanction period)

Source: De Hon & Van Bottenburg, 2017

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Effectiveness of doping substances

- Flexible prohibited list increases effectiveness
- More transparency will increase credibility
- Doping regulators should focus on doping tasks
- Decisions are often made in absence of evidence

Sources: De Hon & Hartgens 2000; Kuipers et al. 2008; Pluim et al. 2011; Van der Gronde et al. 2013

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Consequences of doping policies

- Data required on impact of whereabouts-rule
- Athletes need to be supported in doping-free behaviour
- Athletes need to be engaged more
- Non-competitive fitness athletes are an important learning possibility; often overlooked

Sources: Valkenburg et al. 2014; De Hon & Coumans 2007; Stubbe et al. 2014

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General conclusions

- Highly complex area
- Many dilemmas, huge challenges
- Good intentions are not enough…

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General conclusions (continued)

- More information is needed on:
  - Levels of intentional & unintentional doping
  - Effects of doping substances and methods
  - Contents of Prohibited List
  - Backgrounds of doping analyses
  - Variability in doping sanctions
  - Impact of anti-doping measures on the daily lives of athletes & athletic performances
  - …

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General conclusions (continued)

- More information is needed on:
  - **Levels of intentional & unintentional doping**
  - Effects of doping substances and methods
  - Contents of Prohibited List
  - Backgrounds of doping analyses
  - Variability in doping sanctions
  - Impact of anti-doping measures on the daily lives of athletes & athletic performances
  - …

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General conclusions (continued)

- Currently, effectiveness cannot be identified
- But: tools are readily available

➢ Absolutely necessary to explain and improve current doping policies

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Thank you!

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Published articles

- De Hon O & M van Bottenburg. True dopers or negligent athletes? An analysis of Anti-Doping Rule Violations reported to the World Anti-Doping Agency 2010-2012. Substance Use & Misuse 2017. doi: 10.1080/10826084.2017.1322105
- De Hon O. The redundancy of the concept of 'Spirit of Sport' in discussions on the prohibited list of doping substances. Int J Sport Policy Politics. doi: 10.1080/19406940.2017.1348380
- De Hon O, H Kuipers & M van Bottenburg. Prevalence of doping use in elite sports – a review of numbers and methods. Sports Med 45(1): 57-69, 2015.
- Stubbe J, A Chorus, L Frank, O de Hon & P van der Heijden. Prevalence of use of performance enhancing drugs by fitness centre members. Drug Test Anal 6(5): 434-438, 2014.
- Valkenburg D, O de Hon & I van Hilvoorde. Doping control, providing whereabouts and the importance of privacy for elite athletes. Int J Drug Policy 25(2): 212-218, 2014.
- Van der Gronde T, de Hon O, Haisma HJ & T Pieters. Gene doping: an overview and current implications for athletes. Br J Sports Med 47(11): 670-678, 2013.
- Pluim BM, O de Hon, JB Staal, J Limpens, H Kuipers, SE Overbeek, AH Zwinderman & RJPM Scholten. β2-agonists and physical performance: a systematic review and meta-analysis of randomised controlled trials. Sports Med 41(1): 39-57, 2011.
- Kuipers H, GHC van 't Hullenaar, BM Pluim, SE Overbeek, O de Hon, EJ van Breda & LC van Loon. Four weeks of corticosteroid inhalation does not augment maximal power output in endurance athletes. Br J Sports Med 42: 868-71, 2008.
- De Hon O & B Coumans. The continuing story of nutritional supplements and doping infractions. Br J Sports Med 41: 800-5, 2007.

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Coat rack

What do we need?

- More branches?

2004 - present

- Bigger stem?

1960s - 2004

- Different base?

1928

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Randomized Response Method

- Used in many 'socially sensitive' subjects
- Offers protection by means of deliberate mathematical confounder
- Example:

Have you ever used doping in order to improve your athletic performance?

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Simplistic example of RRM

- Coin toss (do NOT show outcome to others)
- Finger in air when tails & intentional doping
- In this example: 20% intentional doping use

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On 'Population estimates' (1)

- For example: 20 random hemoglobin-values:

A: 13,0; B: 15,1; C: 17,2; D: 13,3; E: 13,6;
F: 16,9; G: 14,3; H: 16,6; I: 13,1; J: 15,5;
K: 15,9; L: 16,3; M: 17,6; N: 16,7; O: 13,9;
P: 17,1; Q: 13,2; R: 17,3; S: 17,5; T: 14,6 g/dl.

