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Body image dysphoria and motivation to exercise: A study of Canadian and Polish women participating in yoga or aerobics

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Summary

Aim. This study examined body image dysphoria and motivation to exercise among Canadian and Polish women practicing aerobics or yoga.

Participants and method. Female participants (N=138), recruited for this study from fitness centres and yoga studios, completed measures of body image (Situational Inventory of Body Image Dysphoria) and motivation to exercise (Exercise Motivation Inventory-2).

Results. Results showed that Polish yoga participants scored significantly lower on negative body related emotions experienced in specific situational contexts than the remainder of participants. Also, motivation to exercise differed between participants of yoga and aerobics. Canadian and Polish women were found to pursue exercise for different reasons.

Conclusions. These results indicate the interplay of cultural and motivational factors with relation to body image.

body image / motivation to exercise / physical activity

INTRODUCTION

Body image considered from the cognitive-behavioral perspective has been identified as a complex, multidimensional construct that contains both trait-like and state-like aspects and encompasses self-perceptions and attitudes towards one's own body [1]. Following that approach, the current study focused on assessing the state-aspect of body image, which seems to be under-researched with relation to exercise behavior. Specifically, the personal body image distress frequency experienced during activities related to grooming, eating, exercising, intimacy, physical self-focus, social comparison and appearance changes, which are thought to be activating body image schemas [2] were addressed. From that point of view, exercising, especially excessively, might be a way to cope with distressing emotions and thoughts that stem from maladaptive body image schemas. Further, exercising is thought to perpetuate psychological distress, possibly even affecting the quality of life [2].

It has been proposed that in order for physical exercise to enhance body image it should be based on body mastery, enjoyment, and reasonably moderate activities rather than activities focused on changing appearance or aiming for weight loss [3, 4]. It has been shown [5] that participation in cardio-based exercise was related to negative body image outcomes, namely increased self-objectification, lower body esteem and greater disordered eating behavior as

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well as appearance-related reasons for physical activity. Conversely, participation in yoga-type classes was related to reduced self-objectification and exercising for health, fitness and enjoyment reasons. According to Prichard and Tiggemann [5] the motives for engaging in physical exercise may provide a mechanism through which different types of fitness activities could be associated with either negative or positive body image outcomes. Furthermore, exercising for appearance related motives was claimed to be negatively correlated with body image outcomes in not only adult women but also adolescent girls [6, 7]. It has been proposed that motivation to exercise is related to the attitudes women hold about weight and dieting and to their body esteem [8]. In line with Deci and Ryan's self determination theory, a complex approach to human motivation and personality [9], specific exercise motives can reflect intrinsic or extrinsic motivational orientations [10]. Intrinsic motivation could be described as pursuing a certain activity just because it is interesting and spontaneously satisfying and is claimed to represent a principal source of enjoyment and vitality throughout human life [11]. Extrinsic motivation on the other hand, relates to obtaining a tangible reward or avoiding punishment. Therefore, exercising for appearance improvement and weight control would reflect extrinsic motivation. According to Deci and Ryan [11] motivation could be seen as a behavioral regulation continuum ranging form completely non-self determined to completely self-determined forms of regulation. Extrinsic motives, directed at attainment of certain outcomes such as loosing weight may contribute to tension, pressure to perform and feelings of compulsion, while intrinsic motives are associated with a lack of pressure and are rewarding by themselves [11].

The aim of this study was threefold. Firstly, to examine whether participation in yoga or aerobics is related to different body image outcomes. The populations of women practicing yoga and aerobics were chosen because those are distinct types of exercise, one focused on modifying appearance, the other on integrating the mind, body and spirit. The second aim was to examine the relationship between motivation to exercise and body image and the last goal was to investigate the differences in body image and motivational orientations between Polish and Canadian women. This study attempted to enrich the current state of understanding of body image-exercise-motivation relationships by including samples from diverse cultural contexts, namely Eastern Europe and North America. To highlight these country specific differences, Canada is a multicultural country with a well-established capitalist and consumer society whereas Poland is a homogenous country which had recently undergone political, economical and social transformations.

It was hypothesised that practicing yoga would be associated with more positive body image outcomes than practicing aerobics and would be related to different motivational orientations. Furthermore, appearance or weight related reasons for exercise were thought to correlate with worse body image outcomes, whereas health, revitalization and enjoyment related reasons with better body image outcomes. Last but not least, differences between Polish and Canadian women with regards to body image and motivations behind undertaking physical activity were expected.

METHOD, PARTICIPANTS

A sample of 138 female aerobics or yoga class participants from Poland and Canada completed the measures. Participants' age ranged from 17 to 67 years *(M*=27.86, *SD*=10.65). On average, the Body Mass Index (BMI) of all women involved in the study was within a normal range (*M*=2.66; *SD*=3.73). Various demographical variables as well as variables concerning physical activity such as age, weight, height, BMI, declared satisfaction with weight and height, place of residence, frequency of practice (yoga or aerobics), duration of involvement in the activity, practice of other physical activities, frequency and time of participation in other physical activities were controlled. Table 1 presents age and BMI of participants with regards to nationality and type of exercise.

