

SOCIOCULTURAL PRESSURES AND SELF-DETERMINATION AS FACTORS OF BODY DISSATISFACTION AMONG SLOVAK UNIVERSITY STUDENTS

original article

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SUMMARY

Hricová L, Orosová O. Sociocultural pressures and self-determination as factors of body dissatisfaction among Slovak university students

Objective: The current study aims to confirm a modified version of the Tripartite Influence Model of body image explaining body dissatisfaction by analyzing the role of various variables supported by Self-determination theory.

Method: 302 Slovak university students (52.3% of females) from Košice and Prešov provided sociodemographic characteristics and information about sociocultural pressures about body image (hereinafter pressures), internalization of societal ideals of appearance (internalization), body dissatisfaction, general self-determination and basic psychological needs satisfaction via electronic data collection.

Results: The modified structural model (after adding one covariance) fitted the data well on the whole and explained 45% of variance among females and 25% among males body dissatisfaction. It is statistically equivalent for males and females ($p > .001$; $\Delta CFI < .01$). Significant direct associations were found between pressures and (1) body dissatisfaction (females: $\beta = .45$; S.E. = .016; $p = .003$; males: $\beta = .281$; S.E. = .124; $p = .023$), (2) internalization among females only (females: $\beta = .006$; S.E. = .006; $p = .329$; males:

SÚHRN

Hricová L, Orosová O. Sociokultúrne tlaky a seba-determinácia ako faktory nespokojnosti s telom u slovenských vysokoškolákov

Cieľ: Táto štúdia si kladie za cieľ overiť modifikovanú verziu Modelu tripartitného vplyvu na obraz tela, vysvetľujúci nespokojnosť s telom prostredníctvom analýzy viacerých premenných, vychádzajúc zo Seba-determinačnej teórie.

Metóda: 302 slovenských vysokoškolákov (52,3% ženy) z Košíc a Prešova poskytli sociodemografické charakteristiky a informácie o sociokultúrnych tlakoch na obraz tela (ďalej len sociokultúrne tlaky), internalizácii spoločenských ideálov vzhľadu (internalizácia), nespokojnosti s telom, všeobecnej seba-determinácii a naplnení základných psychologických potrieb prostredníctvom elektronického zberu dát.

Výsledky: Modifikovaný štruktúrálnej model (po pridaní jednej kovariancie) spĺňal kritériá pre prijatie a vysvetľoval 45% (ženy) a 25% (muži) variácie nespokojnosti s telom. Bol štatisticky ekvivalentný pre mužov a pre ženy ($p > .001$; $\Delta CFI < .01$). Signifikantná priama asociácia bola zistená medzi sociokultúrnymi tlakmi a (1) nespokojnosťou s telom (ženy: $\beta = .45$; S.E. = .016; $p = .003$; muži: $\beta = .281$; S.E. = .124; $p = .023$), (2) internalizáciou len u žien (ženy: $\beta = .006$; S.E. = .006; $p = .329$; muži: $\beta = .005$; S.E. = .004;

$\beta = .005$; S.E. = .004; $p = .238$) and (3) self-determination (females: $\beta = -.032$; S.E. = .011; $p = .003$; males: $\beta = -.023$; S.E. = .007; $p = .002$). Other direct associations were found between self-determination and internalization (females: $\beta = -.361$; S.E. = .105; $p < .001$; males: $\beta = -.324$; S.E. = .109; $p = .003$) and between body dissatisfaction and basic psychological needs satisfaction among males only (females: $\beta = -.007$; S.E. = .005; $p = .162$; males: $\beta = -.013$; S.E. = .006; $p = .024$). Furthermore, an indirect association of self-determination on body dissatisfaction was significant through pressure (females: $p = .002$; males: $p = .005$).

Conclusion: The results support the relevance of the Tripartite Influence model of body image among Slovak university students for both sexes. The presented model also emphasizes the protective role of self-determination in the context of body dissatisfaction. Future research is needed to explore the socio-cultural pressures, body dissatisfaction, self-determination as well as basic psychological needs as predictors of risk of eating disorders.

Key words: body dissatisfaction, sociocultural pressures about body image, self-determination, basic psychological needs, university students.

$p = .238$) a (3) seba-determináciou (ženy: $\beta = -.032$; S.E. = .011; $p = .003$; muži: $\beta = -.023$; S.E. = .007; $p = .002$). Ďalšie priame asociácie boli nájdené medzi nespokojnosťou s telom a internalizáciou (ženy: $\beta = -.361$; S.E. = .105; $p < .001$; muži: $\beta = -.324$; S.E. = .109; $p = .003$) a medzi nespokojnosťou s telom a naplnením základných psychologických potrieb len u mužov (ženy: $\beta = -.007$; S.E. = .005; $p = .162$; muži: $\beta = -.013$; S.E. = .006; $p = .024$). Nepriama asociácia medzi seba-determináciou a nespokojnosťou s telom bola významná cez sociokultúrne tlaky (ženy: $p = .002$; muži: $p = .005$).

Záver: Výsledky podporujú relevantnosť Modelu tripartitného vplyvu na obraz tela u slovenských vysokoškolákov oboch pohlaví. Okrem toho prezentovaný model zdôrazňuje ochrannú úlohu seba-determinácie v rozvoji nespokojnosti s telom. Ďalší výskum by sa mal zamerať na preskúvanie sociokultúrnych tlakov, nespokojnosť s telom, seba-determináciu, ako aj základné psychické potreby ako prediktory rizika porúch stravovania.

Kľúčové slová: nespokojnosť s telom, sociokultúrne tlaky na body image, seba-determinácia, základné psychologické potreby, vysokoškoláci.