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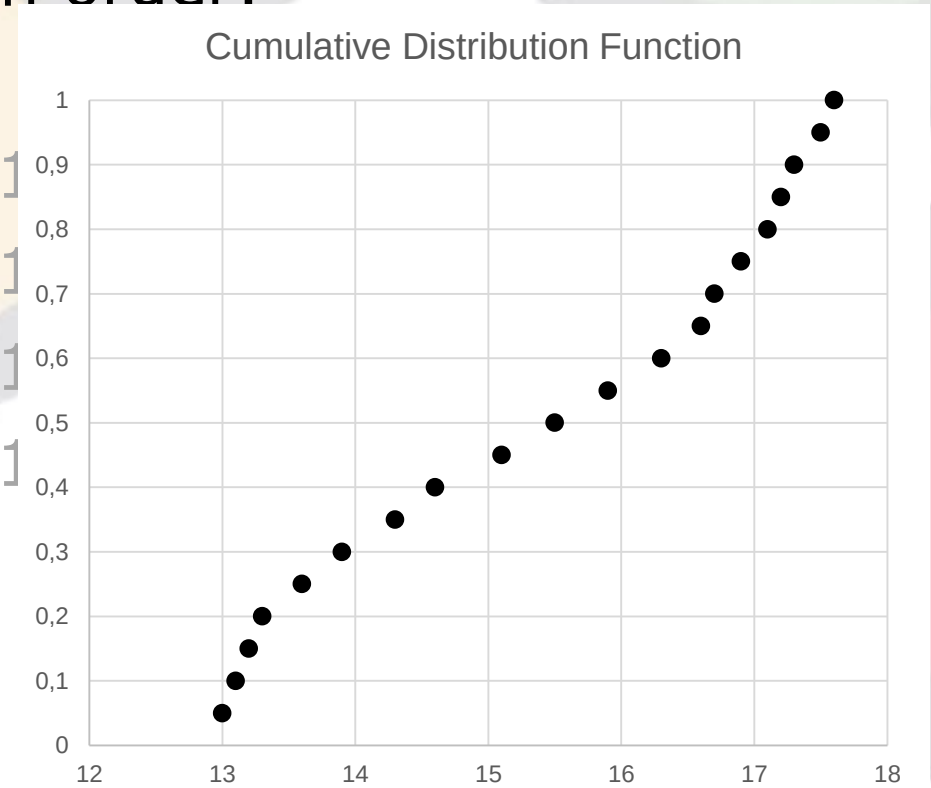
On ‘Population estimates’ (2)

- You list the values in order:

13,0 – 13,1 – 13,2 – 1
13,9 – 14,3 – 14,6 – 1
15,9 – 16,3 – 16,6 – 1
17,1 – 17,2 – 17,3 – 1

Which yields a graph:



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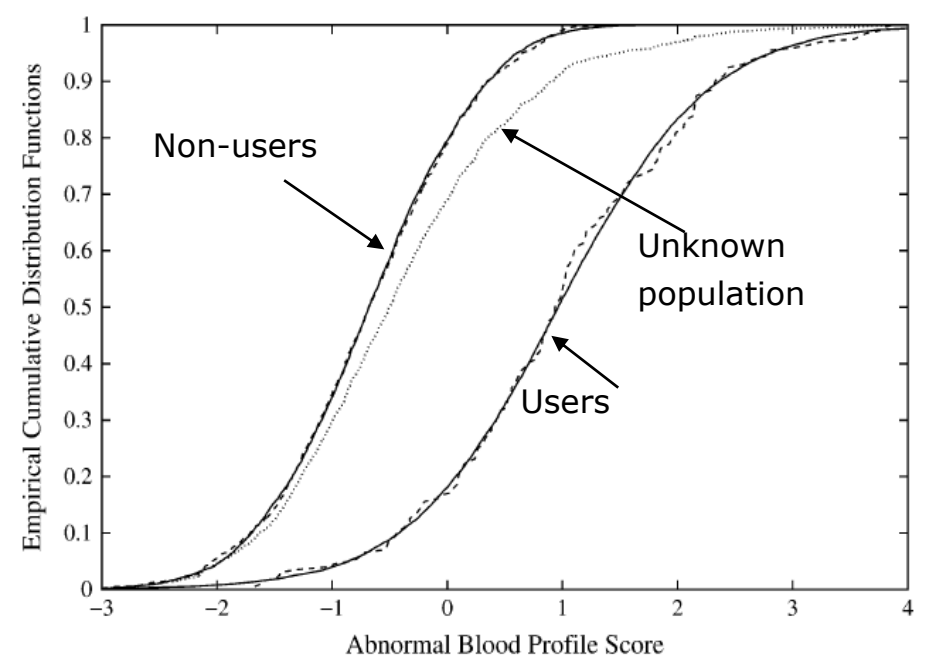
Population estimates