Table 1. Participants' characteristics

Country	Exercise	N	Age		BMI	
			M	SD	M	SD
Canada	Aerobics	38	26.82	12.86	23.64	4.20
	Yoga	30	24.37	10.26	22.88	3.94
Poland	Aerobics	40	25.55	5.32	22.52	3.85
	Yoga	30	35.73	9.79	21.38	2.20

MEASURES

Body image

Situational Inventory of Body Image Dysphoria (SIBID) was used to assess body image distress frequency experienced in daily life situations such as activities related to grooming, eating, exercising, intimacy, physical self-focus, social comparison and appearance changes [12]. Participants indicated how often they experience negative body image emotions in those situations on a 5 point Likert-type scale ranging from 0 – *never* to 4 – *always or almost always*. SIBID possesses excellent internal consistency as well as high reliability and validity [13]. It was translated into Polish using the back-translation procedure in order to be administered to the Polish sample. For the entire study sample SIBID was found to have very good internal consistency (Cronbach's α=0.969). In the Polish sample alone the internal consistency was also very good (Cronbach's α=0.964).

Exercise motives

Exercise Motivations Inventory-2 (EMI-2) is a 51-item measure assessing a broad rage of exercise motivational orientations [10]. Participants were required to indicate why they personally choose to exercise on a 6 point Likert-type scale ranging from 0 – *not at all true for me* to 5 – *very true for me*. According to Markland and Ingledew [10] the EMI-2 is a factorially valid mean of assessing a broad rage of exercise participation motives. In the EMI-2 there are 14 embedded scales representing various types of motivation. The original EMI-2 was also translated into Polish using the back-translation procedure in order to administer it to the Polish participants. Reliability coefficients for the EMI-2 scales for the Polish sample were comparable to those reported for the original version [10] and as follows: stress management (Cronbach's α=0.755), revitalization (Cronbach's α=0.722), enjoyment (Cronbach's α=0.769), challenge (Cronbach's α=0.830), social recognition (Cronbach's α=0.852), affiliation (Cronbach's α=0.864), competition (Cronbach's α=0.941), health pressures (Cronbach's α=0.711), ill-health avoidance (Cronbach's α=0.652), positive health (Cronbach's α=0.830), weight management (Cronbach's α=0.921), appearance (Cronbach's α=0.721), strength and endurance (Cronbach's α=0.800), nimbleness (Cronbach's α=0.834).

Procedure

Participants for the study were recruited from fitness and yoga studios in Warsaw, Poland and in St. Catharines, Ontario, Canada. Involvement in the study was anonymous and voluntary. No incentive was provided. Participants were approached at the place where they participated in yoga or aerobics. After preliminary consent, the researcher informed participants about the purpose and content of the study and clarified any uncertainties. Participants completed the questionnaire either at the sport facility and returned to the researcher or at home and later dropped it off at the reception desk. The project was approved by the University of Warsaw Faculty of Psychology Ethical Committee.

RESULTS

Body Image Outcomes

A One-way between groups ANOVA was calculated in order to compare means from SIBID

of the four groups of participants: Polish aerobics, Polish yoga, Canadian aerobics and Canadian yoga. A statistically significant difference was found between the groups $F(3,134)=6.62$, $p<0.001$, $\eta_p^2=0.13$. Therefore, a post-hoc Bonferroni test was conducted to identify in which groups the means were different. It occurred that the Polish yoga group ($M=1.13$, $SD=0.56$) differed significantly on SIBID scores in comparison to the Polish aerobics group ($M=1.81$, $SD=0.77$), $p=0.001$; the Canadian aerobics group ($M=1.64$, $SD=0.74$), $p=0.029$; and the Canadian yoga group ($M=1.88$, $SD=0.85$), $p=0.001$.

Motivations for Exercise and Type of Exercise

A Mann-Whitney *U* test was conducted to evaluate differences in motivational orientations measured by the EMI-2 between women who practice yoga and aerobics. Women practicing aerobics were found to be characterized by higher scores on the weight management scale than women practicing yoga (ranked 73.42 and 59.51 respectively), $U=1739$, $z=-2.07$, $p=0.039$, $r=-0.18$. On the other hand, yoga practitioners were characterized by higher scores on the positive health scale compared to aerobics practitioners (ranked 75.91 and 62.65 respectively), $U=1835.50$, $z=-2.03$, $p=0.042$, $r=-0.17$. Additionally, women practicing yoga had higher scores on the stress management scale in comparison to women practicing aerobics (ranked 76.12 and 62.06 respectively), $U=1760$, $z=-2.07$, $p=0.039$, $r=-0.18$. The other EMI-2 scales did not differentiate significantly between the yoga and aerobics groups.

Motivation to Exercise and Body Image

Spearman's ϱ was used in order to assess the degree of correlation between EMI-2 scales and SIBID scores. A significant positive correlation was found between SIBID scores and scores on the weight-management scale ($r_s=0.432$; $p<0.001$) in both Canadian and Polish women. There was also found to be significant positive correlation between SIBID scores and the appearance scale ($r_s=0.185$; $p=0.030$).