INTRODUCTION

Body dissatisfaction can be understood as a negative evaluation of one's figure or parts of one's body¹ is a complex phenomenon determined by multiple variables on various levels, such as socio-demographic, biological, psychological or sociocultural. In the current study, the focus is predominantly on the psychological and sociocultural level while acknowledging the pervasive relevance of socio-demographic determinants such as gender and age and the anthropometric measure body mass index, which are well known to influence various aspects of body dissatisfaction. Generally, the research addressing body dissatisfaction has so far been much more frequently carried out on female samples. However, the current study will focus on both genders as it has been shown that this is no longer a female gender only issue.^{2,3} Based on Sociocultural theory,⁴ social and cultural factors as influences from the social environment directed at an individual as well as an unreal-

istic Western body ideal portrayed by the media are also considered risk factors for the development of body dissatisfaction.^{5,6} At the level of sociocultural factors, a part of the Tripartite influence model of body image and eating disturbances can be applied, as illustrated in Figure 1.⁵ The first part of this model, addressed in the current study, describes the indirect association between sociocultural pressures about body image (perceived from the media, parents, peers) and body dissatisfaction through the processes of internalization of societal ideals of appearance and social appearance comparison.⁴ Model 1 in Figure 1 demonstrates the original model suggested by Thompson et al. in 1999.⁴ A direct association between sociocultural pressures and body dissatisfaction has also been hypothesized in Model 2.⁵ Later research has shown that social appearance comparison seems to be incorporated into the more complex process of internalization of societal ideals

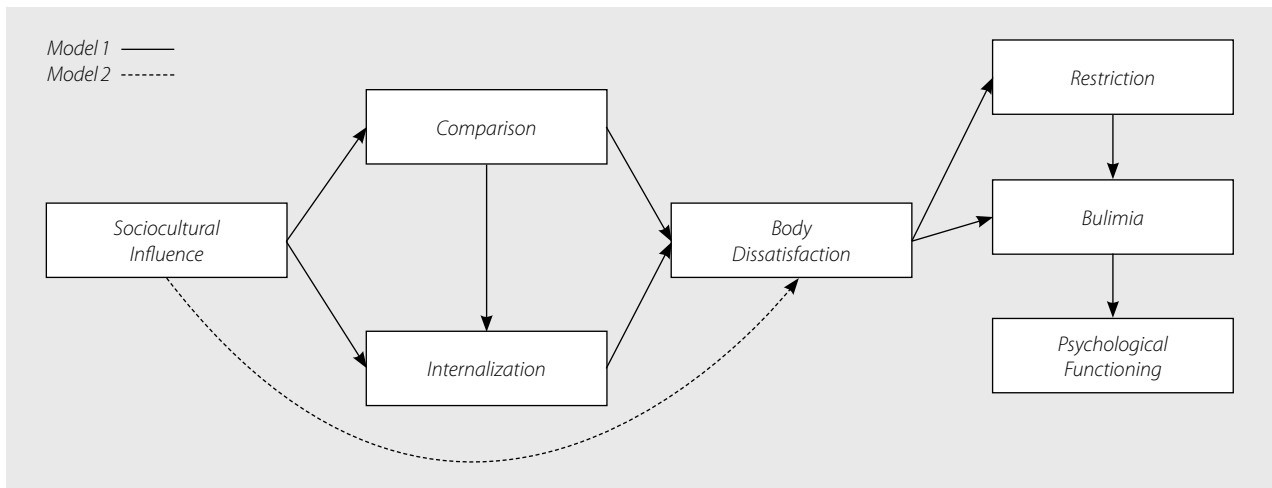


Figure 1. The Tripartite influence model of body image and eating disturbances (according to Keery et al.,⁵ p. 238)

of appearance.⁵ This has also been reflected in the present study. A further aspect of the Tripartite influence model, not addressed in the current study, suggests that there is a direct link between body dissatisfaction and restrictive eating strategies which in turn are directly linked with the development of eating disturbances and indirectly with psychological functioning.⁵ This model has been empirically tested and confirmed in various modifications using different, but mostly female, samples.^{7–9} According to Dittmar¹⁰ it is necessary to identify other factors that contribute to making individuals more vulnerable and responsive to sociocultural pressures about body image. Apart from the relevant and well established socio-demographic and anthropometric factors, the impact of sociocultural pressures about body image on body dissatisfaction has been explored in the context of Self-determination theory.^{11,12}

Media pressure about body image

The media seems to be most responsible for creating the body ideal. Since the seventies, the Western standards of female thinness produced by television and magazine stars, have significantly changed. Weight gradually decreased¹³ and currently does not appear to be rising. This so called Western-European ideal, set well below the biological limits of most women and also under the criteria of normal weight, has been spread to other countries via the media.¹⁴ Thompson et al.¹⁵ have noticed that ideal body conveyed by the media focus on exercise, muscularity, and athleticism for both men and women. Those figures, their body weight, shape and beauty are typically viewed as the representation of health, success and social desirability, while overweight figures are frequently ridiculed in media.¹⁶ The preference of such persons in the media, where exposure is difficult to avoid, may significantly contribute to the creation of an unattainable and “unhealthy” ideal figure and may lead (not only) to women developing negative attitudes towards their own bodies.¹⁷

Family, friends and romantic partner pressure about body image

Moreover, critical comments about one’s appearance from significant others are also classified as an important social pressure.¹⁸ Family is also a relevant factor with regards to body dissatisfaction and eating disturbances.¹⁹ Critical parental comments about dressing, appearance, body shape or weight can have a negative impact on body image.²⁰ According to some authors, not only parents, but other family members may significantly influence satisfaction with one’s appearance.^{9,11,21} Similarly, the broader concept of family pressure will be used in the current study.

Giles²³ considers the influence of friends to be a leading factor among other sociocultural factors increasing body dissatisfaction and eating disorders development. There has also been the suggestion of pressure resulting from a romantic partnership which might be associated with body evaluation²⁴. A romantic partner’s negative comments or criticism about appearance or acceptance of body appearance have been shown to be notable in the development of body dissatisfaction in both men and women.^{21,25} However, a partner’s dissatisfaction with one’s body was proven to be a stronger predictor of body dissatisfaction among men.²¹

Body dissatisfaction in the context of Self-determination theory

Self-determination seems to play an important protective role against the influence of social pressures. In particular, self-determination, which indicates lower susceptibility to extrinsic controls, has been shown to be a buffer against sociocultural influences about body image. This has been shown to be associated with a greater internalization of societal ideals of appearance and weight body satisfaction among young adult women.^{11,12} Autonomous and intrinsic motivation can protect individuals from pursuing a thin ideal of body image which mostly represents a socially conditioned extrinsic value²⁶. Moreover, high autonomy in women appears to protect them against sociocultural body image pressures.¹¹ Thus, it seems that high levels of

