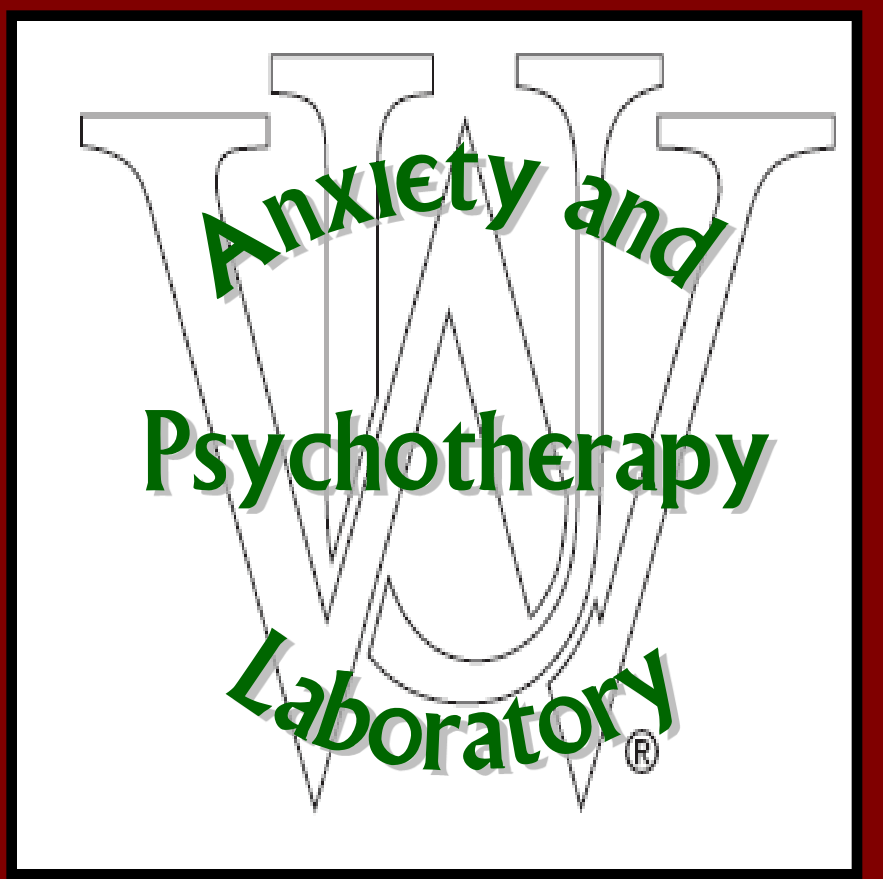




Social Anxiety and Body Image Disorders: What Role Does Social Appearance Anxiety Play?

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Abstract

Introduction: Social anxiety and eating disorders are highly comorbid (Kaye et al., 2004). However it is unknown how specific domains of social anxiety relate to eating dysfunction. We sought to examine these relationships and investigate *social appearance anxiety* as a vulnerability linking social anxiety with the eating disorders.

Method: We examined five domains of social anxiety (social interaction anxiety, fear of scrutiny, fear of positive/negative evaluation, and social appearance anxiety) and seven components of eating dysfunction (body dissatisfaction, bulimia, drive for thinness, weight/shape/eating concern, and restraint).

Results/Discussion: We found support for a model in which social appearance anxiety and fear of negative evaluation are vulnerabilities for both social anxiety symptoms and eating disorder dysfunction. Interventions that target social appearance anxiety may help prevent eating disorders.

Introduction

- Social anxiety disorder (SAD) is significantly more common among individuals with eating disorders (Godart et al., 2000)
- Studies indicate that the onset of anxiety disorders precedes development of eating disorders (Brewerton et al., 1995)
- *General* fear of negative evaluation (FNE) has been suggested to link SAD with eating disorders
 - In SAD literature FNE is treated as a cause of (or vulnerability to) SAD (Rapee & Heimberg, 1997)
- Social appearance anxiety (SAA) is *fear of negative evaluation of one's appearance* (Hart et al., 2008)
- Social appearance anxiety may better explain the link between SAD and eating disorders than the more studied forms of social anxiety

Purposes

- To test how specific components of SAD relate to components of eating dysfunction
- To test a model in which SAA and FNE are vulnerabilities for both SAD and eating dysfunction

Measures

- Social Appearance Anxiety Scale** (SAAS; Hart et. al, 2008)
- Contains 16 items regarding anxiety about one's appearance in social situations
 - SAAS demonstrates a unifactorial structure with high test-retest reliability
 - It is positively associated with measures of social anxiety and is a unique predictor of social anxiety over and above body image measures
- Social Interaction Anxiety Scale** (SIAS; Mattick & Clarke, 1998)
- Describes anxiety-related reactions to a variety of social situations
 - Good to excellent reliability, and good construct and convergent validity (see Heimberg & Turk, 2002, for a review)
 - For analyses, the reverse-scored items are dropped (Rodebaugh, Woods, & Heimberg, 2007)

