

The Role of Social Appearance Anxiety in Metacognitive Awareness of Adolescents

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Abstract. This study aims to examine the relationship between social appearance anxiety of adolescents and metacognitive awareness. Social appearance anxiety was negatively correlated with metacognitive awareness and its sub-constructs. As a result of regression analysis, the linear combination values of procedural information, of self evaluation and of explanative information significantly predicted social appearance anxiety. As it was found that the participants with high metacognitive awareness level had a low level of social appearance level. And also it was stated that adolescent participants' social anxiety level was varied significantly according to metacognitive level and gender. However, this variance was not seen as a result of the common effect of metacognitive awareness and of gender. Also it was indicated that the mean of male participants' social appearance anxiety level was high. Results were discussed in the light of literature.

Keywords: Social appearance anxiety; metacognitive awareness; adolescent

Introduction

Adolescence is described as a period that an individual grows and changes physically, sexually, socially, emotionally, cognitively, finishes at the end of bodily growth (Kulaksızoğlu, 2004). Adolescence includes rapid and extensive changes (Atak, 2011). Adolescents prepare himself/herself to the adult role. Development of an adolescent may not be simultaneously in all developmental areas. For example, although a youth physically develops he/she does not develop enough cognitively and emotionally. Adolescent's physical changes may be continuing irregular way until the early adult period. In parallel to this adolescents do not like their body, which leads them to distort their perception of body image. Adolescents' social appearance anxiety level might be increased due to their imaginary audience thoughts and giving so much importance on

their body. Thus social appearance anxiety in adolescence might have a negative and serious effect on adolescents' future life.

Moreover, adolescents who are not accepted by others because of their appearance might have a social anxiety. On the other hand, cognitive awareness and metacognitive awareness might help adolescents to cope with their social appearance anxiety. Henceforth, this study is aim to examine factors of social appearance anxiety of adolescents. Also this paper is aim to examine the relationship among social appearance anxiety, metacognitive awareness and its sub-constructs (*explanative information, procedural information, planning, self-control, cognitive strategies, conditioned information, self-evaluation and self-monitoring*).

People with high level of social anxiety disrupt their social, vocational, educational functions which lessen their life quality (Safren, Heimberg, Brown, & Holle, 1997; Schneier et al., 1994; Hart, Flora, Palyo, Fresco, Holle, & Heimberg, 2008). Furthermore, people with social anxiety disorders have social interaction anxiety; fear of being controlled and fear of evaluated negatively (Levinson & Rodebaugh, 2011). People with high social anxiety level pay attention on physical appearance while people with low social anxiety level do not (Smith, 2007).

Cash, Theriault, & Natasha (2004) found that high level of being evaluated anxiety correlated significantly with dysfunctional thoughts about physical body image, dissatisfaction of body image, and appearance. It is also stated that individuals who are anxious about what other people think concern so much appearance which is related to their understanding, and their perception (Smith, 2007).

In literature some researchers (ex. Amir, Bower, Briks, & Freshman, 2003; Mogg & Bradley, 1998; Stopa & Bryant, 2004; Smith, 2007) found that the relationship among social appearance anxiety, social interaction anxiety, observer anxiety and exam anxiety. These results indicated that people with self consciousness have a high level of social appearance. Furthermore, it was stated that there are correlations among social anxiety, dysfunctional appearance schema, discomfort of body image in both non-clinical sample and clinical sample of body dysmorphic and of eating disorder (Cash & Labarge, 1996; Coles et al., 2006; Hinrichsen, Waller, & Van Gerko, 2004; Pinto & Phillips, 2005; Hart et al., 2008). In addition to this individuals with having body image problems have increased level of social comparison (Stormer & Thompson, 1995; Smith, 2007).

People having self consciousness about environment watched out and examined other peoples' clothes (Craig & Tulving, 1975; Fenigstein & Venable, 1992; Schlenker & Weigold, 1990; Solomon & Schopler, 1982; Symons & Johnson, 1997; Smith, 2007). Thus it is expected that people having self consciousness about environment showed good performances in appearance reality testing.

According to Flavell (1979), metacognition is a cognitive process that includes, the appraisal, control, and monitoring of thinking (cited in Wells 2000). In other

words, it might be described as the knowledge of what people know, the thought of what people thought and the evaluation of what people cognitively have (Tosun & Irak, 2008). Metacognition is used for learning, problem solving, understanding, reasoning, monitoring and controlling cognitive process like a memory (Karakelle, 2012). And also it indicated that metacognition is a crucial factor about cognitive self awareness of individuals, conscious learning (Özsoy, 2008). Metacognitive awareness is defined as a structure that an individual is aware of what he/she knows and of learning strategies, controls his/her cognitive process, taking learning responsibilities, evaluates, plans and monitor what he/she learns, and uses executive strategies of information (Bağçeci, Döş, & Sarıca, 2011). Metacognitive awareness is also an individual's ability that monitors and controls his/her cognitive process and strategies (Akın, 2006).

