

Do body scanners affect our minds?

Possible changes in body image and affective state



Background...

Body scanners may have negative impacts on **affective state** and **body image** of the user

Body mass index (BMI) and **information about the scanner** as possible moderator variables

Background...

Explicit measurement in form of questionnaires


Explicit attitudes are...

...conscious

...verbalizable

...prone to social desirability

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Pb-Nr.:

| | 1 | 2 | 3 | 4 | 5 | 6 |
|--|---|---|---|---|---|---|
| 19. Ich habe es gern, wenn mich jemand umarmt. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 20. Ich habe mit meinem Haar keinerlei Probleme. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 21. Ich würde auf andere meist wenig anziehend. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 22. Mit der Form meines Gesichts bin ich zufrieden. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 23. Meine Stimme passt gut zu meinem Typ. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 24. Ich empfinde mich als ausgesprochen steif. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 25. Ich bin häufiger krank. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 26. Ich habe es gern, wenn jemand seinen Arm um meine Schulter legt. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 27. Ich habe eine gute Figur. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 28. Ich sorge stets dafür, dass ich ausreichend Schlaf bekomme. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 29. Ich habe oft das Gefühl, dass mein Gang steif und hölzern wirkt. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 30. Ich bin ein sportlicher Typ. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 31. Ich habe den Eindruck, dass ich aufgrund meines Äußeren nicht sehr attraktiv auf das andere Geschlecht wirken. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 32. Meine kleinen „Schönhelbsfehler“ belasten mich nicht. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 33. Mein Äußeres wirkt auf Menschen anderen Geschlechts anziehend. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 34. Meine Beine sind zu dünn. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 35. Ich habe hässliche Ohren. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 36. Ich bin zu klein. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 37. Die Farbe meiner Haare hat mich schon oft geizt. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 38. Ich habe es gern, wenn mich jemand unterhakt. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 39. Ich stoße oft an meine körperlichen Grenzen. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 40. Mein Gang hat mir schon viele Komplimente eingebracht. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |



Background...

Implicit measurement using the Implicit Association Test (IAT,
Greenwald, McGhee & Schwartz, 1998)

Implicit attitudes are (Greenwald & Banaji, 1995)...

...relying on past experience

...unconscious

...not prone to manipulation



Our hypotheses...

The decrease in positive affective mood and the negative influence on the body image through the use of the body scanner is more pronounced...

... for people with overweight (BMI > 25) than for people with BMI < 25

... for people who don't get sufficient information about the technical background of the body scanner as compared to people who do so.

| | | BMI | |
|-------------|-----|-----|------|
| | | Low | High |
| Information | No | 30 | 31 |
| | Yes | 33 | 34 |



The sample...

| | | Not informed BMI < 25 | Not informed BMI > 25 | Informed BMI < 25 | Informed BMI > 25 |
|----------------------------|----------------|--------------------------|--------------------------|-------------------------|-------------------------|
| Sex | Female | 18 | 19 | 22 | 22 |
| | Male | 12 | 13 | 11 | 12 |
| Age* | | M = 25,27 SD = 5,20 | M = 36,72 SD = 15,14 | M = 28,33 SD = 11,26 | M = 37,76 SD = 14,49 |
| Marital status* | No partnership | 30 | 26 | 31 | 24 |
| | Partnership | 0 | 6 | 2 | 10 |
| Education* | No A-Levels | 3 | 8 | 1 | 11 |
| | A-Levels | 27 | 24 | 32 | 23 |
| Frequency of Flying | | M = 1,64 SD = 1,46 | M = 1,21 SD = 0,87 | M = 1,84 SD = 1,36 | M = 1,84 SD = 1,88 |
| Use of body scanner | Never used | 25 | 28 | 33 | 33 |
| | Already used | 3 | 2 | 0 | 1 |

* Different between groups



The procedure...

first measurement of
body-concept and affective state





The procedure...

first measurement of
body-concept and affective state



no information

information

- Why implement body-scanners?
- Functionality of body-scanners
- Scanning-procedure



The procedure...

first measurement of
body-concept and affective state



no information

information

scanning procedure





The procedure...

