

## Body image, body mass and physical activity in young children: results from the LOOK study

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## LOOK (Lifestyle of Our Kids Study)

Telford RD et al. J Sci Med Sport 2007; Oct 8 (Epub)

- > longitudinal study
- > 821 children
- > M:F 50:50
- > baseline aged 7-8 years
- > 12 month assessments
- > 85%+ follow-up
- > comprehensive assessments



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## Aims

1. To assess association between body image and BMiZ in young children.
2. To assess associations between body image and physical activity controlling for BMiZ.

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## Body image

- > Mental image of ones body
- > Domain of self-esteem
- > Multidimensional
  - > Size
  - > Shape
  - > Features
  - > Movement
  - > Performance
- > 3 components
  - > Perceptual
  - > Attitudinal
  - > Investment

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## Importance of body image in children

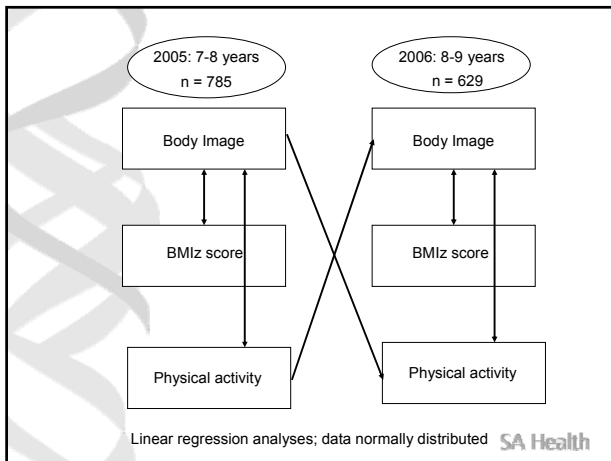
1. Internalising problems and negative affect (Gilliland et al., 2007)
2. Predicts emotional wellbeing (Wolman et al, 1994)
3. Depression in adolescent girls (Franko & Striegel-Moore, 2002)
4. Unhealthy eating behaviours and bulimia (Stice & Shaw, 2002)
5. Risk and maintenance factor for eating pathology (Stice & Shaw, 2002)

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## Determinants of body image

- > Social
  - Grabe, Ward & Hyde, 2008
  - Morrison, Kalin & Morrison, 2004
  - media (thin body-ideal)
  - family (criticism)
  - peers (teasing and stigmatisation)
  - other settings (weight bias)
- > Individual
  - Wardle & Cook 2005
  - age
  - gender
  - race
  - body mass
  - body comparison tendency
  - internalisation of media ideal
  - ? physical activity

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### Measuring body image

- > Not all body sizes
- > Shape and height not captured
- > Other aspects of body image:
  - face
  - performance
  - functionality
  - posture

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### The Appearance Beliefs in Children Scale (ABC-S)

Question 1

<input type="checkbox"/>	I'm pretty happy with the way I look
<input type="checkbox"/>	This is very much like I feel
<input type="checkbox"/>	This is sort of like I feel
<input type="checkbox"/>	I don't feel either way about this
<input type="checkbox"/>	This is not really like I feel
<input type="checkbox"/>	This is not at all like I feel

- > 4 subscales + total score
  - self perception subscale > 7 items,  $\alpha = 0.69$
  - other's perception subscale > 6 items,  $\alpha = 0.64$
  - physical attributes subscale > 6 items,  $\alpha = 0.63$
  - appearance subscale > 6 items  $\alpha = 0.76$
- > Lower score = better body image
- > KEEPad System of data entry in class

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### Other measures

- > **Body mass**
  - Weight & height
  - Collected in schools
  - BMiz scores
    - 1990 British Growth Reference Data
- > **Physical activity**
  - Pedometers for 7 days
  - Index adjusted for;
    - gender
    - number of days
    - weekend/weekday

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### Cross-sectional results: BMIz

2005: 7-8 years			2006: 8-9 years		
	BMIz 2005			BMIz 2006	
Body Image 2005	B ± SE	p	Body Image 2006	B ± SE	p
Self perception	0.16 ± 0.21	0.4	Self perception	0.5 ± 0.21	0.02*
Other's perception	0.25 ± 0.17	0.2	Other's perception	0.7 ± 0.18	0.001*
Physical attributes	0.63 ± 0.19	0.001*	Physical attributes	1.1 ± 0.19	0.001*
Appearance	0.44 ± 0.21	0.03*	Appearance	0.71 ± 0.23	0.002*
Total Body Image	1.47 ± 0.67	0.03*	Total Body Image	2.92 ± 0.72	0.001*

Controlling for PA and gender SA Health

### Cross-sectional results: Physical activity

2005: 7-8 years			2006: 8-9 years		
	Physical activity 2005			Physical activity 2006	
Body Image 2005	B ± SE	p	Body Image 2006	B ± SE	p
Self perception	0.002 ± 0.02	0.9	Self perception	-0.03 ± 0.02	0.1
Other's perception	-0.03 ± 0.02	0.3	Other's perception	-0.03 ± 0.02	0.1
Physical attributes	-0.01 ± 0.02	0.6	Physical attributes	-0.05 ± 0.02	0.004*
Appearance	-0.02 ± 0.02	0.3	Appearance	-0.03 ± 0.02	0.2
Total Body Image	-0.05 ± 0.08	0.5	Total Body Image	-0.15 ± 0.07	0.05*

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Longitudinal analyses:  
Does physical activity predict body image?

Body Image 2006	Physical Activity 2005	
	B ± SE	p
Self perception	-0.06 ± 0.02	0.003*
Other's perception	-0.03 ± 0.02	0.06
Physical attributes	-0.03 ± 0.02	0.2
Appearance	-0.05 ± 0.02	0.02*
Total body image	-0.17 ± 0.07	0.02*

Controlling for baseline BI scores and BMIz

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Longitudinal analyses:  
Does body image predict physical activity?

Body Image 2005	Physical Activity 2006	
	B ± SE	p
Self perception	-0.10 ± 0.06	0.07
Other's perception	-0.11 ± 0.07	0.1
Physical attributes	-0.06 ± 0.06	0.3
Appearance	-0.08 ± 0.06	0.2
Total body image	-0.03 ± 0.02	0.09

Controlling for baseline PA index and BMIz

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## Conclusions

1. BMIz was the most important determinant of body image
  - > strengthened as children became older.
2. Baseline level of physical activity predicted body image
  - > body image did not predict level of PA.
3. Improving PA competency may independently enhance body image
4. Obesity treatment and prevention strategies incorporating PA may enhance body image, regardless of change in BMI

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