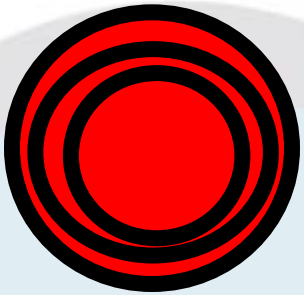


- Blood profile indicators

(here: 16% estimate of blood-based doping)

16

Source: Sottas et al. 2008



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anthropology

criminology

sociology

psychology

medicine

chemistry

Multidisciplinarity

LAW

physiology

economics

ethics

philosophy

toxicology

governance

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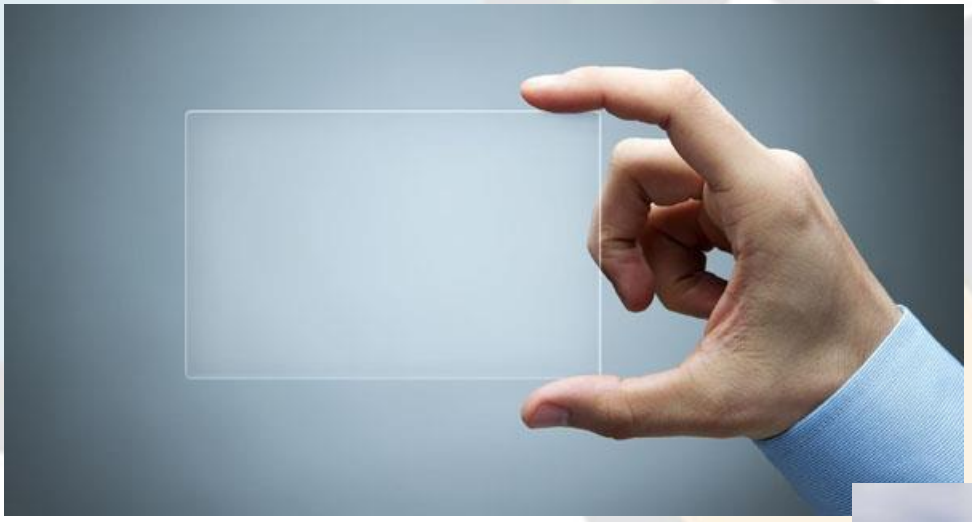
Transparancy



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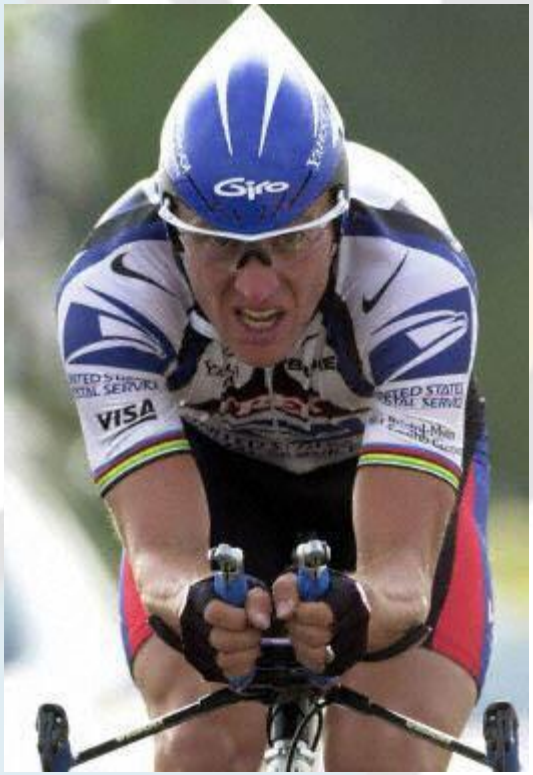
Focus



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Voice of the athletes