Gender Bias in Research – a Case Study in Sports Medicine

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Dones i esport: bones pràctiques en recerca, docència i innivació
Women and sport: innovation in research, teaching and practice

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Structure

1. Current state of research
2. Methodological approach
3. First Results
4. Conclusion and prospects
1. Current state of research

- lack of research with focus on gender issues in health sciences (sex ~ biological aspects; gender ~ social aspects)
- increasing awareness in medicine, but scarcity of gender-sensitive studies
- insufficient knowledge about gender bias

Cp. Risberg Johansson & Hamberg, 2009; Combrink, Rulofs & Hartmann-Tews (2008); Babitsch (2005); Maschewsky-Schneider & Fuchs (2004); Voss & Lohff (2004); Fuchs, Maschewsky & Maschewsky-Schneider (2002); Jahn (2002)
Gender bias in research

1. **Androcentrism/ Gynocentrism**
   - Underrepresentation of women or *men* in study-samples
   - Male or *female* perspective in focus

2. **Sex/Gender blindness**
   - Ignoring the relevance of gender and/or sex
   - De-contextualization
   - No reflection on the relevance of male/ female investigators

3. **Unequal standard of measurement**
   - Interpretation of results guided by stereotypes

Cp. Risberg Johansson & Hamberg, 2009; Combrink, Rulofs & Hartmann-Tews (2008); Babitsch (2005); Maschewsky-Schneider & Fuchs (2004); Voss & Lohff (2004); Fuchs, Maschewsky & Maschewsky-Schneider (2002); Jahn (2002)
Reasons for gender bias in research

- ignoring differences based on biology, culture, power asymmetry
- assuming differences where there are none, e.g. stereotyping

(cp. Risberg Johansson & Hamberg, 2009; Combrink, Rulofs & Hartmann-Tews, 2008; Ruiz & Verbrugge, 1997)
Questions

In how far does gender bias occur in sports medicine and sport-related health research?

What kind of social structures foster or impede gender bias in research designs?
Structure

1. Current state of research
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Gender Bias
in sports medicine and sport-related health research

1. Survey of the relevance of sex and gender aspects
2. Analysis of reasons for gender bias
3. Development of criteria for gender-sensitive research

A
Quantitative content analysis of abstracts in the field of sports medicine

B
In-depths analysis of selected articles

C
Interviews with experts from scientific institutions, funding bodies and journals

D
Evaluation of research projects in sports medicine concerning gender sensitivity
Content analysis of abstracts in sports medicine (Subproject A)

- Data set: 2,922 abstracts of Journal articles
  - Database: Pubmed/Medline and Spolit
  - Complete inventory of the years 2005-2008
  - Sports medicine [broad field]
  - Research institution in Germany

- Standardized short-answer questionnaire

- Interrater-reliability: 90%
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Sample composition: Androcentrism / Gynocentrism?

- Topic relevant to both sexes: 96.8%
- Topic relevant to one sex only/ not determinable:
  - not determinable: 4.1%
  - men only: 15.5%
  - women only: 38.2%

N = 2.922
Sample composition of different research designs

- Clinical studies: 15% men only
- Field: 16% men only
- Laboratory: 29% men only

Both sexes were investigated: 40% men only

N=2,829
Gender-sensitive research?

Do the abstracts

• Inform about the relevance of sex or gender in research?

• address sex or gender differences and/or similarities?

• reflect on gender order?

Topic relevant to both sexes

Topic relevant to one sex only/not determinable

N=2.922
Gender-sensitive research

96.8% of the topics are relevant to both sexes. 7.2% are either relevant to one sex only or not determinable.

N=2,922
Sample composition of different research designs

- Clinical studies: 15% men only, 65% men only
- Field: 16% men only
- Laboratory: 29% men only

Both sexes were investigated: N=2.829
Gender sensitivity with different research designs

- Clinical studies: 70% (both sexes were investigated), 7% (gender-sensitivity)
- Field: 65% (both sexes were investigated), 19% (gender-sensitivity)
- Laboratory: 29% (both sexes were investigated), 4% (gender-sensitivity)

N=2,829
Gender sensitivity with respect to central journals

Both sexes were investigated

Gender-sensitivity

N=2.829
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Gender Bias in Sports Medicine?

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   - Male or female perspective in focus
   - Underrepresentation of women or men in study-samples

2. **Sex/Gender blindness**
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3. **Unequal standard of measurement**
   - Interpretation of results guided by stereotypes
Structure

1. Current state of research
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4. Conclusion and prospects
Prospects

Gender Bias in sports medicine and sport-related health research

1. Survey of the relevance of sex and gender aspects
   A  Quantitative content analysis of abstracts in the field of sports medicine

2. Analysis of reasons for gender bias
   B  In-depths analysis of selected articles

3. Development of criteria for gender-sensitive research
   C  Interviews with experts from scientific institutions, funding bodies and journals
   D  Evaluation of research projects in sports medicine concerning gender sensitivity
In depth-analysis of articles

Gendered? Central parts of an article

- ~ 20% • State of the art
- ~ 3% • Intervention / Method
- ~ 46% • Results
- ~ 24% • Discussion / Interpretation
- ~ 8% • Deficits / Prospect
## Prospects

### Gender Bias in sports medicine and sport-related health research

1. **Survey of the relevance of sex and gender aspects**
   - **A** Quantitative content analysis of abstracts in the field of sports medicine

2. **Analysis of reasons for gender bias**
   - **B** In-depths analysis of selected articles

3. **Development of criteria for gender-sensitive research**
   - **C** Interviews with experts from scientific institutions, funding bodies and journals
   - **D** Evaluation of research projects in sports medicine concerning gender sensitivity
Thank you for your attention!

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Literatur