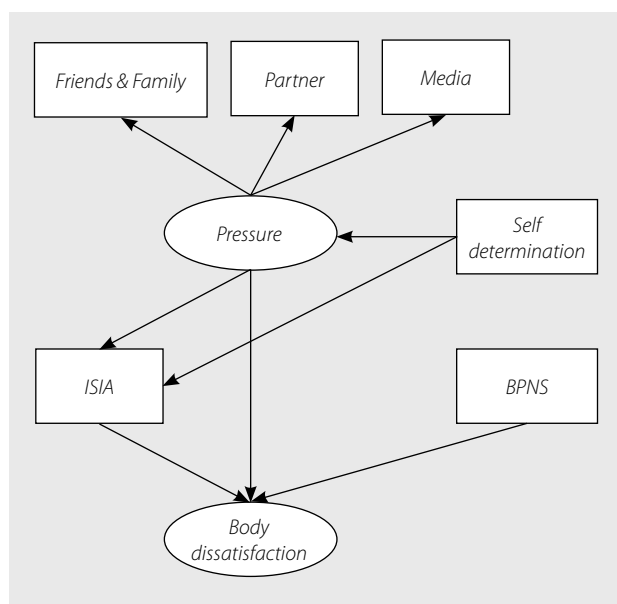


Figure 2. **The hypothetical model based on Keery, van den Berg and Thompson⁵ (p. 238) and Pelletier and Dion,¹¹ (p. 324). A modified version**

self-determination represent a buffer for women against the internalization of the pressure to be thin.¹¹ These associations are well demonstrated in the model by Pelletier and Dion,¹¹ where general self-determination was negatively associated with sociocultural pressures about body image and endorsement of society’s beliefs about thinness and obesity. Pelletier and Dion¹¹ came to the result that “women with greater levels of general self-determination would be less likely to perceive sociocultural messages about body image as a source of pressure, but instead as information that they are free to use or dismiss” (p. 235). Moreover, social pressures in their model were positively linked to the endorsement of society’s beliefs about thinness and obesity, which in turn predicted body dissatisfaction positively. The self-determination theory provides a theoretical framework for explaining risk behaviour in general and that is when basic psychological needs are chronically thwarted. The inverse relationship between the satisfaction of the three basic psychological needs (autonomy, competence and relatedness) and body image concerns has been confirmed in a study by Thøgersen-Ntoumani, Ntoumanis and Nikitaras.²⁷ However, further research examining perceived self-determination and basic psychological needs is necessary to understand their connection to sociocultural pressures about body image and body dissatisfaction as well as to address whether this relationship is the same among male and female adolescents.

The aim of the current research is to confirm a modified version of the Tripartite influence model of body image and eating disturbances⁵ extended by a partner’s sociocultural pressure of body image²⁴ and by the relevant variables within Self-determination theory as general self-determination and basic psychological needs satisfaction.¹¹ The aim is to explore the effect (indirect, direct) of sociocultural pressures about body image (friends & family, partner, media pressure), internalization of societal ideals of appearance, general self-determination and basic

psychological needs satisfaction on body dissatisfaction. According to the Tripartite influence model of body image and eating disturbances⁵, it was expected that there would be a significant positive association between sociocultural pressures about body image and (1) the internalization of societal ideals of appearance and (2) body dissatisfaction. A significant positive association between the internalization of societal ideals of appearance and body dissatisfaction was expected. The study assumed that there is an indirect effect of sociocultural pressures about body image on body dissatisfaction through the internalization of societal ideals of appearance. In addition, the contribution of sociocultural pressure perceived from the media to the internalization of societal ideals of appearance and body dissatisfaction was expected. This has often been considered to be a very strong influencing factor. Furthermore, in line with Self-determination theory,^{11,28} it can be assumed that higher general self-determination is negatively associated with (1) perceived sociocultural pressures and (2) the internalization of societal ideals of appearance and basic psychological needs satisfaction is also negatively associated with body dissatisfaction. Finally, it was assumed that there is a significant indirect effect of general self-determination on body dissatisfaction through the sociocultural pressures about body image and the internalization of societal ideals of appearance. It is also important to explore whether these associations are the same for male and female university students. As a result, the following hypothetical model has been created based on a review of literature and existing research studies (Figure 2). This model will be tested by gender to examine whether it is statistically the same for male and female university students or whether differences exist.

METHODS

Procedure and sample

This analysis is based on separate data collection among students from three universities in East Slovakia (P. J. Šařarik University in Kořice, The Technical University of Kořice and the University of Preřov). A convenient sampling method was used. A gender balance of the sample was provided. Students were asked to participate in the study face-to-face during seminars and they filled in an electronic version of the questionnaire whilst in the presence of the administrator. Participation in the study was voluntary and anonymous. The total sample size was 302 students (52.3% of females).

Measures

Sociodemographic characteristics – gender (male/female), age (open question), university year (1st–5th), university (PJ Šařarik University in Kořice/Technical university in Kořice/University of Preřov), accomodation during semester (alone/with partner/with roommates/with parents) and socio-economic status (open question on monthly income).

The Contour Drawing Rating Scale (CDRS)²⁹ was used to assess body size dissatisfaction. The CDRS consists of nine drawings of a female figure (for female participants) and a nine male figures (for male participants) increasing in size from extremely thin (1) to very obese (9). Participants are firstly asked to rate their ideal figure (what they ideally wanted to look like) and secondly their current size (currently perceived figure). The discrepancy between the ideal and perceived figure creates an index of body size dissatisfaction. This index is put into the absolute value in order to eliminate the positive or negative direction (dissatisfaction with higher/lower weight). The higher the score, the higher the body size dissatisfaction is.

The Body Shape Satisfaction questionnaire (BSS)³⁰ was used to measure body shape dissatisfaction. Participants indicated their degree of satisfaction with 10 body parts or attributes (e.g.: height, body shape, waist, stomach...) on a 5-point response scale ranging from 1 (very satisfied) to 5 (very dissatisfied). A higher score indicated higher body shape dissatisfaction. This scale had a Cronbach's alpha of .86 (.84 for females and .87 for males).

The Self-determination Scale (SDS)³¹ is a 10-item self-report instrument that measures two domains of self-determination: Self contact/Awareness of Self and Choicefulness/Perceived Choice –5 items for each domain. Subjects are asked to choose which of two statements feels truer (e.g.: "A. I always feel like I choose the things I do. – B. I sometimes feel that it's not really me choosing the things I do"; "A. My emotions sometimes seem alien to me. – B. My emotions always seem to belong to me."). The overall SDS score is computed by summing the items. A higher score indicates a higher level of self-determination. This 10 items scale had a Cronbach's alpha of .80 (.80 for females and .81 for males).

The balanced measure of psychological needs (BMPN)³² scale was used to detect basic psychological needs satisfaction. Respondents indicated on a scale from 1 (no agreement) to 5 (much agreement) the extent to which they agree with statements about basic psychological needs (autonomy, relatedness and competence) satisfaction. The examples of items are: "My choices expressed my 'true self'"(autonomy); "I felt a sense of contact with people who care for me, and whom I care for"(relatedness); "I did something stupid, that made me feel incompetent"(competence). 8 items were reverse scored. The total score was created by summing all items. The higher the score, the higher the basic psychological needs satisfaction. The scale had a Cronbach's alpha of .83 (.85 for females and .80 for males).