Method

Karasar (2003) stated that researcher use relational screening model when the covariance of two or more than two variables or of their degree is considered. Therefore relational screening model was used in this study.

Participants

Data were collected from a sample of 276 adolescents (8th grade level) whose age ranged from 13 to 15 years and from İstanbul. Of the participants, 144 adolescents were female; 120 adolescents were male and 12 students were not indicated their gender. To provide the regression analysis assumptions 63 participants' data was excluded and 213 participants' data was taken in the study. The age of the participants was ranged from 13 to 15 years. All participants were voluntary participated in the study.

Instruments

In this study, "Social Appearance Anxiety Scale" and "Metacognitive Scale for Students with Primary Education" were used to measure social appearance anxiety level and metacognitive awareness respectively.

Metacognitive Scale for Students with Primary Education: This scale was developed by Yıldız, Akpınar, Tatar and Ergin (2012) to measure students' metacognitive awareness. The scale consists of 30- item with 8 subscales and 4- Likert type (1= none, 5= always). The 8 subscales are explanative information, procedural information, planning, self-control, cognitive strategies, conditional information, self-evaluation and self-monitoring. The example of items are " I know which thinking style I will use and when I will use" and " I think many solutions and choose the best solution when I face with a problem". The higher score of the scale demonstrated high level of meta-cognition. The lowest score of the test is 30 and the highest score of the test is 120.

Social Appearance Anxiety Scale: This scale was developed by Hart, Flora, Palyo, Fresco, Holle, & Heimberg (2008) and adapted into Turkish by Doğan (2011) to measure social appearance anxiety level of adolescence. The scale consists of 16- item and with one factor and 5 Likert type (1= Totally Disagree, 5= Totally Agree). The examples of items are "I feel nervous when having my

picture taken.” and “I worry people will judge the way I look negatively.” The higher score of the scale demonstrated high level of social appearance anxiety. The lowest score of the test is 16 and the highest score of the test is 80. And the first item was scored reversely

Data Analysis

The relationship between social appearance anxiety of adolescents and metacognitive awareness was examined with Pearson Coefficient Correlation and Multiple Regression Analysis. In multiple regression analysis stepwise method was used. Every variable of the study was added into the examined model and model was assessed. The variable which contributed to the model was taken, while the variable which did not contribute to the model was excluded from the model. In parallel to this, the other variables of the study were tested according to the contribution to the model. Thus model was explained by a few variables (Kalaycı, 2010). The differences among social appearance anxiety of adolescents, metacognitive awareness, metacognitive awareness's sub-dimensions (explanative information, procedural information, planning, self-control, cognitive strategies, conditional information, self-evaluation and self-monitoring) in term of gender were analyzed with t-test. Moreover, the effects of gender and meta-cognitive awareness on social appearance anxiety were analyzed with two-way ANOVA (All data were tested 0.05 significant level).

Results

The Result of Correlation Analysis

The relationship among social appearance anxiety of adolescents, metacognitive awareness, meta-cognitive awareness's sub-dimensions (explanative information, procedural information, planning, self-control, cognitive strategies, conditional information, self-evaluation and self-monitoring) was examined with Pearson Coefficient Correlation. The results seen in Table 1

Table 1. Mean, Standart Deviation, and Correlation Coefficient

Variables	1	2	3	4	5	6	7	8	9	10
Social Apperance Anxiety	1									
Metacognitive Awareness	-.57**	1								
Explainative Information	-.54**	.91**	1							
Procedural Information	-.54**	.79**	.70**	1						
Planning	-.41**	.76**	.65**	.53**	1					
Self-Control	-.35**	.72**	.56**	.47**	.53**	1				
Cognitive Strategy	-.42**	.79**	.64**	.54**	.57**	.59**	1			
Conditioned Information	-.45**	.82**	.75**	.63**	.57**	.48**	.58**	1		
Self Evaluation	-.54**	.82**	.66**	.62**	.67**	.65**	.65**	.57**	1	
Self-Monitoring	-.29**	.64**	.52**	.40**	.47**	.41**	.56**	.44**	.47**	1
Mean	36,52	97,54	30,45	13,66	6,31	9,38	9,30	12,65	9,59	6,19
SS	11,50	15,10	4,75	2,23	1,50	2,03	1,99	2,63	2,00	1,49

** $p < 0.01$

According to Table 1 social appearance anxiety was negatively correlated with social meta-cognitive awareness ($r = -.57$), explanative information ($r = -.54$), procedural information ($r = -.54$), planning ($r = -.41$), self-control ($r = -.35$), cognitive strategies ($r = -.42$), conditioned information ($r = -.45$), self-evaluation ($r = -.54$) and self monitoring ($r = -.29$).