first measurement of
body-concept and affective state



no information

information

scanning procedure



second measurement of
body-concept and affective state

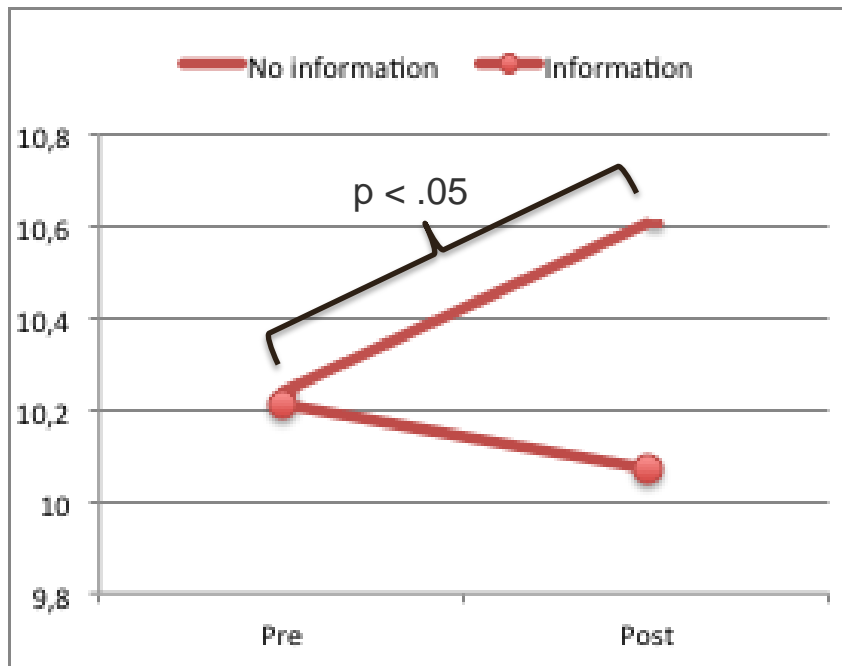




Changes in explicit body image...

scale: attractiveness/self-confidence (Strauß & Richter-Appelt, 1996)

„The imagination others see me naked discomfits me.“



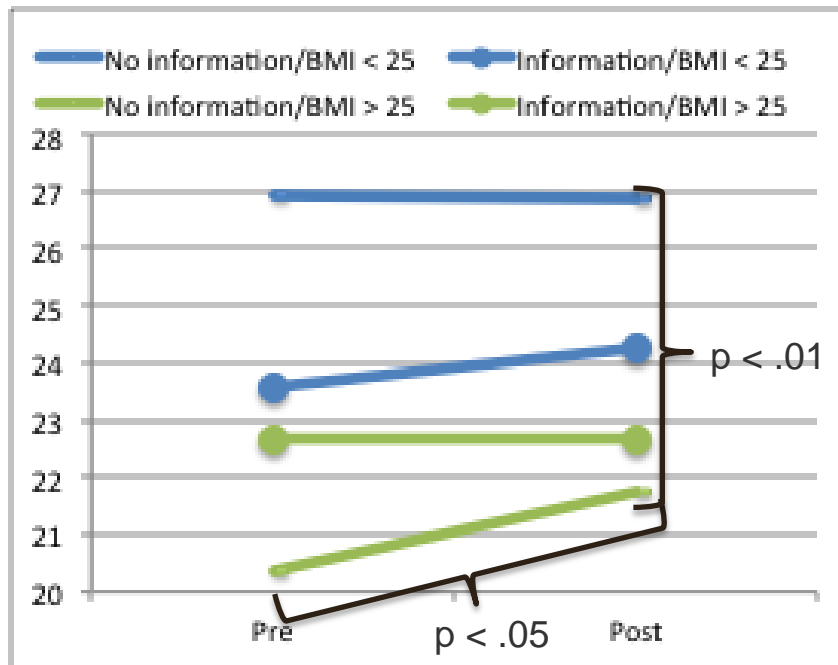
Significant increase only for people who didn't get any information



Changes in explicit body image...

Scale: acceptance of the body (Deusinger, 1998)

„I am comfortable with my appearance.“



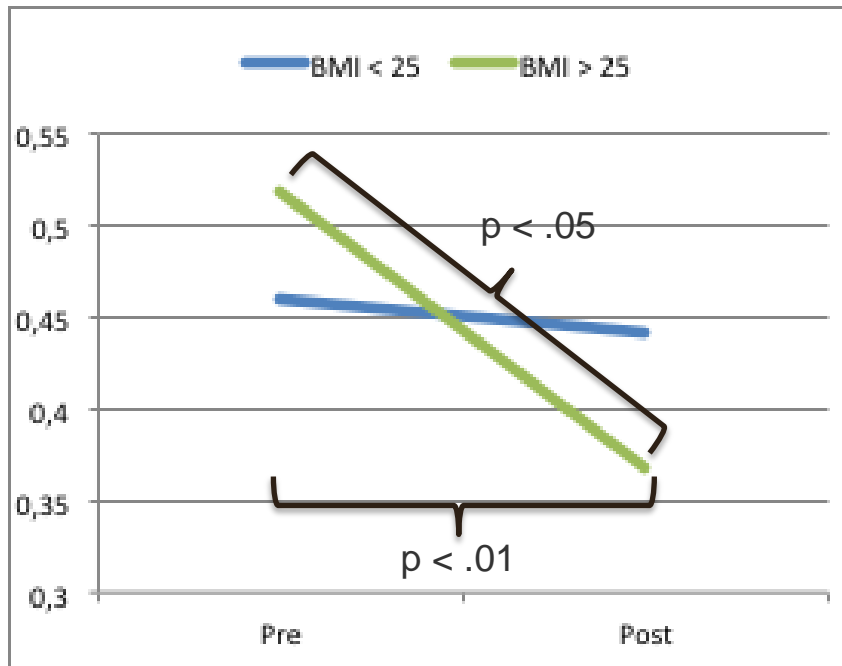
Significant improvement for people who didn't get information and had BMI > 25

If there was no information people with BMI > 25 had significant smaller scores than people with BMI < 25.