Perceived Sociocultural Pressure Scale (PSPS)³³ is an 8-item rating scale with responses from never (1) to always (5), measuring perceived pressure about body image (to be slender and lose weight). The influences of friends, family, partners, and media are measured by inserting the name of the influence into the statements "I've felt pressure from my ___ to lose weight" and "I've noticed a strong message from ___ to have a thin body". The summing of the items makes a total score. A higher score indicated higher perceived pressure. A factor analysis of the scale (the three-factor structure with eigenvalues exceeding 1, uncovered by the Principal axis factoring, explained a total of 72.23% of the variance, with factor Friends and family pressure

about body image loaded by four items with 51.32% of variance explained, factor Partners pressure about body image loaded by two items with 17% of variance explained, factor Media pressure about body image loaded by two items with 12.80% of variance explained) uncovered a three-factor structure: a Friends and family pressure about body image factor (Cronbach's alpha of .86, .86 for females and .86 for males), a Partner's pressure about body image factor (Cronbach's alpha of .91, .93 for females and .87 for males), Media pressure about body image factor (Cronbach's alpha of .88, .87 for females and .87 for males).

The Internalization-General subscale of the Sociocultural Attitudes towards Appearance Questionnaire-3 (SATAQ-3)¹⁵ was used to measure the internalization of societal ideals of appearance. This subscale assesses the endorsement and acceptance of media messages which promote unrealistic expectations of the body ideal and striving toward these ideals. The scale consists of 9 items, rated from 1 (definitely disagree) to 5 (definitely agree). An example of this is: "I would like my body to look like the people who are on TV". 3 items needed to be reverse scored. The total score was created by the summing of all items. Higher scores reflect greater internalization of ideals conveyed by the media. The scale had a Cronbach's alpha of .88 (.89 for females and .87 for males).

Statistical analysis

The descriptive analysis of the observed variables, T-tests and U-test to examine gender differences were conducted in SPSS 20. In order to confirm the factor structure of the scale PSPS, factor analysis via the method Principal Axis Factoring in SPSS 20 was performed. Further structural equation modelling (SEM) to test and estimate the relationships was done in AMOS 20. Before carrying out a particular analysis, all assumptions were fulfilled. The fit of the SEM models was evaluated using the following criteria. An insignificant difference from the saturated model showed in the log-likelihood test a good fit. However, the log-likelihood test is sensitive to a large sample size. Thus, descriptive indices of fit were also used as follows: SRMR \leq 0.08; GFI and AGFI \geq 0.90; CFI \geq 0.95; RMSEA $<$ 0.08; PCLOSE \geq 0.50³⁴. A cut-off value of 5.0 was specified for the modification indices while checking whether the added covariances between items were substantively meaningful. For SEM, respondents with at least 40% of missing values were removed (4 respondents). Therefore, the data from 296 university students (53% females) were analyzed. Missing values were imputed by the mean of the individual items. The model was done separately by gender. The indirect association was tested by bootstrapping, using bias-corrected confidence intervals.

RESULTS

Sociodemographic characteristics

The description of the sociodemographic characteristics of the research sample is presented in Table 1. The sam-

Table 1. Description of the demographic characteristics of the research sample

Variable	Categories	n	%	Variable	Categories	n	%
Gender	Females	157	52.3	Accommodation¹	Alone	10	3.4
	Males	143	47.7		With a partner	18	6.1
University	UPJŠ	122	41		With family	128	43.1
	TUKE	108	36.2		With flat mates	133	44.8
	PU	68	22.8		other	8	2.6
Year of study	1st	137	45.7	Income²	Always satisfactory	55	18.8
	2nd	21	7		Mostly satisfactory	145	49.5
	3rd	57	19		Mostly insufficient	50	17.1
	4th	77	25.7		Always insufficient	43	14.6
	5th	8	2.6				

Note: UPJŠ = P. J. Šafárik University in Košice; TUKE = Technical University of Košice; PU = University of Prešov; ¹Accommodation during the semester, ²Satisfaction with the amount of money available after paying rent and bills each month.

ple was relatively gender balanced, with an average age of 21 (SD = 2.15; Min = 18; Max = 42). Most participants studied at the P. J. Šafárik University in Košice, and were in the first year. Most of them lived with flat mates or family during the semester. Their average monthly income after paying rent and bills was 143.05 euros (SD = 134.53; Min = 0.00; Max = 1000) and most of them considered their income as mostly satisfactory.

Gender differences

Furthermore, the gender differences in all explored variables were analyzed. The results are reported in Table 2. Generally, females scored significantly higher on variables measuring body dissatisfaction (body shape dissatisfaction and body size dissatisfaction), media pressure about body image and the internalization of societal ideals of appearance. The perceived pressure about body image from friends, family and partners does not seem to be significantly different for males and females, which is interesting. With respect to variables related to self-determination, there were no significant gender differences in basic psychological needs satisfaction, however males scored slightly but significantly higher on general self-determination.

The exploration of the complex relationships in the model (SEM)

A model explaining Slovak university students body dissatisfaction was created by analyzing the role of various variables, which were selected on the basis of a literature review of the existing research.

The model included the following **unobserved, endogenous variables**:

- Sociocultural pressure about body image (Pressure);
- Body dissatisfaction.

The model included the following **observed, endogenous variables**:

- as indicators of **unobserved, endogenous variable Pressure**:
 - Friends and family pressure about body image (Friends & Family);
 - Partners pressure about body image (Partner);
 - Media pressure about body image (Media).
- as indicators of **unobserved, endogenous variable Body dissatisfaction**:
 - Body shape dissatisfaction (BSD);
 - Body size dissatisfaction (BSZD).

Table 2. Gender differences in the variables explored in the model

	Females		Males		t	Df	p
	Mean	SD	Mean	SD			
Body shape dissatisfaction	26.47	6.35	23.60	6.23	3.79	276	<.001
Body size dissatisfaction	1.29	1.04	.81	.83	4.37	280.06	<.001
Friends & family pressure*	1.49	.76	1.34	.61	1.92	286.68	.06
Partner pressure*	1.43	.85	1.31	.70	1.38	287.74	.17
Media pressure*	2.26	1.27	1.63	1.05	4.63	288.74	<.001
Internalization of societal ideals of appearance	25.11	8.66	21.2	8.47	3.83	282	<.001
Basic psychological needs satisfaction	59.81	9.75	60.13	8.19	-.29	271	.77
General self-determination	36.91	6.84	38.50	6.58	-2.17	281	<.05

Note: *about body image.

