

THE RELATIONSHIP BETWEEN BODY IMAGE AND EXERCISE ADHERENCE IN FITNESS CENTRE EXERCISING SAMPLE

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ABSTRACT

Research background and hypothesis. The analysis of factors which might influence exercise adherence is important issue for physical activity promotion. Studies show that exercisers' body image is important factor associated with well being, exercise motivation and specific exercise-related behaviour.

Research aim was to examine the relationship between exercise adherence, body image and social physique anxiety in a sample of fitness centre participants.

Research methods. Members of fitness centres ($n = 217$, 66 of them were women) provided their answers on exercise experience, in three subscales (appearance evaluation, appearance orientation and overweight preoccupation) of *The Multidimensional Body-Self Relations Questionnaire* (MBSRQ-AS; Brown et al., 1990) and *Social Physique Anxiety Scale* (SPAS; Hart et al., 1989). Mean age of the sample was 29.02 (9.85) years (range = 18–68 years).

Research results. Women demonstrated higher appearance orientation, overweight preoccupation and social physique anxiety compared to men. However, we observed no significant differences in appearance evaluation, appearance orientation and overweight preoccupation in the groups of different exercise experience of men and women. When overweight respondents ($\geq 25 \text{ kg} / \text{m}^2$) were excluded from the analysis, there were no statistically significant differences observed in body image and social physique anxiety in exercise experience groups of men and women. Exercising longer than 6 years significantly predicted overweight preoccupation [95% CI: 1.25–16.94] controlled by age and gender.

Discussion and conclusions. Exercising men demonstrated more positive body image and lower social physique anxiety compared to women, except for appearance evaluation. There were observed no body image and social physique relationships with exercise adherence observed in the sample of fitness centre participants, however, exercise experience longer than 6 years predicted overweight preoccupation.

Keywords: body image concerns, exercise experience, self-presentation.

INTRODUCTION

The analysis of factors which might influence exercise adherence is important issue for physical activity promotion. Studies show that exercisers' body image is important factor associated with well being, exercise motivation and specific exercise-related

behaviour (Melbye et al., 2008). Cross-sectional studies show that exercise-engaged individuals are more satisfied with their physical appearance than non-exercisers (Hausenblas, Fallon, 2006). However, intervention studies show that fitness workouts may increase women's drive for thinness

(Zabinski et al., 2001). There is much evidence that body image concerns interfered with women's enjoyment when participating in an aerobics class (Frederick, Shaw, 1995). However, body image concerns might motivate men and women to start exercising and assumption exists that a certain level of body image dissatisfaction motivates for the healthy lifestyle (Heinberg et al., 2001). Yet, it seems that body image depends on exercise motivation: individuals who get involved in exercising due to appearance improvement are less satisfied with their appearance (Strelan, Hargreaves, 2005).

Social physique anxiety (SPA) is the anxiety a person experiences as a result of the potential of their body being negatively evaluated by others (Hart et al., 1989). Studies show that women have significantly higher SPA scores than men (Lanning et al., 2004). There is evidence that exercisers' SPA decreases with age (Thogersen-Ntoumani, Ntoumanis, 2006). Moreover, SPA is associated with appearance – related exercise motivation (Sabiston et al., 2005), weight and muscle – related body comparison (McCreary, Saucer, 2009), body and weight dissatisfaction (Crawford, Eklund, 1994), and disordered eating (Haase, Prapavesis, 1998).

The relationships between SPA and physical activity are not well understood. Study of R. G. Bowden et al. (2005) showed that students enrolled in a fitness course had higher SPA scores as compared to those involved in emergency care course. However, there is evidence that self-presentation concerns provide a major motivation to exercise (Kowalski et al., 2001). The relationships between SPA and exercise adherence are unclear. There is some evidence that higher commitment to exercise is related to lower level of SPA among women (Finkenbergh et al., 1998), however there is no evidence about men. Moreover, it remains unclear how exercisers' body image and SPA are related to exercise adherence. In our study we expected that: 1) exercising men would demonstrate more positive body image and lower SPA compared to women; 2) exercise experience would be related to positive body image and SPA changes among fitness centre exercising men and women. **The aim of the present study** was to examine the relationships between exercise adherence, body image and social physique anxiety in a sample of fitness centre participants.