Changes in implicit body image...

Body-concept IAT
„Shapely“, „Unattractive“



Significant decrease in body concept from pre to post

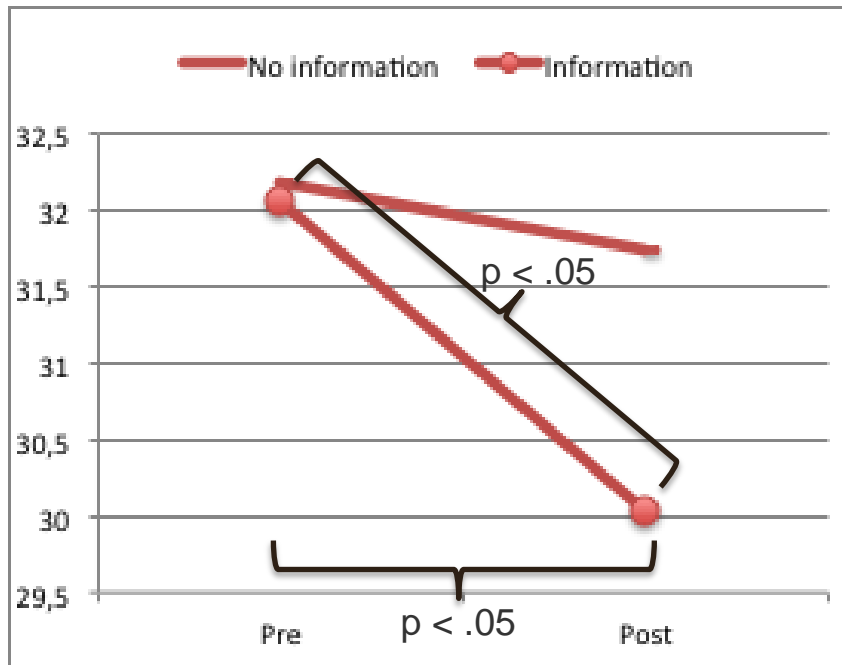
More pronounced decrease in body concept people with BMI > 25



Changes in affective state...

Positive affect (Krohne et al., 1996)

„Joyfully excited“, „Interested“



All participants showed less positive affect after the scan

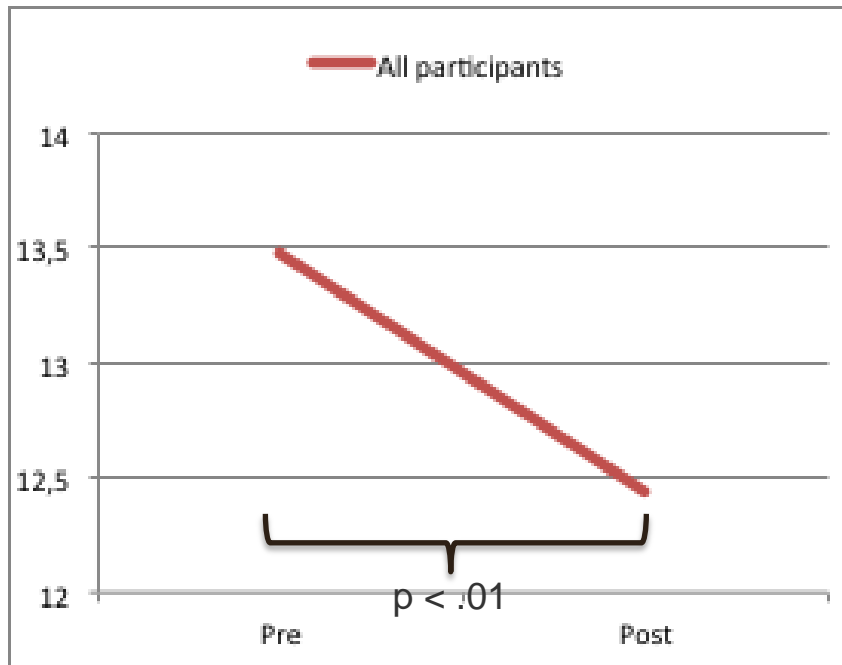
This effect was significantly more pronounced when they got information



Changes in affective state...

Negative affect (Krohne et al., 1996)

„Nervous“, „Anxious“



All participants showed less negative affect after the scan



Summary...

Implicit measure...

...all participants showed a significant decrease in their positive body image after the scan as compared to before the scan

...this was particularly pronounced for overweight participants

...hypotheses confirmed

...negative influence of the scanning procedure, weight as a moderator

...difficulties in acquisition of overweight women



Summary...

Explicit measure...

...only participants who didn't get information felt more attractive after the scan as compared to before the scan

...only participants who didn't get information and who were overweight showed more self-acceptance after the scan as compared to before the scan

...information doesn't seem to have any advantage as defined by less negative influence on body image for most people

...participants might have concluded that body scanners are able to produce pictures of the naked body based on the information sheet

...decrease in emotionality

→ Is it a question of expectations? Do people feel relieved?



Differences in implicit and explicit measures...

→ What happens if people have a choice?



Thank you.

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