- Brief Fear of Negative Evaluation** (BFNE; Leary, 1983)
- Brief version of the original FNE (Watson & Clark, 1969)
 - Measures fear of being negatively evaluated
 - Excellent psychometric properties when the reverse-scored items are excluded, as they are here (Rodebaugh et al., 2004)
- Social Phobia Scale** (SPS; Mattick & Clarke, 1998)
- 20 item measure that assesses *fear of scrutiny*
 - Good to excellent reliability and ability to discriminate between social phobia and other disorders
- Fear of Positive Evaluation Scale** (FPE; Weeks et al., 2008)
- 10 item measure to assess fear of positive evaluation
 - Has excellent reliability, construct and factorial validity (Fergus et al., 2009)

- Eating Disorder Inventory-2** (EDI-2; Garner et al., 1983)
- 91 item measure assesses symptoms of bulimia and anorexia nervosa
 - In the current study the body dissatisfaction, drive for thinness, and bulimia subscales were used
- Eating Disorder Examination-Q** (EDE-Q; Fairburn & Beglin, 1994)
- 41 item measure designed to assess cognitive and behavioral aspects of eating disorders
 - In the current study all four subscales were used (Restraint, Eating Concern, Weight Concern, Shape Concern)

Participants

- 95 undergraduates at Washington University
- Participants were
 - Mostly female ($n = 62$; 65%)
 - Mostly white ($n = 66$; 70%)
 - Mean age of 19 ($M = 19.34$, $SD = 1.16$)

Analyses

- Structural equation modeling was implemented using the maximum likelihood estimator in the Mplus program Version 5.21 (Muthen & Muthen, 1998-2009)
- Model fit was evaluated using
 - Comparative fit index (CFI; Bentler, 1990)
 - Tucker-Lewis incremental fit index (TLI; Tucker & Lewis, 1973)
 - Root mean square error of approximation (RMSEA; Steiger & Lind, 1980)
- To create a measure of eating disorder dysfunction (EDD) we standardized and summed all seven measures of EDD
- The same procedure was used to create a measure of SAD using the SPS and SIAS

Results

Multiple Regression Analyses:

- Social appearance anxiety (part $r = .23$, $p = .038$), fear of negative evaluation (part $r = .33$, $p = .002$), and gender (part $r = .44$, $p < .001$) significantly predicted EDD over and above social interaction anxiety (part $r = -.11$, $p = .314$), fear of scrutiny (part $r = -.09$, $p = .415$) and fear of positive evaluation (part $r = .14$, $p = .211$)
- To test which domains of social anxiety related to each specific component of EDD we conducted follow up tests for each of the seven components

Part Correlations for Social Anxiety Predicting Eating Disorder Dysfunction

	BD	DT	B	WC	SC	EC	R
SAAS	.40**	.09	.13	.26*	.31*	.22*	.04
BFNE	.11	.36**	.23*	.31*	.28*	.31*	.35**
FPE	.17	.00	.14	.06	.10	.06	.15
SIAS	-.01	-.17	.02	-.18	-.14	-.11	-.17
SPS	-.10	.04	-.12	.01	.00	.06	-.06

Note. SAAS = Social Appearance Anxiety Scale; BFNE = Brief Fear of Negative Evaluation Scale; FPE = Fear of Positive Evaluation; SIAS = Social Interaction Scale; SPS = Social Phobia Scale; BD = Body Dissatisfaction; DT = Drive for Thinness; B = Bulimia; WC = Weight Concern; SC = Shape Concern; EC = Eating Concern; R = Restraint. ** $p < .001$; * $p < .05$.

- Tested a model in which fear of negative evaluation and social appearance anxiety were vulnerabilities for both social anxiety and EDD and fear of positive evaluation was a vulnerability for social anxiety alone

Results: Structural Equation Modeling

- Model fit indices ranged from good to excellent (CFI = .99, TLI = .96, RMSEA = .09)¹