RESEARCH METHODS

Participants and Procedure. The consent was obtained from the administration of private Kaunas fitness clubs to carry out the survey. The survey was done agreeably to good will, as well as ethical and legal principals. The questionnaires were filled in anonymously. The procedure of completing questionnaires took place after fitness classes in the presence of one of the investigators, and after the completion the questionnaires were collected. The participants were given as much time as they needed, although all of them completed the questionnaires in less than 20 minutes. All the participants were informed about the aim and anonymity of the research and instructed on how to complete the questionnaires. They were encouraged to respond honestly and independently. Incompletely or inaccurately filled questionnaires were excluded ($n = 34$), thus the whole sample used for this study consisted of 217 respondents (66 of them were women). The mean age (SD) of the sample was 29.02 (9.85) years (range = 18–68 years). Mann-Whitney U test showed that women were significantly older compared to men, accordingly: 32.29 (10.34) and 27.59 (9.31), $p < 0.001$.

Instruments. Exercise experience was assessed by question: “How many years have you been engaged in fitness activities (not only in this fitness centre)?” with items: “Less than one year; one–two years; three–four years; five–six years; more than six years”.

The short version of *Multidimensional Body-Self Relations Questionnaire* (MBSRQ-AS) (Brown et al., 1990) was used to assess the participants' body image (body areas satisfaction scale was not included in this study). MBSRQ-AS is a 34- item self-report inventory for the assessment of self-attitudinal aspects of the body-image construct. Body image is conceived as one's attitudinal dispositions toward the physical self (Cash, 2004). *Appearance evaluation* represents the feelings of physical attractiveness or unattractiveness, satisfaction or dissatisfaction with one's looks. It has been found that high scorers feel mostly positive and satisfied with their appearance. *Appearance orientation* reflects feelings of being fit or unfit. High scorers place more importance on how they look, pay more attention to their appearance, and get engaged in extensive grooming behaviors. *Overweight preoccupation* subscale assesses a construct

reflecting fat anxiety, weight vigilance, dieting, and eating restraint. Self-classified weight scale reflects how one perceives and labels one's weight from extreme underweight to overweight.

A Lithuanian translation of the MBSRQ-AS was developed using double back-translation. Factor structure of the MBSRQ-AS was examined by Exploratory factor analysis (EFA) using principal axis factoring with *Varimax* rotation. Based on the pattern matrix, items with the load less than 0.40 were identified and eliminated. The six-factor model appeared to be the best fit to the data. KMO coefficient was 0.82, Bartlett's test of sphericity – $p < 0.001$. Six factors together explained 61.28% of variance. The six extracted factors were with Eigenvalues greater than 1 (5.14; 4.57; 2.10; 1.38; 1.09; 1.05). As hypothesized, the first factor (appearance evaluation) consisted of 7 items. The second factor (appearance orientation) consisted of 6 items. The third factor (overweight preoccupation) consisted of 4 expected items. Other items from appearance orientation scale formed the fourth (3 items) and fifth (3 items) factors. The sixth factor (self-classified weight) consisted of 2 expected factors. In this study only the first three factors (appearance evaluation, appearance orientation and overweight preoccupation) were analyzed. Appearance evaluation, appearance orientation and overweight preoccupation subscales had acceptable internal consistency, respectively: ($\alpha = 0.86; 0.75; 0.79$).

The double-translated Lithuanian version of Social Physique Anxiety Scale (SPAS; Hart et al., 1989) was used to assess self-presentation concerns. The scale consisted of 12 items and measured the degree of anxiety people experienced when they perceived their physique to be evaluated by other people. Example items from the scale included: "I am comfortable with how fit my body appears to others"; and "Unattractive features of my physique or figure make me nervous in certain social settings". Respondents rated each item on the Likert scale ranging from 1 (*Not at all*) to 5 (*Extremely true*). EFA using principal axis factoring with *Varimax* rotation showed that two factor model appeared to be the best fit to the data. KMO coefficient was 0.84, Bartlett's test of sphericity – $p < 0.001$. Two factors together explained 81.1% of variance. Eigenvalues of the factors were (4.47; 2.45). The first factor consisted of 7 items (No.: 3, 4, 6, 7, 9, 10, 12), the second factor consisted of 5 items (No.: 1, 2, 5, 8, 11). The first factor was directly related to social

physique anxiety, the items in the second factor were conversely directed. The first factor had good internal consistency in this sample, Cronbach's $\alpha = 0.90$, and was used in further analysis as social physique anxiety variable.

The Body Mass Index (BMI) was calculated from self reported weight and height measures (weight (kg)/height (m)²). The respondents were divided into three groups (≤ 18.49 kg / m²; 18.5–24.99 kg / m², and ≥ 25 kg / m²). The participants were asked to assess their body weight comparing it to the known height-weight standards (the choices given were: *too thin, normal, too heavy*).