The Results of Multiple Regression Analysis

Multiple regression analysis assumptions were examined before determining to what extent the metacognitive awareness explain social appearance anxiety in adolescent. To indicate whether there are extreme values of sample or not, Mahalanobis distance values were detected for every participant and 63 extreme values were deleted according to $p < .001$ level. After excluded 63 participant's data the data was reanalyzed and the graphics built on the residual values were examined. It was found that scatter diagram composited of standardized residual values (errors) and standardized predictive values defined the linear relationship and all points were gathered on an axis. It was seen that the histogram and normal curve of standardized predictive values are so close distribution.

Another assumption of the requirement of Multiple Regression analysis is Variance Inflation Factor (VIF). When VIF is more than 10, there is a skeptic about the multiple relationships (Sipahi, Yurtkoru, & Çinko, 2008). As considered tolerance and variance inflation values multicollinearity problems were not seen. In parallel to these results multiple regression analysis was done and the results of it were seen in Table 2.

As a result of multiple regression analysis the linear combinations' values of procedural information, of self-evaluation, and of explanatory information predicted significantly social anxiety appearance ($R^2 = .37$, $F(3, 209) = 41.87$, $p < .05$). In terms of values of multiple regression equation procedural information values ($\beta = -.24$, $t(212) = -2.97$, $p < .05$), self-evaluation values ($\beta = -.27$, $t(212) = -3.50$, $p < .01$) and explanatory information values ($\beta = -.19$, $t(212) = -2.19$, $p < .05$) predicted significantly social appearance anxiety. This result showed that the more procedural information, self-evaluation, and explanatory information level increased, the more social appearance anxiety decreased.

Table 2. Multiple Regression Analysis Results

Model	Variables	B	Standard Error of B	B	t	p	R ²
1	Meta-cognitive Awareness	-.43	.04	-.57	-10,11	.000	.32
2	Meta-cognitive Awareness	-.30	.07	-.39	-4.31	.000	.34
	Procedural Information	-1,16	.47	-.23	-2,47	.013	
3	Meta-cognitive Awareness	-.30	.09	-.16	-1.32	.189	.36
	Procedural Information	-1,16	.46	-.25	-2,75	.006	
	Self Evaluation	-1,46	.56	-.25	-2,59	.010	

4	Procedural Information	-1,66	.36	-.32	-4.58	.000	.35
	Self Evaluation	-1,98	.40	-.34	-4.89	.000	
5	Procedural Information	-1.22	.41	-.24	-2.97	.003	
	Self Evaluation	-1.55	.44	-.27	-3.50	.001	
	Explanatory Information	-.45	.20	-.19	-2.19	.029	

In this study t test was used. As a result of t test analysis there was a significant difference between adolescent with high and low metacognitive awareness level about social appearance anxiety ($p < .05$). Comparing means of social appearance anxiety level between high metacognitive awareness level of adolescents and low metacognitive awareness level of adolescents, adolescents with low metacognitive awareness level had high level of social appearance anxiety. (Mean of social appearance anxiety in low metacognitive awareness level of adolescents $\bar{X} = 45,02$, mean of social appearance anxiety in high metacognitive awareness level of adolescents $\bar{X} = 34,17$).

The Differences in terms of Gender

The differences among social appearance anxiety of adolescents, metacognitive awareness, metacognitive awareness's sub-dimensions (explanative information, procedural information, planning, self-control, cognitive strategies, conditional information, self-evaluation and self-monitoring) in term of gender were analyzed with t-test. As a result of the study there was a difference in terms of gender, between social appearance anxiety level and metacognitive awareness of adolescents. Results are shown in Table 3.