A statistically significant negative correlation was found between scores on the enjoyment scale and SIBID scores only in the Polish Aerobics group ($r_s=-0.378$; $p=0.018$).

Motivation to Exercise within Canadian and Polish Women

A Mann-Whitney *U* test was conducted to evaluate differences in motivational orientations measured by EMI-2. The statistically significant differences between Canadian and Polish women are presented in Table 2.

Table 2. Differences in Motivational Orientations between Polish and Canadian Participan

EMI-2 Scale	Nationality	N	Mean Rank	z	Mann-Whitney U	r
Affiliation	Canadian	68	76.84	-2.65	1677.00**	-0.23
	Polish	67	59.03			
Appearance	Canadian	67	60.29	-2.53	1761.50*	-0.22
	Polish	70	77.34			
Competition	Canadian	68	75.54	-2.46	1697.00*	-0.21
	Polish	66	59.21			
Enjoyment	Canadian	68	61.78	-2.00	1855.00*	-0.17
	Polish	68	75.22			
Health Pressures	Canadian	68	79.55	-3.33	1560.50**	-0.29
	Polish	68	57.45			
Ill Health Avoidance	Canadian	68	75.25	-2.01	1853.00*	-0.17
	Polish	68	61.75			
Revitalisation	Canadian	68	56.29	-3.76	1481.50***	-0.32
	Polish	69	81.53			
Strength & Endurance	Canadian	67	74.90	-2.05	1815.50*	-0.18
	Polish	68	61.20			

*p<0.05, **p<0.01, ***p<0.001.

DISCUSSION AND CONCLUSIONS

In this study the hypotheses were partially confirmed and partially consistent with previous findings [5]. It was apparent in this study that participants within the Polish yoga group reported experiencing significantly less negative body related emotions than participants in the remaining groups. This finding might be a result of interplay between some specific cultural and motivational factors since differences did occur in types of motivation to exercise between Polish and Canadian women. It should also be noted that Polish yoga participants were somewhat older and weighed less than participants in other groups. This could account for the difference in scores since it has been shown that for women within the age range of 16-21 with increased amount of exercise body satisfaction decreased, while the opposite was found to be the case for older women [14].

Further, it occurred that women practicing yoga in both nationalities scored significantly higher on positive health and stress management reasons for exercise in comparison to women practicing aerobics whereas, women participating in aerobics scored significantly higher on weight management reasons for exercise. It is possible that women who are already satisfied with their bodies would choose a mind-body exercise over a toning and shaping type of activity and those who choose weight-related activities might be prompted to do so by dissatisfaction with their bodies [5] and try to manage negative body-related emotions through exercise [2].

In this study it was shown that exercising for weight-management, regardless of the cultural background, is positively related to the frequency of negative body related emotions experienced in specific situational contexts. A weight management related motivational orientation could indicate that the person may be more "schematic" for body and appearance than a person who is not motivated to exercise by such reasons and uses exercise as a compensatory strategy [2]. Therefore, it would not be beneficial for these women to continue exercising without addressing these maladaptive schemas and attitudes in the first place. Especially since some of them could possibly be suffering from eating disorders or body dismorphic disorder as body image disturbance is a component of those [15]. On the other hand, the revitalisation and positive health motivational orientations were not associated with better body image outcomes as predicted and enjoyment motivation was associated with experiencing less disphoric emotions only within the group of Polish women participating in aerobics. However, these relationships could just not be reflected in that particular aspect of state body image as assessed by SIBID since positive emotions towards one's body (body satisfaction) do not equal a lack of negative body related emotions experienced in specific situations.

With respect to cultural differences, Polish women were in general found to be characterised by higher scores on revitalisation and enjoyment motivation, which are thought to be representative of intrinsic motivation, when compared against Canadian women. However, at the same time Poles were also more motivated by appearance reasons than Canadians. The latter were in turn more motivated by affiliation, competition, strength and endurance, health pressures and ill-health avoidance. This possibly points to a more practical, health and social concentrated approach to exercise by Canadian women and somewhat more pleasure oriented but also compliant to beauty standards approach by Polish women.

A number of limitations of this study should be recognised. First, samples used in the study are relatively small. No incentive was provided for participants and there could be potential differences between women who agreed to participate and those who refused. Furthermore, this study did not control with pre- and post- exercise conditions, there was no recording whether participants completed the questionnaires prior to or following exercise, or even at home. This yields the potential of a bias since there is research pointing to the significant improvement in body image following an exercise session [16]. Moreover, it is especially eminent with higher pre-exercise drive for thinness, body dissatisfaction and weight and shape concerns [17]. Further research could address this limitation by looking at the differences in body image outcomes before and after exercise sessions of yoga and aerobics.

In conclusion this study partially revealed similar patterns of relationships between body

image and type of physical exercise as well as body image and types of motivation that have already been found in other female exercising populations. It also added a new perspective by including samples from Eastern Europe and North America. Future research should address the cultural differences between women practicing diverse physical activities in more depth.

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