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University

Fitness Testing in Young People: A Controversial Issue

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Presentation Context and Aims

- Physical fitness testing is commonplace in schools and youth sports clubs
- Advocates claim fitness testing has many useful purposes and benefits
- Controversy has surrounded fitness testing in children with various issues and concerns raised
- This presentation aims to draw on evidence from the literature to consider whether:
 - fitness testing in young people is worthwhile
 - the time schools and clubs have with young people could be better spent



The Reported Purposes and Benefits

- Promotes healthy lifestyles and physical activity
- Promotes positive attitudes and motivates young people to maintain or enhance their physical fitness or physical activity
- Facilitates skills such as goal setting, self-monitoring etc
- Enhances cognitive and affective learning
- There is a link between health-related fitness components and health outcomes in children
- This is particularly so with low CV fitness levels and links with CV disease risk factors



Why the concerns?

- Faith in the tests and the data
- Issues relating to the validity, reliability and appropriateness of tests with children

'Even in a well-equipped sports science laboratory using 'scientific' tests, one might consider the error to be around 10%. In the field situation using simpler methods, the error is likely to be huge' (University Researcher/Lecturer)

'The bleep test is a classic example of mis-use, children just running up and down till they fall over, what's the use of that?' (PE Consultant)
- Fitness tests do not always reflect safe, healthy practice (e.g. performed with poor technique; exercising to exhaustion)

'There seems to be a lot of ad hoc fitness testing going on... I think that a lot of this is being conducted badly...'
(University Researcher/Lecturer)



Factors Influencing Test Performance

| | | |
|---------------------------------|------------------------------------|--|
| Hereditary or genetic potential | Growth, maturation and development | Anatomical and physiological characteristics; response to training |
| Routine activity, exercise | Dietary habits, nutrition | Motivation |
| Skill level | Environment/ test conditions | Test protocol/ practice |



Influence of Maturation and Motivation

- Armstrong et al., inform us that fitness test scores:
 - simply determine the obvious, distinguishing the mature and motivated from the immature and unmotivated

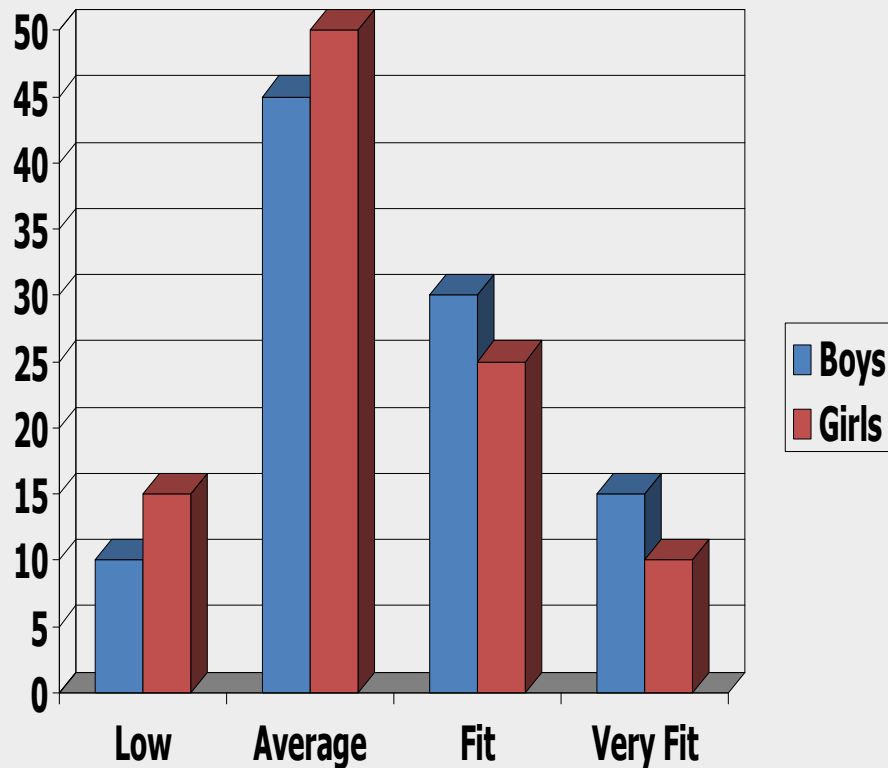


Problematic Assumptions

- It is often assumed that fitness in children is a reflection of the amount of activity they do...**this is inaccurate**
- The relationship between physical fitness and physical activity is low among children
- Physical activity and physical fitness are different
 - activity = a behaviour (process), fitness = a parameter (product)
- An active child who scores poorly on a test may become disillusioned, de-motivated and be 'turned off' activity because it does not 'pay off'
- An inactive child who scores well may conclude that everything is alright when it is not, and not be motivated to change



Norm-referenced Standards



Limitations

- ignore maturational differences
- do not indicate desired levels of fitness
- do not provide diagnostic feedback
- imply that 'more is better'
- emphasise competition and elite performance



Criterion-referenced Standards

- **Limitations**
 - The setting of standards is somewhat subjective
 - Youth may be misclassified
 - As the standards represent desired minimum levels, they may not give incentive for maximal achievement or improvement



Impact of Fitness Testing?

- Motivates young people to be active and to improve?
- Enhances learning?
- Promotes positive attitudes?

