

## The relationship between negative affect, stress and body image in adolescent girls

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### Abstract

Concerns about body image dissatisfaction have become a global phenomenon. This quantitative study examined the differences of body image satisfaction in adolescent girls with regard to stress and negative affect. The sample comprised 80 adolescents from Kaunas gymnasium (mean age = 15.57 years). The respondents completed the Multidimensional Body-Self Relations Questionnaire, Negative Affect Scale (PANAS-X) and Reeder Stress Inventory. Data were analysed using Statistical Package for the Social Sciences version 22. The main aim of our study was to test the different aspects of body image in Lithuanian adolescent girls with regard to stress and negative affect. The results of this study showed that participants with higher stress were more dissatisfied with their body areas and less satisfied with their appearance compared to those who reported feeling less stressed. Girls with a higher negative affect were more dissatisfied with their body areas, tended to invest less in their appearance and also thought they weighed more; furthermore, they were more concerned with their weight and, in general, were less satisfied with their appearance. The results of the present study demonstrated that in addition to examining negative affect, it is also important to investigate other emotional components, which could be related to body image dissatisfaction, such as perceived stress. It may be beneficial to consider these two risk factors while improving body image dissatisfaction prevention.

**Keywords:** Stress, Negative self- image, adolescent girl.

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## 1. Introduction

Body image is a multidimensional construct that includes a person's perceptions, thoughts and feelings about his/her body size, shape and structure (Grogan, 2006).

In psychology, interest in body image dissatisfaction increased over the past 30 years, when a large interest in plastic surgery was discovered, increasing the prevalence of eating disorders (Catikkas, 2011). In recent decades, concerns about body image and dissatisfaction have increased, especially in adolescents (Mousa, Mashal, Al-Domi & Jibril, 2010; Paxton, Eisenberg & Neumark-Sztainer, 2006). According to previous studies (Etcoff, Orbach, Scott & D'Agostino, 2004; Swami, 2010), concerns about body image dissatisfaction have become a global phenomenon (Swami & Smith, 2012).

Body image dissatisfaction is determined in childhood and early adolescence and the most common in late adolescence (Kjaerbye-Thygesen, Munk, Ottesen & Kjaer, 2004). Other studies have shown that in developed countries the prevalence of body image dissatisfaction in adolescents ranged from 35% to 81% (Bearman, Presnell & Marinez, 2006; Lawler & Nixon, 2011).

Body image dissatisfaction is related to depression (Wiederman & Pryor, 2000), anxiety, low self-esteem (Cash, Fleming, Alindogan, Steadman & Whitehead, 2002), abnormal eating behaviours and actual eating disorders (Ferreiro, Seoane & Senra, 2011).

Various studies (Friestad & Fall, 2004; Philips & de Man, 2010; Weaver & Byers, 2013) have suggested that differences in body image satisfaction depend on many different factors, which can be combined into four main categories: social, biological, psychological and cultural factors.

It can be seen that in recent studies related to body image dissatisfaction, most researchers are trying to confirm the sociocultural theory, according to which the most important risk factors associated with body image dissatisfaction are the culturally supported extremely thin body ideal and the internalisation of this ideal (Salmi & Holmstrom, 2004; Thompson, Heinberg, Altabe & Tantleff-Dunn, 1999), while less attention is paid to other important risk factors.

One of possible factors related to body image dissatisfaction could be stress. According to the trans diagnostic model (Fairburn, Cooper & Shafran, 2003), stress is a construct which could lead to a better understanding of the predictors of body dissatisfaction and eating disorders. Also, studies showed that adolescence is as a period of significant stress due to a lot and intense transitions during this time (Hampel & Petermann, 2006).

The results of previous studies suggest a positive relationship between eating disorders and stress (Beukes, Walker & Esterhuyse, 2010; Innis, Steiger & Bruce, 2011; Murray, Byrne & Rieger, 2011). It is theorised that stress is an important risk factor for eating disorders and disturbed eating, because maladaptive eating behaviours, such as purging or bingeing, are used to provide negative emotions and to cope with stress.