Data Analysis. Statistical analysis of the data was carried out by using the software package *SPSS 13.0 for Windows*. Statistical association between qualitative variables was estimated by using chi square value. Mann-Whitney test was used to assess the mean differences between groups. The results were regarded statistically significant if the p-value was equal or less than 0.05. Binary logistic regressions were used to predict a categorical (dichotomous) variable from a set of predictor variables.

RESEARCH RESULTS

As many as 19% of the respondents were members of fitness centres less than 1 year, 13,8% of respondents – 1–2 years, 22,4% – 3–4 years, 10,3% – 5–6 years and 34,5% – more than 6 years. 64 persons (29.5%) of the sample was overweight and 21 (9.7%) of the respondents were obese. There were no age differences observed in exercise adherence groups ($\chi^2 = 1.53$; $df = 4$; $p = 0.82$). Mann-Whitney U test showed significant age difference between the group of exercise involvement for 6 years and more and other participants, accordingly: 35.44 (10.48) and 25.76 (7.72), $p = 0.0001$.

There were significantly more overweight and obese men compared to women, respectively: 51% and 12.1%, $\chi^2 = 33.68$; $df = 2$; $p < 0.001$. Descriptive statistics for the age, body mass index (BMI), body image and SPA showed differences in the expected direction except for the appearance evaluation. Women were significantly older compared to men (32.29 (10.34) and 27.59 (9.31) respectively), Mann-Whitney U = 3560.5; $p = 0,001$). Men's BMI was higher, respectively 25.57 (3.80) and 21.93 (2.61), Mann Whitney U = 1981; $p=0.001$. Women scored higher in

appearance orientation (4.03 (0.59) and 3.39 (0.59)), Mann-Whitney $U = 2215.5$; $p = 0.001$), overweight preoccupation (2.84 (1.00) and 2.19 (0.80)), Mann-Whitney $U = 2913$; $p = 0.001$), and SPA (2.29 (1.08) and 1.65 (0.70)), Mann-Whitney $U = 3096$; $p = 0.001$). However, there were no differences in appearance evaluation in men and women, respectively: 3.56 (0.60) and 3.54 (0.74), Mann-Whitney $U = 4435.5$; $p = 0.80$.

Further we tested how body image and SPA were associated with exercise experience controlled by age and gender. We excluded overweight and obese respondents (≥ 25 kg / m²) from further analysis. There were 85 respondents excluded from the analysis and the final sample consisted of 132 exercisers (58 of them were women). Still we observed significant BMI differences in exercise experience groups. Polynomial appearance evaluation, appearance orientation, overweight preoccupation and social physique anxiety variables were transformed to binary variables using median. Binary logistic regressions showed that age 95% CI [0.91–1.01], gender 95% CI [0.56–3.15], and exercise experience 1–2 years 95% CI [0.21–2.23], 3–4 years 95% CI [0.19–1.91], 5–6 years 95% CI [0.44–4.65] and > 6 years 95% CI [0.03–1.13] lacked significant power to predict appearance evaluation (models' $\chi^2 = 9.17$ (6), $p = 0.16$). Further analysis showed that gender predicted 5.54 fold higher appearance orientation 95% CI [2.25–13.65], but age and exercise experience did not predict appearance orientation (models' $\chi^2 = 25.49$ (6), $p = 0.001$). Model for overweight preoccupation showed that gender (OR = 4; 95% CI [1.68–9.50]) and exercise experience (> 6 years) (OR = 4.61; 95% CI [1.25–16.94]) were significant predictors of overweight preoccupation (models' $\chi^2 = 31.79$ (6), $p = 0.001$). Gender (OR = 3; 95% CI [1.28–7.03]), but neither age nor exercise experience were main predictors of SPA in this sample.

DISCUSSION

The present study was aimed to examine the relationships between body image, social physique anxiety and exercise experience in fitness centre exercising sample. We expected that longer exercise involvement would be related to more positive body image and lower social physique anxiety in men and women. The present findings showed that there was no significant body image and social physique anxiety differences in exercise

experience groups. Longer exercising men demonstrated higher overweight preoccupation compared to exercising less than one year, but the finding might be explained by significantly higher age and BMI in the first mentioned group. Logistic regressions showed that there was no significant relationship between exercise experience, body image and social physique anxiety in this sample. The finding that longer exercise experience predicted overweight preoccupation should be tested in further studies. Other studies showed that fitness workouts might increase women's drive for thinness (Zabinski et al., 2001). Studies in men showed that they wanted to have mesomorphic body type (McCreary, Saucer, 2009), what means striving for muscular but not fat body. However, the finding that longer exercising predicts overweight preoccupation might be incidental and therefore should be tested in future studies. There is lack of studies testing associations between exercise experience, body image and social physique anxiety, thus the interpretation of the findings is very limited. Future studies should test previous findings in representative randomized samples of fitness centre exercisers.