OR

- Repetitive and boring?
- De-motivating and counterproductive?
- Uncomfortable, demeaning and embarrassing for some?
- Off putting for those young people most in need and at risk (the least active, fit, healthy)?



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The Impact of Fitness Testing on Motivation, Attitudes, Knowledge and Understanding

- Relatively limited attention paid to such effects and variable results
- Motivational effects are complex; motivational enhancement cannot be taken for granted
- Mixed attitudes with extremes reported
- Testing is viewed unfavourably and is a major contributor to negative attitudes towards PE
- No evidence that young people value fitness tests or awards
- The educational role of fitness testing is questionable



Inappropriate Implementation of Tests and use of Test Data?

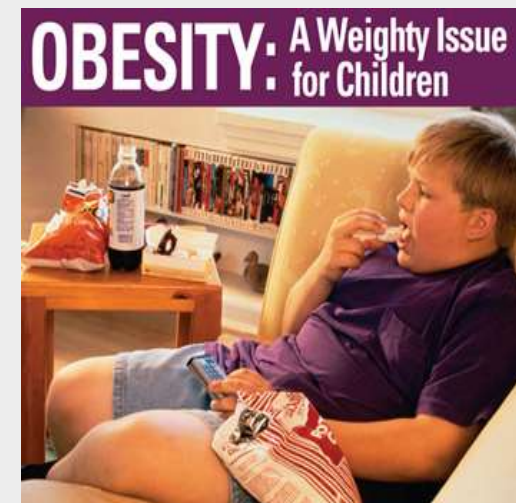
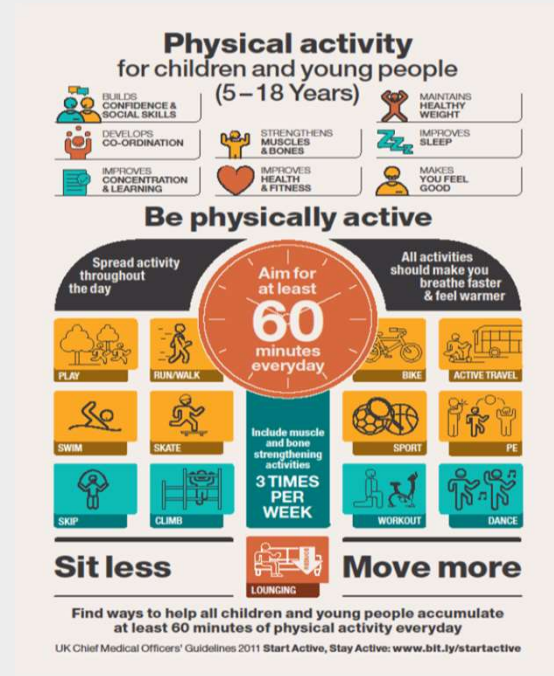


- Is the testing the problem or the way it is done?
- Dominating sport and fitness programmes?
- Irrelevant adjunct?
- Didactic (military) style delivery with minimal learning?
- Inappropriate use of tests? (e.g. to select teams; to grade youngsters; to evaluate teacher/coach competence)
- Possible negative consequences? (e.g. teaching/coaching to the test; cheating; undermining young people's confidence)



Further Points

- 3 facts cast doubt on the purpose and value of fitness testing:
 - Young people's fitness has failed to improve and they have become less active
 - The % of overweight youth has increased
 - The % of inactive adults has increased
- **Therefore all things considered:**
- The process of being active is considered key
- Facilitate, encourage and monitor the process of being active and the product (of improved fitness and health) will take care of itself



Can Fitness Testing Young People be Worthwhile?

YES - if it is positive, inclusive personal and integrated within an educational sports, physical education or coaching programme



But – teachers/coaches may need guidance and training in order to achieve affective, behavioural and cognitive outcomes from testing

NO - if it is negative, exclusive, makes unfair and unnecessary comparisons, lacks context and puts young people off activity



Key Recommendations (see Cale & Harris, 2009b; Cale et al., 2014)

- Fitness testing should:
 - be used to encourage and help children acquire and maintain fitness levels that are appropriate for their needs
 - not dominate or be an adjunct to a programme
 - focus on the health-related components of fitness (i.e. cardiovascular fitness, flexibility, muscular strength and endurance)
 - focus on lifelong activity habits and activity promotion measures alongside fitness and testing
 - include developmentally appropriate tests (e.g. different versions of exercises)
 - adhere to good practice (e.g. include a warm up/cool down, safe exercise practices, familiarization with procedures)
 - be child-centred, accessible to all, and with a focus on personal improvement over time rather than comparisons with others
 - be positive, meaningful and individualized, providing children with personalized scores and feedback on their activity and fitness levels
 - be made as fun, varied and relevant as possible, moving beyond traditional, didactic methods
 - promote learning with relevant concepts being delivered during the process
 - Involve critique and careful communication, interpretation and use of test results with children in a way that promotes learning



Conclusions

- There is little evidence that fitness testing promotes healthy, active lifestyles, positive attitudes, motivates young people, and develops their knowledge and understanding
- Thus, arguably the time schools and clubs have with young people could be better spent
- Given the limitations of fitness testing young people, more time and emphasis should be given to physical activity than to physical fitness



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