Table 3. *The Differences in terms of Gender*

Variables	Female(n= 144)		Male (n= 120)		t
	\bar{X}	SS	\bar{X}	SS	
Social Appearance Anxiety	39,74	14,97	45,03	17,47	-2,64
Metacognitive Awareness	98,49	13,91	97,01	17,51	0,76
Explanatory Information	31,07	4,18	29,91	5,39	1,97
Procedural Information	13,87	2,05	13,44	2,53	1,51
Planning	6,31	1,41	6,27	1,67	-0,23
Self-Control	9,31	2,01	9,47	2,27	-0,59
Cognitive Strategies	9,37	1,92	9,31	2,07	0,24
Conditioned Information	12,81	2,58	12,63	2,89	0,52
Self-Evaluation	9,54	2,04	9,61	2,11	-0,25
Self-Monitoring	6,16	1,54	6,33	1,51	-0,90

* $p < 0,05$, ** $p < 0,001$

When using t test to compare adolescent's social appearance anxiety level with regard to gender adolescent's social appearance anxiety level significantly differentiated with regard to gender ($p < .005$). The mean of male's social appearance anxiety level was higher than female (Male $\bar{X} = 45,03$ and Female $\bar{X} = 39,74$). Other variables did not differentiate in term of gender.

To examine the common effect of gender and meta-cognitive awareness on social appearance anxiety Two Way ANOVA was used. Considering Levene homogeneity level ($F(3,94) = 1,354, p = .26$) two-way ANOVA was carried out and found that there was not any common effect of gender and metacognitive awareness on social appearance [$F(3,94) = .46, p > .05$]. As a result of the study it is indicated that social appearance anxiety differentiated with regard to gender and metacognitive awareness although there was not any common effect of gender and metacognitive awareness on social appearance.

Discussion

In literature it is stated that there are relationships among social anxiety, eating disorder and self esteem (Obeid, Buchholz, Boerner, Henderson, & Norris, 2013). The apparent physical changes happen in adolescent period which lead adolescents to be negatively affected and to get mental health problems. Thus some of the adolescents' negative bodily image might decrease their self-esteem which might lead to develop social appearance anxiety. Women with high self schema are less pleased with their appearance and have low self-esteem level. In parallel to this, some research (Jung & Lee, 2006; Jung & Lennon 2003) show that positive body image is related to high level of self-esteem and negative body image is related to low level of self-esteem. It is also found that positive or negative body image has an effect on eating behaviors, social phobia level, sexual behaviors, social relationship and emotional life (Cash & Fleming, 2002). Another study demonstrated that social anxiety level and depression level are correlated with each other. Moreover this study showed that financial difficulties increased the social appearance anxiety. And it is also stated that social anxiety is related to self-esteem (Özcan, Subaşı, Budak, Çelik, Gürel, & Yıldız, 2013).

In literature there is not any study about social appearance anxiety of adolescents and metacognitive awareness of adolescents. Whereas some of the studies (Solomon & Schopler, 1982; Dion, Dion, & Keelan, 1990; Smith, 2007; Craik & Tulving, 1975; Fenigstein & Vanable, 1992; Schlenker & Weigold, 1990; Solomon & Schopler, 1982; Symons & Johnson, 1997; Smith, 2007) examined the relationship between self-consciousness and social appearance anxiety. Henceforth, this study is very important because it is the first study about this topic social appearance anxiety of adolescents and metacognitive awareness of adolescents.

In this study social appearance anxiety was negatively correlated with social metacognitive awareness explanative information, procedural information, planning, self-control, cognitive strategies conditioned information, self-evaluation, and self monitoring. As a result of multiple regression analysis the linear combinations' values of procedural information, of self-evaluation, and of explanatory information predicted significantly social anxiety appearance. When comparing the predictive values of social appearance anxiety included into multiple regression analysis the most predictive values was self-evaluation. This result showed that the more procedural information, self-evaluation, and

explanatory information level increased, the more social appearance anxiety decreased.

Furthermore, in this study it was found that there was a significant difference between adolescent with high and low metacognitive awareness level about social appearance anxiety. Adolescents with low metacognitive awareness level had high level of social appearance anxiety. This result was consistent with some research (Solomon & Schopler, 1982; Dion, Dion, & Keelan, 1990; Smith, 2007; Craik & Tulving, 1975; Fenigstein & Vanable, 1992; Schlenker & Weigold, 1990; Solomon & Schopler, 1982; Symons & Johnson, 1997; Smith, 2007)

In addition to all results, there was a difference between social appearance anxiety of adolescents, metacognitive awareness about gender. The mean of male's social appearance anxiety level was higher than female's social appearance anxiety level. This result might be related to the fact that physical development of female adolescents is earlier than male adolescents. Another factor of higher level of social appearance anxiety of male adolescents might be that male adolescents might not adequately provide social roles which their society expected. Therefore, the common effect of gender and metacognitive awareness on social appearance anxiety was examined. According to the result, there was not any common effect of gender and metacognitive awareness on social appearance. Last but not least it is indicated that social appearance anxiety differentiated with regard to gender and metacognitive awareness although there was not any common effect of gender and metacognitive awareness on social appearance.

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