Table 3. Correlation matrix of factors from the structural model explaining Body dissatisfaction

	FFP ¹	PP ¹	MP ¹	ISIA	BSD	BSZD	GSD	BPNS
Friends & family pressure ¹	1	.420**	.315**	.091	.378**	.346**	-.171*	-.104
Partner pressure ¹	.754**	1	.242**	.253**	.175*	.238**	-.229**	-.105
Media pressure ¹	.417**	.357**	1	.338**	.311**	.230**	-.226**	-.148
Internalization of societal ideals of appearance	.079	.094	.103	1	.311**	.04	-.364**	-.292**
Body shape dissatisfaction	.320**	.285**	.229**	.217**	1	.450**	-.281**	-.276**
Body size dissatisfaction	.219**	.189*	.144	.025	.441**	1	-.052	.01
Self-determination	-.276**	-.260**	-.260**	-.262**	-.266**	-.096	1	.705**
Basic psychological needs satisfaction	-.129	-.090	-.169*	-.331**	-.327**	-.141	.653**	1

Note: Values represent Pearson correlation coefficients among females (above the diagonal) and for males, (below the diagonal); *p < .05; **p < .001; ¹sociocultural pressure about body image.

- the Internalization of societal ideals of appearance (ISIA);
- Self-determination;
- Basic psychological needs satisfaction (BPNS).

The correlations between the indicators of the factors from the model are reported in Table 3. The tested model has 72 distinct sample moments, 38 distinct parameters to be estimated and 34 degrees of freedom. 20 variables were in the tested model of which 8 were observed variables, 12 unobserved variables, 10 exogenous variables and 10 endogenous variables. The tested model was estimated and did not fit the data well enough (Table 4 – Tested model) so the modification indices were examined to identify possible sources of the poor fit. The addition of one covariance between the errors of the Self-determination and Basic psychological needs satisfaction led to a significant improvement of the model fit. This covariance was meaningful and the model was therefore re-estimated. Most of the relevant descriptive indices of fit are acceptable (χ^2/df , SRMR, GFI, AGFI, CFI, RMSEA, PCLOSE; Table 4 – Modified model) with some exceptions (NFI was close to being acceptable) but they are sensitive to sample size. The model also explained a good proportion of the variance in body dissatisfaction and therefore could be accepted. The modified model (Figure 3 and Figure 4) fitted the data well on the whole and explained 45% of variance among females and 25% among males' body dissatisfaction.

The significant path coefficient showed that:

1. There is a significant positive association between sociocultural pressures about body image and body dissatisfaction (females: $\beta = .575$; S.E. = .016; $p = .003$; males: $\beta = .340$; S.E. = .124; $p = .023$) and the internalization of societal ideals of appearance among females only (females: $\beta = .246$; S.E. = 1.466; $p = .027$; males: $\beta = .018$; S.E. = 1.599; $p = .841$).
2. There is no significant association between the internalization of societal ideals of appearance and body dissatisfaction (females: $\beta = .096$; S.E. = .006; $p = .329$; males: $\beta = .105$; S.E. = .004; $p = .238$).
3. Higher general self-determination is negatively associated with perceived sociocultural pressures (females: $\beta = -.333$; S.E. = .011; $p = .003$; males: $\beta = -.314$; S.E. =

- .007; $p = .002$) and the internalization of societal ideals of appearance (females: $\beta = -.283$; S.E. = .105; $p < .001$; males: $\beta = -.256$; S.E. = .109; $p = .003$).
4. There is a negative association between basic psychological needs satisfaction and body dissatisfaction among males only (females: $\beta = -.129$; S.E. = .005; $p = .162$; males: $\beta = -.265$; S.E. = .006; $p = .024$).

Furthermore, two indirect effects were examined in this model as well:

5. An indirect effect of sociocultural pressures about body image on body dissatisfaction through the internalization of societal ideals of appearance was not supported (females: $p = .22$; males: $p = .60$).
6. An indirect effect of general self-determination on body dissatisfaction was significant through the sociocultural pressures about body image (females: $p = .002$; males: $p = .005$). The estimated size of the standardized indirect association between self-determination and body dissatisfaction was $-.017$ and $-.008$ among females and males, respectively. Thus, when self-determination goes up by 1 SD, body dissatisfaction goes down by .017 SD and .008 among females and males, respectively.

Table 4. Model fit of the model explaining body dissatisfaction

	Tested model	Modified model
χ^2	238.28	54.53
Df	34	30
P	< .001	< .001
χ^2/df	7.01	1.71
SRMR	.15	.07
GFI	.86	.96
AGFI	.71	.90
CFI	.65	.96
NFI	.62	.91
PNFI	.38	.52
PCFI	.39	.55
RMSEA	.14	.05
PCLOSE	< .001	.49