It is also noted that adolescent stress is related to psychological problems, such as depression, anxiety (Grant, Compas, Thurm, McMahon & Gipson, 2004) and low self-esteem (Youngs, Rathge, Mullis & Mullis, 1990). Furthermore, a review of research studies indicated that gender is also important, wherein female adolescents reported higher levels of stress compared to male adolescents (Hampel & Petermann, 2006; Moksnes, Moljord, Espnes & Byrne, 2010).

One of the longitudinal studies (Smolak, Levine & Gralen, 1993) showed that high levels of stress could predict dieting and body image dissatisfaction 1 year later. Other scholars also found significant correlations between different types of stress and body image dissatisfaction (Johnson & Wardle, 2005; Marcotte, Fortin, Potvin & Papillon, 2002). However, research investigating the association between stress and body dissatisfaction are still quite controversial and limited.

Furthermore, body image dissatisfaction is related to emotional components like depression (Wiederman & Pryor, 2000) and anxiety (Cash et al., 2002). So, it could be assumed that body image dissatisfaction is related to negative emotions in general.

Negative affect indicates the extent to which a person feels hostile, irritable, nervous and distressed. According to Stice (1994), with regard to the dual pathway model of bulimia, negative affect is one of the predictors of bulimia nervosa and it is related to body image dissatisfaction. However, this model proposes that body image dissatisfaction leads a negative affect. A number of studies have confirmed the dual pathway model of bulimia for adolescent girls (Stice, 2001; Stice & Agras, 1998; Stice, Akutagawa, Gaggar & Agras, 2000; Stice, Pressnell & Sprangler, 2002). In our study, we hypothesised that negative affect could be related to body image dissatisfaction, despite the pathology of eating.

## 2. Research methods and material

### 2.1. Participants

A sample of 80 school girls from Kaunas city, Lithuania, participated in the study. The girls had a mean age of 15.57 years.

### 2.2. Measures

Positive and Negative Affect Schedule – Expanded Form (Watson & Clark, 1999): Negative Affect Scale was used to assess the activated negative affect. Participants had to indicate to what extent they feel the listed emotions: ‘in general, that is and on the average.’ The extent was measured using a 5-point scale ranging from very slightly to extremely. Internal consistency of the scale was acceptable (Cronbach’s  $\alpha = 0.86$ ).

Perceived stress was measured with the Reeder Stress Inventory (Reeder, Schrama & Dirken, 1973). The Reeder Stress Inventory consists of seven statements, and the participants had to indicate the extent to which each statement applies to them using a 4-point Likert format. This inventory was used to measure the general feeling of stressfulness in daily life. Internal consistency of the scale was acceptable (Cronbach’s  $\alpha = 0.73$ ).

The Multidimensional Body-Self Relations Questionnaire (MBSRQ; Brown, Cash & Mikulka, 1990) was used to assess body image dissatisfaction. The MBSRQ-Appearance Scale is a 34-item scale that consists of five subscales: appearance evaluation, appearance orientation, overweight preoccupation, self-classified weight, and the body areas satisfaction scale. Internal consistency of the scale was acceptable (Cronbach’s  $\alpha = 0.84$ ).

## 3. Results

Pearson’s correlation for detecting the relationship among body image dissatisfaction, stress and negative affect was used. Results of the correlation analysis are presented in Table 1.