We expected that exercising women would demonstrate more negative body image and social physique anxiety compared to men. Our results supported other findings which revealed that women had typically poorer body image and higher social physique anxiety (Brown et al., 1990; Haase et al., 2002). Exercising women demonstrated higher appearance orientation, overweight preoccupation and social physique anxiety despite the facts that they were older and significantly less overweight compared to men. It might be explained by higher appearance-based socio-cultural pressures that females living in western countries experience. The present study supported the findings of A. Mi kinytė and A. Bagdonas (2010) who also found poorer women's body image compared to men in the representative sample of Lithuanian students using MBSRQ-AS measure (Brown et al., 1990). The present study suggested that appearance evaluation did not differ in both gender groups. It supported other findings which showed no appearance evaluation differences in Lithuanian men and women (Miškinytė, Bagdonas, 2010).

The main weaknesses of the study are small convenient sample and cross-sectional design. Future studies should test the direction of the relationships between body image, social

physique anxiety and exercise adherence with the prospective study designs. However, the associations between exercise adherence, body image and social physique anxiety have not been clearly understood and therefore should become the focus in further exercise research.

CONCLUSIONS AND PERSPECTIVES

Exercising men demonstrated more positive body image and lower social physique anxiety compared to women except for appearance evaluation. We observed no body image and social physique relationship with exercise adherence in this sample of fitness centre participants, however, exercise experience longer than 6 years predicted overweight preoccupation. Future studies should test previous findings in representative randomized samples of fitness centre exercisers.

REFERENCES

- Bowden, R. G., Rust, D. M., Dunsmore, S., Briggs, J. (2005). Changes in social physique anxiety during 16-week physical activity courses. *Psychological Reports*, 96, 690–692.
- Brown, T. A., Cash, T. F., Mikulka, P. J. (1990). Attitudinal body image assessment: Factor analysis of the Body-Self Relations Questionnaire. *Journal of Personality Assessment*, 55, 135–144.
- Cash, T. F. (2004). Cognitive – behavioral perspectives on body image. In T. F. Cash, T. Pruzinsky (Eds.), *Body image: A handbook of Theory, Research and Clinical Practice* (pp. 219–225). The Guilford Press.
- Crawford, S., Eklund, R. C. (1994). Social physique anxiety, reasons for exercise, and attitudes towards exercise settings. *Journal of Sports and Exercise Psychology*, 16, 70–82.
- Finkenbergh, M. E., DiMucci, J. M., McCune, S. L., Chenette, T., McCoy, P. (1998). Commitment to physical activity and anxiety about physique among college women. *Perception and Motor Skills*, 87, 1393–1394.
- Frederick, C. J., Shaw, S. M. (1995). Body image as a leisure constraint: Examining the experience of aerobic exercise classes for young women. *Leisure Sciences*, 17, 57–73.
- Haase, A. M., Prapavessis, H., Owens, R. G. (2002). Perfectionism, social physique anxiety and disordered eating: A comparison of male and female elite athletes. *Psychology of Sport and Exercise*, 3, 209–222.
- Hart, E. A., Leary, M. R., Rejeski, W. J. (1989). The measurement of social physique anxiety. *Journal of Sports and Exercise Psychology*, 11, 94–104.
- Hausenblas, H., Fallon, E. (2006). Exercise and body image: A meta-analysis. *Psychology of Health*, 21, 33–47.
- Heinberg, L., Thompson, J. K., Matzon, J. L. (2001). Body image dissatisfaction as a motivator of a healthy lifestyle change: Is some distress beneficial? In R. H. Striegel-Moore, L. Smolak (Eds.), *Eating Disorders: Innovative Directions in Research and Practice* (pp. 215–232). Washington, DC: American Psychological Association.
- Kowalski, N. P., Crocker, P. R., Kowalski, K. C. (2001). Physical self and physical activity relationships in college women: Does social physique anxiety moderate effects? *Research Quarterly for Exercise and Sport*, 72, 55–62.
- Lanning, B. A., Bowden, R. G., Owens, R., Massey-Stokes, M. (2004). Relations of sex, age, perceived fitness, and aerobic activity with social physique anxiety in adults sixty years older. *Psychological Reports*, 95, 761–766.
- McCreary, D. R., Saucer, D. M. (2009). Drive for muscularity, body comparison, and social physique anxiety in men and women. *Body Image*, 6, 24–30.
- Melbye L., Tenenbaum G., Eklund, R. (2008). Self-Objectification and Exercise Behaviors: The Mediating Role of Social Physique Anxiety. *Journal of Applied Biobehavioral Research*, 12, 196–220.
- Miškinytė, A., Bagdonas, A. (2010). Jaunųjų suaugusiųjų požiūrio į savo kūną sąsajos su demografiniais rodikliais. *Psichologija*, 42, 85–101.
- Sabiston, C. M., Crocker, P. R. E., Munroe-Chandler, K. J. (2005). Examining current – ideal discrepancy scores and exercise motivations as predictors of social physique in exercising females. *Journal of Sport Behaviour*, 28, 68–85.
- Strelan, P., Hargreaves, D. (2005). Reasons for exercise and body-esteem: Men's responses to self-objectification. *Sex Roles*, 53 (9), 495–503.
- Thogersen-Ntoumani, C., Ntoumanis, N. (2006). The role of self-determined motivation to the understanding of exercise-related behaviors, cognitions and physical self-evaluations. *Journal of Sport Sciences*, 24, 393–404.
- Zabinski, M. F., Calfas, K. J., Gehrman, Ch. A., Wilfley, D. E., Sallis, J. F. (2001). Effects of a physical activity intervention on body image in university seniors: Project GRAD. *Annals of Behavioral Medicine*, 23, 247–252.