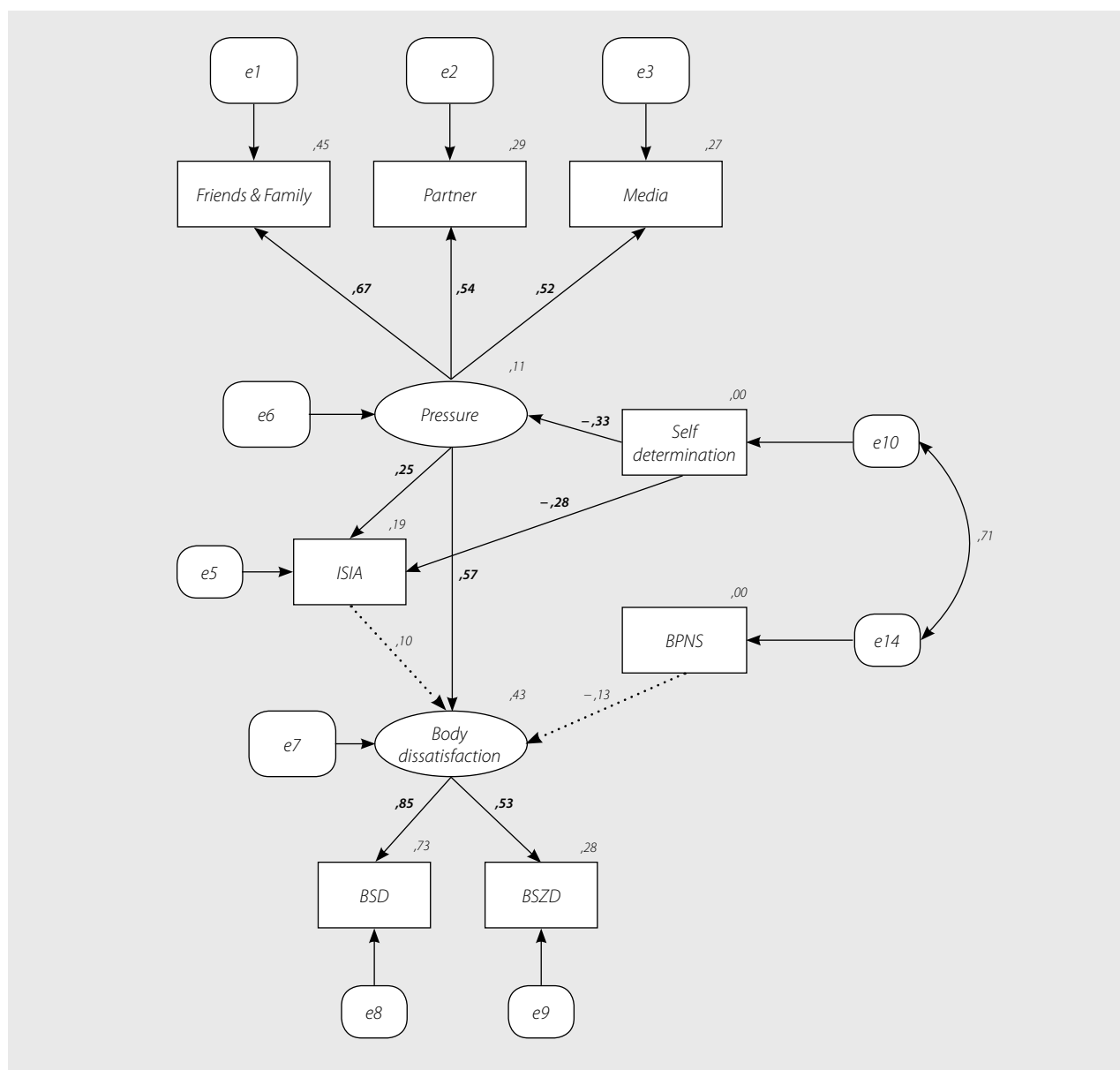


Figure 3. Path diagram for the model among females (N=154)

Note: Pressure = Sociocultural pressure about body image; Friends&Family = Sociocultural pressure about body image perceived from friends & family; Partner = Sociocultural pressure about body image perceived from people who respondents dated; Media = Sociocultural pressure about body image perceived from media; ISIA = Internalization of societal ideals of appearance; BPNS = Basic psychological needs satisfaction; BSZD = Body size dissatisfaction; BSD = body shape dissatisfaction; significant paths are represented by solid line.

7. An indirect effect of general self-determination on the internalization of societal ideals of appearance through the sociocultural pressures was not hypothesized and was also not supported by the results (females: $p = .079$; males: $p = .779$).

Furthermore, the equivalency of the model was tested to find out whether the modified model was statistically the same for males and females or whether differences exist. Two models were prepared: the first (unconstrained) model was without any constraints on the coefficient values and the second (constrained) model contained equality constraints for all analogous parameters in the male and female model. The equivalency of the model was assessed using the P-value of the log-likelihood test as well as the difference in CFI (ΔCFI) of the models. The models are

Table 5. The tested equivalency of the model

	X ²	Df	CFI
Unconstrained model	54.53	30	.957
Constrained model	63.34	38	.956
Difference between models	8.81	8	.001
	$p > .001$		$\Delta CFI < .01$

considered non-equivalent when the P-value is lower than 0.01, and also the ΔCFI is higher than 0.01.³⁴ No differences between the unconstrained and constrained models seemed to exist (Table 5). It can therefore be said that the modified model is statistically equivalent for both males and females.