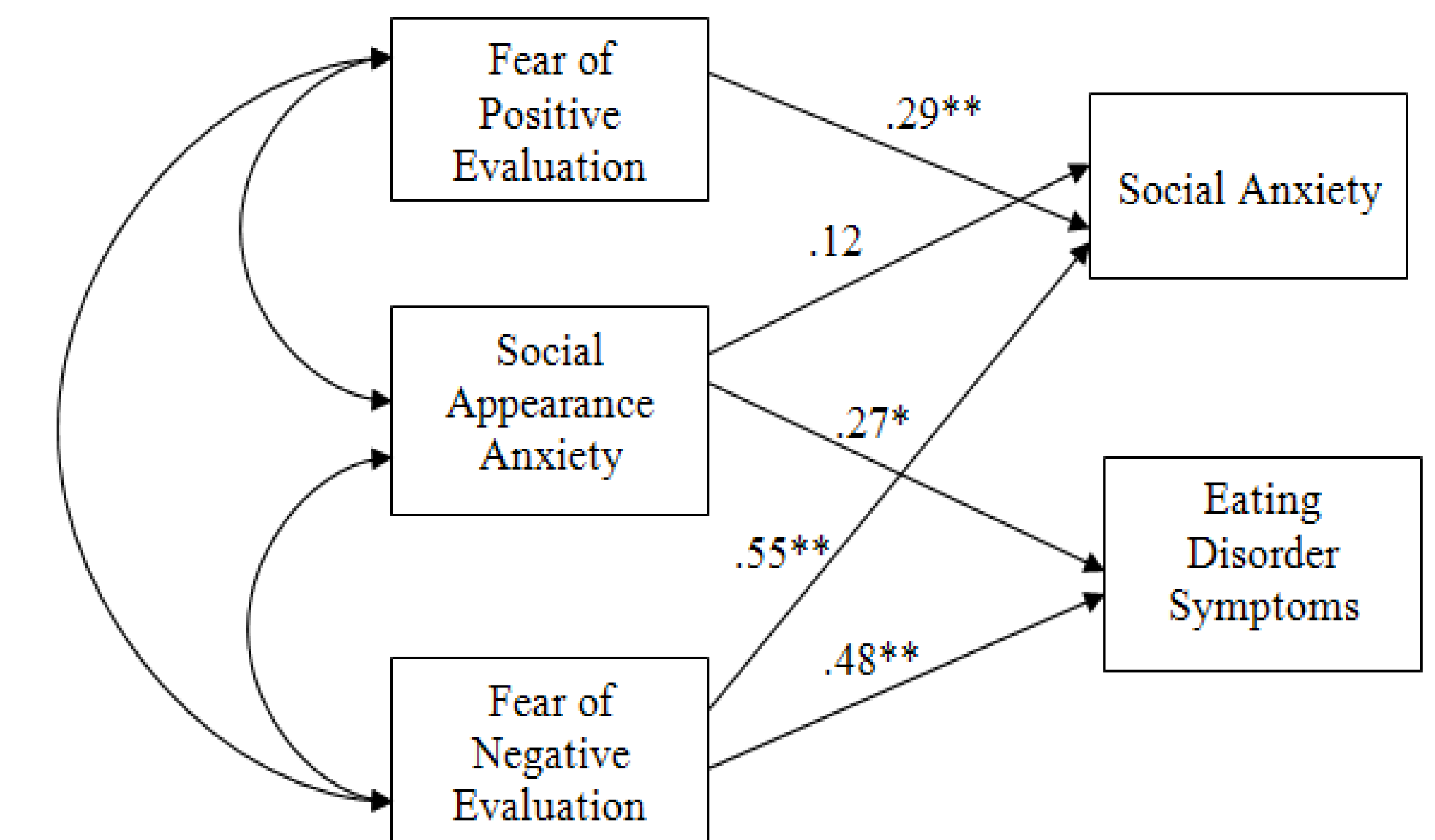


Figure 1. Model of the relationship between fear of positive evaluation, social appearance anxiety, fear of negative evaluation, social anxiety, and eating disorder symptoms. Social anxiety is a composite of the SIAS and SPS. Eating disorder symptoms is a composite of three subscales from the EDI-2 and four subscales from the EDE-Q. Standardized Coefficients are shown. ** $p < .01$, * $p < .05$

Discussion

- Social appearance anxiety and fear of negative evaluation predicted EDD over and above
 - Fear of scrutiny
 - Fear of positive evaluation
 - Social interaction anxiety
- Social appearance anxiety = only unique predictor of body dissatisfaction
 - Social appearance anxiety may lead to EDD through body dissatisfaction
- Model in which both social appearance anxiety and FNE were vulnerabilities for SAD and EDD had excellent fit
 - Social appearance anxiety and FNE may be vulnerabilities that lead individuals to experience either SAD or an eating disorder (or both)
- Development of exposure therapy that targets social appearance anxiety may prevent development of eating disorders

¹For samples of fewer than 200 cases, RMSEA has been found to be an underestimate of model fit (i.e., in a larger sample the fit may improve; Curran, et al., 2003)