SVEIKATINGUMO CENTRUOSE BESIMANKŠTINANČIŲ ASMENŲ KŪNO VAIZDO IR MANKŠTINIMOSI SĄSAJOS

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SANTRAUKA

Tyrimo pagrindimas ir hipotezė. Veiksnių, kurie gali veikti nusiteikimą mankštintis, analizė yra svarbi fizinio aktyvumo skatinimo sritis. Tyrimai rodo, kad besimankštinančio asmens kūno įvaizdis susijęs su jo gera savijauta, motyvacija sportuoti ir aktyviu gyvenimo būdu.

Tikslas: nustatyti ryšius tarp kūno vaizdo, socialinio nerimo dėl kūno išvaizdos priėmimo bei mankštinimosi sveikatingumo centruose trukmės.

Metodai. Anketinės apklausos būdu buvo nustatytas laisvalaikio sveikatingumo centruose besimankštinančių asmenų ($n = 217$, iš jų 66 moterys) mankštinimosi stažas, pasitenkinimas savo išvaizda. Dėmesys savo išvaizdai ir rūpestis dėl atsvario buvo nustatyti *The Multidimensional Body-Self Relations Questionnaire* skale (MBSRQ-AS – Brown et al., 1990), nerimas dėl socialinio išvaizdos priėmimo – *Social Physique Anxiety Scale* skale (SPAS – Hart et al., 1989). Imties amžiaus vidurkis – 29,02 ($\pm 9,85$) m.

Rezultatai. Moterys labiau rūpinasi savo išvaizda, atsvariu ir daugiau suserimusios dėl socialinio išvaizdos priėmimo, lyginant su besimankštinančiais vyrais. Nebuvo rasta kūno vaizdo ir nerimo dėl socialinio išvaizdos priėmimo skirtumų įvairaus mankštinimosi stažo vyrų ir moterų grupėse. Analizuojant tik normalios kūno masės tiriamųjų duomenis taip pat nenustatyta esminių kūno vaizdo ir nerimo dėl socialinio išvaizdos priėmimo skirtumų mankštinimosi stažo grupėse, nors aptikta, kad ilgesnis nei šešerių metų mankštinimosi stažas buvo susijęs su rūpesčiu dėl atsvario.

Aptarimas ir išvados. Besimankštinantys vyrai pozityviau vertina savo kūno vaizdą ir patiria mažesnę nerimą dėl socialinio išvaizdos priėmimo nei moterys. Tiriant šią imtį reikšmingų ryšių tarp mankštinimosi stažo ir kūno vaizdo bei nerimo dėl socialinio išvaizdos priėmimo nenustatyta, tačiau ilgesnis nei šešerių metų mankštinimosi stažas buvo susijęs su rūpesčiu dėl atsvario. Tolesniuose tyrimuose gautas išvadas reikėtų patikrinti tiriant reprezentatyvias sveikatingumo centruose sportuojančių asmenų imtis.

Raktažodžiai: rūpestis dėl savo išvaizdos, mankštinimosi stažas, savęs reprezentavimas.

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