**Table 1. Results of the correlation analysis**

		Stress	Negative affect
Appearance evaluation	Pearson’s correlation	0.229**	-0.366**
	Sig (2-tailed)	0.041	0.001
	N	80	80
Appearance orientation	Pearson’s correlation	-0.232**	0.321
	Sig (2-tailed)	0.039	0.004
	N	80	80

Overweight preoccupation	Pearson's correlation	-0.221*	0.512**
	Sig (2-tailed)	0.049	0.000
	N	80	80
Self-classified weight	Pearson's correlation	-0.068	0.404**
	Sig (2-tailed)	0.550	0.000
	N	80	80
Body areas satisfaction scale	Pearson's correlation	-0.479**	-0.444**
	Sig (2-tailed)	0.000	0.000
	N	80	80

\*\*Correlation is significant at the 0.01 level (2-tailed).

The non-parametric Mann–Whitney U test was used to test for significant body image dissatisfaction differences between two groups of higher and lower stress and higher and lower negative affect. Results of the analysis are presented in Tables 2 and 3.

**Table 2. Results of the differences analysis**

	Higher stress group (n-55)	Lower stress group (n-25)	Z mean	Sig (2-tailed)
	Mean/Std. deviation	Mean/Std. deviation		
Appearance evaluation	19.96 ± 4.67	22.28 ± 4.16	-2.019	0.043
Appearance orientation	40.31 ± 5.49	37.6 ± 10.07	-0.655	0.512
Overweight preoccupation	2.89 ± 1.09	2.50 ± 1.04	-1.406	0.160
Self-classified weight	3.22 ± 0.77	3.04 ± 0.79	-0.986	0.324
Body areas satisfaction scale	26.51 ± 5.37	31.96 ± 6.68	-3.224	0.001

The results showed that the participants with higher stress were more dissatisfied with their body ( $p=0.001$ ) and are less satisfied with their appearance ( $p=0.043$ ) compared to those who reported feeling less stressed.

**Table 3. Results of the differences analysis**

	Higher negative affect group (n-55)	Lower negative affect group (n-25)	Z mean	Sig (2-tailed)
	Mean/Std. deviation	Mean/Std. deviation		
Appearance evaluation	18.60 ± 4.24	21.64 ± 4.51	-2.696	0.007
Appearance orientation	43.04 ± 5.31	37.83 ± 7.51	-2.674	0.007
Overweight preoccupation	3.48 ± 0.95	2.44 ± 0.99	-3.890	0.000
Self-classified weight	3.62 ± 0.41	2.95 ± 0.41	-3.790	0.000
Body areas satisfaction scale	26.51 ± 5.37	31.96 ± 6.68	-3.691	0.000

Girls with a higher negative affect were more dissatisfied with their body, tended to invest less in their appearance and thought they looked fat; they were more concerned with their weight and, in general, were less satisfied with their appearance.

#### 4. Discussion and conclusion

In the present study, we examined the relationship between stress, negative affect and body image dissatisfaction in adolescent girls. The results demonstrated that stress is related to appearance evaluation, appearance orientation, overweight preoccupation and body areas satisfaction. Negative affect was related to appearance evaluation, self-classified weight, overweight preoccupation and body areas satisfaction.

For better understanding, we divided all adolescents in two groups according to stress and negative affect. The analysis between these groups showed that participants with higher stress were more dissatisfied with their body areas and less satisfied with their appearance compared to those who

reported feeling less stressed. Girls with a higher negative affect were more dissatisfied with their body areas, tended to invest less in their appearance and also thought they weighed more; furthermore, they were more concerned with their weight and, in general, were less satisfied with their appearance.

Our research confirmed that female adolescent stress is related to body image dissatisfaction and negative affect. Other authors also found same links between these factors (Johnson & Wardle, 2005; Marcotte et al., 2002). However, a number of research studies are still analysing body image dissatisfaction in relation to eating pathology. Our study gives possible results that these two risk factors (stress and negative affect) are important predictors of body image dissatisfaction, despite eating disorders.

However, the study has some limitations. First of all, lack of participants, because it was a pilot study, only girls from two schools attended. Also, only daily life stress was measured, for better understanding; however, multiple types of stress can be analysed. Therefore, to answer the question that these two risk factors predict, longitudinal studies on body image dissatisfaction in the future are needed.

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