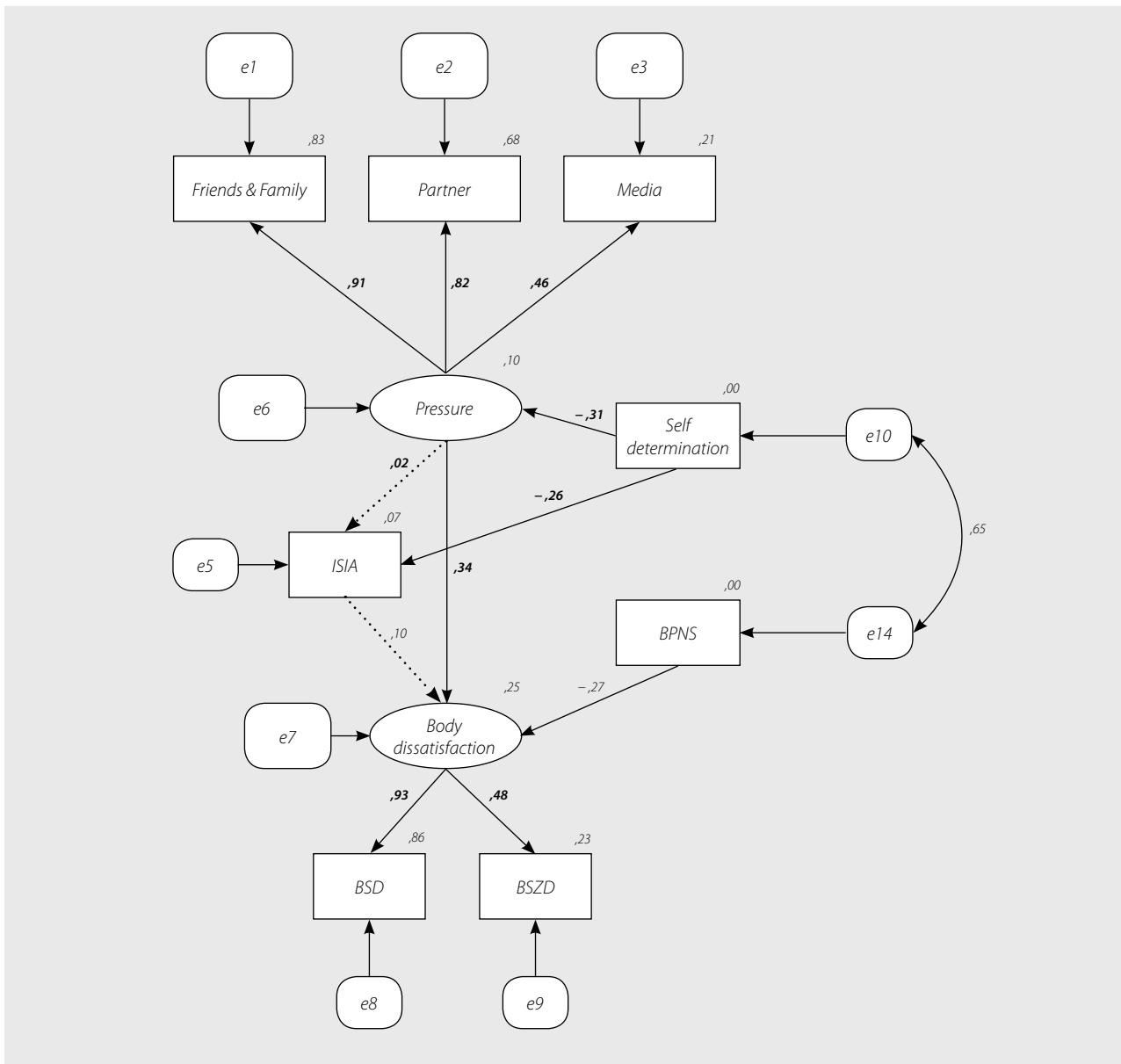


Figure 4. Path diagram for the model among males (N=142)

Note: Pressure = Sociocultural pressure about body image; Friends&Family = Sociocultural pressure about body image perceived from friends & family; Partner = Sociocultural pressure about body image perceived from people who respondents dated; Media = Sociocultural pressure about body image perceived from media; ISIA = Internalization of societal ideals of appearance; BPNS = Basic psychological needs satisfaction; BSZD = Body size dissatisfaction; BSD = body shape dissatisfaction; significant paths are represented by solid line.

DISCUSSION

In the current study, the aim was to extend the view on Slovak university students' body dissatisfaction by modifying the Tripartite Influence Model of body image⁵. As Papp et al.⁷ suggest, it is important to investigate other influential factors of body dissatisfaction. According to Verstuyf et al.,³⁵ Self-determination theory provides a key mechanism to understand body image concerns and related risk behavior development. Thus, in addition to family, friends and media pressure about body image and the internalization of societal ideals of appearance, factors such as partner pressure about body image, general self-determination and basic psychological needs satisfaction were also addressed. The associations (indirect, direct) of these mentioned variables with body dissatisfaction were explored.

The association between sociocultural pressures and body dissatisfaction

The results revealed that there is a positive direct association between sociocultural pressures about body image in general and body dissatisfaction among both males and females in the model. In line with these results, Kopp and Zimmer-Gembeck²⁶ as well as Papp et al.⁷ have also found this association to be significant among adult females and young girls, respectively. However, among boys the relationship was found to be insignificant.⁷ Furthermore, there has been a direct relationship found between sociocultural pressures in the form of body weight teasing and body dissatisfaction.³⁶ Similarly, a direct relationship between sociocultural pressures and body dissatisfaction among males and females has been discovered in a model

by Menzel et al.³⁷ However, in their study, these sociocultural pressures were focused on cosmetic surgery. On the contrary to the current results, the direct effect of sociocultural influences on body dissatisfaction among females was not significant in either the model by Keery, van den Berg, Thompson,⁵ van den Berg et al.,⁹ Yamamiya et al.,⁸ or in the model by Papp et al.⁷ among young boys and girls.

The association between sociocultural pressure and internalization of societal ideals of appearance

The positive relationship between sociocultural pressures about body image in general and the internalization of societal ideals of appearance was significant only among females and the correlation was small. In a study by Keery, van den Berg, Thompson⁵ carried out on a female sample, the sociocultural influence had a direct effect on the internalization as well. A direct relationship between sociocultural pressures such as body weight teasing and internalization was also found by Heijens, Janssens and Streukens.³⁶ Similarly, Menzel et al.³⁷ identified a direct relationship between sociocultural pressures to undergo plastic surgery and body dissatisfaction among males and females. This relationship was found to be stronger among females. This contradiction might be connected with the different type of perceived sociocultural pressures. Furthermore, sociocultural influences in general were directly associated with internalization among girls and boys within a structural model by Papp et al.⁷ The male participants in Papp et al.'s⁷ research were aged 10 to 16, whereas the male participants in the current study were a lot older. Thus, age might also be responsible for the differences in the present results.

The association between sociocultural pressure, the internalization of societal ideals of appearance and body dissatisfaction

A more surprising finding from the present study was that there was no significant association between the internalization of societal ideals of appearance and body dissatisfaction among neither females nor males. Thus, the indirect association between sociocultural pressures and body dissatisfaction through internalization was not supported. This is in contrary to studies among undergraduate females by Hardit and Hannum,³⁸ Yamamiya, Shriff and Thompson,⁸ Keery, van den Berg, Thompson,⁵ among undergraduate males by Tylka,²⁴ among young girls by Papp et al.,⁷ but not among boys in this study. However, all of these studies are based on samples from countries outside Europe (USA, Australia, Japan), with the exception of Papp et al.,⁷ which explored Hungarian boys' and girls' body dissatisfaction. Moreover, this current study addressed the internalization of societal body ideals as those promoted by the media although it was not the media but friends and family pressure which was most strongly associated with body dissatisfaction in this research (Table 3). Another explanation of the current results' inconsistency is the inclusion of other relevant variables (partner's

pressure, self-determination, basic psychological needs satisfaction) and the omission of others (BMI, social comparison of appearance, anxious attachment, weight perception).

The association between general self-determination and sociocultural pressure

The present results supported a direct negative association between general self-determination and perceived sociocultural pressures in general and the internalization of societal ideals of appearance among both sexes. The higher the general self-determination is, (1) the less sociocultural comments about body appearance are perceived as pressure and (2) the less media messages about ideal body appearance are endorsed. Similar results among females have been shown in studies by Pelletier, Dion and Lévesque¹² and Pelletier & Dion.¹¹ Kopp and Zimmer-Gembeck,²⁶ have also identified a full mediational effect of sociocultural pressures on the relationship between general self-determination and the thin ideal internalization. The indirect association between general self-determination and the internalization through sociocultural pressures was not supported by the present results.

The association between self-determination and body dissatisfaction

The direct effect of general self-determination on body dissatisfaction was not addressed in this research. However, an indirect effect of general self-determination on body dissatisfaction was significant through the sociocultural pressures about body image among both sexes. The higher general self-determination students have, the less they perceive sociocultural messages about body image as pressure, which in turn is associated with lower body dissatisfaction. This is in line with the results of Pelletier, Dion and Lévesque¹¹ and Pelletier and Dion.¹² However, they have not explored the significance of the initiate indirect effect. The indirect effect of self-determination on body dissatisfaction, a drive for thinness and bulimia was shown in a study by Frederick and Grow,³⁹ however through the global self-esteem.

The association between body dissatisfaction and basic psychological needs

Furthermore, in the context of Self-determination theory and body dissatisfaction, a direct negative association between body dissatisfaction and basic psychological needs was found in the current study. However, the association was significant among males only, which is quite an interesting finding. The more the basic psychological needs of autonomy, competence and relatedness are satisfied in male students, the lower body dissatisfaction they perceive. Partially in line with the current results, Thøgersen-Ntoumani, Ntoumanis & Nikitaras²⁷ have found that basic psychological needs satisfaction is a predictor of the drive for thinness and body dissatisfaction among Greek adolescent girls. More specifically, the drive for thinness

was negatively predicted by autonomy and competence needs satisfaction. However body dissatisfaction was significantly negatively predicted only by autonomy need satisfaction in a study of a gender mixed sample of adult aerobics instructors.⁴⁰ Furthermore, Thøgersen-Ntoumani et al.⁴¹ have highlighted a direct association between basic psychological needs satisfaction and appearance-contingent self-worth, which is in turn positively associated with weight-related anxiety among British female university students.

The importance of the research findings have highlighted the existence of the limited amount of studies addressing this issue in Central and Eastern Europe (excluding Papp et al.⁷). Current results are partially in the contrary to previous studies from other countries. For example, direct association between sociocultural pressures about body image and body dissatisfaction was significant among both sexes and an indirect association through the internalization of societal ideals of appearance was not supported in the current study. These results differ from those revealed among females from US, Japan and Hungary.^{5,7,8,9,24,38} The positive relationship between sociocultural pressures about body image in general and the internalization of societal ideals of appearance was significant only among females according to the presented results, however in Hungary, the association was significant among girls and boys as well.⁷ The Western body ideal is spread to other countries through the media.⁴ Even though non-Western countries are more influenced by Western cultures now, men and women still prefer slender female bodies less than men and women from the USA and prefer bodies heavier than the average female body.⁴² The cultural differences in body ideals and body image concerns and eating disorders prevalence between Western and non-Western countries, especially between the USA and Europe are well documented.⁴³ Lower influence of Western body ideal might explain the disparity in the results regarding internalization of societal ideals of appearance. However, future research is needed to uncover the differences of body ideal in Western countries and countries influenced by Western culture. Also the sample structure, age and other research methods might cause inconsistencies in results. Current findings are basically in line with theoretical approaches and they contribute to the results of several previous studies with its focus on both genders, which highlights the relevance of sociocultural pressures about body image and self-determination not only for women but also for men.

It is also important to acknowledge the limitations of this study. Firstly, to obtain a representative sample is a problem, especially in an online data collection type of research.⁴⁴ This is also a limit in the generalization of the results because those respondents who chose not to fill in the questionnaire may have differed from those who did. However, studies comparing online data collection with paper based data collection^{45,46} have not revealed significant differences regarding the scores in psychological variables. Furthermore, the data collection was carried out during lessons and seminars in the presence of the administrator. Secondly, other inaccuracies could be caused by the self-reporting nature of the data that can be biased by social desirability. This tendency might be controlled

for by the social desirability scale⁴⁷ or projective methods such as indirect questions⁴⁸ although its validity is also questionable.⁴⁹ Thirdly, even though the used measures showed sufficient reliability in the current sample, further validation of these methods in the population of Slovak university students might improve their psychometric qualities. Finally, longitudinal data would be appropriate to address the causality of the relationship between body dissatisfaction and sociocultural pressures about body image and self-determination, which is also possible to explore in future research.

The importance of the present study lies also in focus on non-clinical research sample, which might provide suggestions for possible preventive strategies for reducing body dissatisfaction and disordered eating among male and female university students. Regarding the protective role of self-determination, it is autonomy and satisfaction of basic psychological needs, what determines whether body image dissatisfaction and its negative consequences develop. University students might be provided with information that increasing autonomy and their own life values awareness might offer the possibility of becoming more resilient to body image concerns and body dissatisfaction. Health professionals in disordered eating should focus on less self-determined individuals who might suffer from higher body dissatisfaction and support their self-esteem, self-evaluation and self-determination.

CONCLUSION

The current results have supported the relevance of the Tripartite Influence model of body image among Slovak university students of both sexes. Sociocultural pressures about body image seem to directly predict body dissatisfaction among male and female Slovak university students although longitudinal data would help to support this. The presented model furthermore emphasizes the protective role of self-determination in the context of body dissatisfaction. Recent studies on this topic have mainly focused on females, whereas the presented study contributes to these findings by exploring general self-determination and basic psychological needs satisfaction with body dissatisfaction also among males. Not only females but also males who are less self-determined, are more susceptible to perceive sociocultural messages about body image as a source of pressure, what in turn may lead to higher body dissatisfaction. Future research is needed to explore the sociocultural pressures about body image, body dissatisfaction, general self-determination as well as basic psychological needs satisfaction as predictors of risk regarding eating disorders.

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František Koukolík

ZVÍŘE POLITICKÉ

Eseje o lidské nátuře



„Člověk – zvíře politické“ je Aristotelův výrok. Nemohl mít ponětí o tom, že se za třiadvacet století budou lidé dívat jiným lidem do hlavy, co se jim tam v průběhu politického rozhodování děje, ani o tom, proč se to děje. Proč jsou lidé političtí živočiši? Co je národní charakter, existuje vůbec? Je člověk ekonomicky racionální bytost nebo spíše bytost sociální? Co odlišuje levičáky od pravičáků? Co se nám děje v hlavě, rozhodujeme-li se v průběhu volebního cirkusu? Proč někteří lidé tolik touží po moci a jiní se tak důsledně rozhodují proti

svým nejlepšími zájmům, že to dělá dojem černého humoru? Proč je nutné mít v průběhu jednání a rozhodování lidských skupin vždy hůl v ruce? Co se děje v hlavě lidí, kteří závidí, nenávidí, jsou přátelští, rozhodují se ekonomicky? Co dělá s lidmi bída a jak je to s lidským štěstím?

Tato kniha shrnuje posledních patnáct let nejmodernějšího výzkumu otázek, jimž se do této doby věnovali psychologové, politologové, ekonomové a filosofové. Jejich úvahy se totiž díky pokroku vyšetřování činnosti mozku začínají měnit na vědecky ověřitelná fakta.

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