



# Transdiagnostic and specific factors in social anxiety

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## Introduction

- Recent cognitive behavioural therapy research has focused on transdiagnostic factors to facilitate treatment provision (Cougle, 2012).
- Research has implicated several transdiagnostic factors in anxiety psychopathology, including:
  - Anxiety sensitivity (fear of anxiety sensations; Deacon & Abramowitz, 2006)
  - Intolerance of uncertainty (fear of the unknown; Carleton et al., 2010)
  - Distress tolerance (ability to endure negative emotions; Keough et al., 2010)
  - Discomfort intolerance (tolerance of uncomfortable physical sensations; Schmidt et al., 2007).
- Few studies on these transdiagnostic constructs have concurrently examined their contribution to anxiety pathology with disorder-specific cognitive vulnerabilities.
- Independent relationships between transdiagnostic constructs and social anxiety disorder (SAD) symptoms have been established; however,
  - Few studies have concurrently examined transdiagnostic constructs in SAD symptoms
  - No studies have assessed their contribution to SAD symptoms beyond fear of negative and positive evaluation, which are thought to be specific to SAD.
- Such investigations may help inform SAD treatment focus, based on the relative contributions of the different constructs to anxiety presentation.

## Methods

- Participants included 178 community members ages 18 – 60 years (79% women;  $M_{age} = 31.58$ ,  $SD = 14.00$ ). Many (54%) individuals' self-reported symptoms were consistent with a probable diagnosis of SAD.
- Participants completed self-report measures online :
  - Anxiety Sensitivity Index-3 (ASI-3; Taylor et al., 2007) – 18 items rated on a 5-point Likert scale.
  - Brief Fear of Negative Evaluation Scale, Straightforward Items (BFNE-S; Rodebaugh et al., 2004) – 8 items rated on a 5-point Likert scale.
  - Discomfort Intolerance Scale (DIS; Schmidt et al., 2006) – 5 items rated on a 7-point Likert scale.
  - Distress Tolerance Scale (DTS; Simons & Gaher, 2005) – 15 items rated on a 5-point Likert scale.
  - Fear of Positive Evaluation (FPES; Weeks et al., 2008) – 10 items rated on a 10-point Likert scale.
  - Intolerance of Uncertainty Scale, Short Form (IUS-12; Carleton et al., 2007) – 12 items rated on a 5-point Likert scale.
  - Social Interaction Phobia Scale (SIPS; Carleton et al., 2009) – 14 items rated on a 5-point Likert scale.
- Pearson correlations characterized the relationships between SAD symptoms and transdiagnostic and disorder-specific vulnerabilities. Independent *t*-tests examined differences in transdiagnostic and disorder-specific vulnerabilities between those with and without a probable diagnosis of SAD. Regression analyses assessed the variance accounted for by transdiagnostic and disorder-specific vulnerabilities in SAD symptoms.

## Results

- All transdiagnostic and disorder-specific vulnerabilities were related to each other and SAD symptoms (Table 1). High distress tolerance is considered a protective factor, and in such, shared a negative relationship with the other transdiagnostic and disorder-specific vulnerabilities.
- Individuals with probable SAD differed ( $ps < .001$ ) from those without on all measures, except discomfort intolerance,  $t(175) = -1.73$ ,  $p = .085$ ,  $r^2 = 0.02$  (Table 2).
- A multiple linear regression with all transdiagnostic constructs as independent variables implicated anxiety sensitivity, intolerance of uncertainty, and distress tolerance as significant predictors of SAD symptoms, whereas discomfort intolerance was not ( $p = .991$ ). Together, the transdiagnostic variables accounted for 30% of the variance,  $F(4, 156) = 18.25$ ,  $p < .001$  (Table 3).
- A multiple hierarchical regression evaluated fear of negative and positive evaluation on the first step, the transdiagnostic constructs (excluding discomfort tolerance; see previous results) on the second step, and SAD symptoms as the dependent variable.
- Fear of negative and positive evaluation were both significant predictors and together accounted for 62% of the variance,  $F(2, 157) = 128.72$ ,  $p < .001$ . When entered on the second step, none of the transdiagnostic factors were statistically significant, and did not improve the model,  $\Delta F(3, 154) = 1.58$ ,  $p = .197$ ,  $\Delta R^2 = 0.01$  (Table 4).

## Discussion

- Anxiety sensitivity, intolerance of uncertainty, distress tolerance, and discomfort intolerance all correlated with SAD symptoms and appeared to differ significantly in those with and without a probable diagnosis of SAD, with the exception of discomfort intolerance.
  - These findings suggest discomfort intolerance may not be as seminal in SAD as other transdiagnostic and disorder-specific vulnerabilities.
- Anxiety sensitivity, intolerance of uncertainty, and distress tolerance each accounted for comparable variance in SAD symptoms when examined together; however, when controlling for fear of negative and positive evaluation, they failed to account for unique variance.
- The transdiagnostic constructs may contribute to cognitive and behavioural tendencies that present as symptoms largely centered around fear of positive and negative evaluation (e.g., the perception that the uncertainty of a conversation is threatening contributes to a fear of not knowing what to say and appearing stupid or having concerns about appearing nervous leads to avoidance of speeches for fear of looking bad).
- Incorporating cognitive and behavioural elements that target these transdiagnostic constructs in to existing treatment protocols for SAD may result in larger, more global symptom reductions, given their potentially amplifying effect.

Table 1: Pearson Correlations

	1	2	3	4	5	6
1. SIPS						
2. ASI-3	.44**					
3. BFNE-S	.69**	.50**				
4. IUS-12	.47**	.56**	.51**			
5. FPES	.70**	.40**	.51**	.49**		
6. DTS	-.45**	-.53**	-.45**	-.55**	-.39**	
7. DIS	.23**	.24**	.19**	.32**	.11*	-.30**

Note. SIPS=Social Interaction Phobia Scale; ASI-3=Anxiety Sensitivity Index-3; BFNE-S= Brief Fear of Negative Evaluation Scale, Straightforward Items; IUS-12=Intolerance of Uncertainty Short Form; FPES=Fear of Positive Evaluation Scale; DTS=Distress Tolerance Scale; DIS=Discomfort Intolerance Scale.  
\*\* significant at the 0.01 level (2-tailed); \*significant at the 0.05 level (2-tailed).

Table 2: Descriptive Statistics and Independent *t*-Tests

	Probable SAD	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>
SIPS	no	12.68	8.45	-21.42	176	<.001
	yes	40.07	8.53			
ASI-3	no	24.90	15.37	-4.75	171	<.001
	yes	35.23	13.23			
BFNE-S	no	23.22	9.16	-8.82	174	<.001
	yes	33.49	6.26			
IUS-12	no	31.92	11.58	-4.72	170	<.001
	yes	40.32	11.66			
FPES	no	37.84	18.12	-8.70	174	<.001
	yes	61.54	17.91			
DTS	no	52.08	14.24	6.05	165	<.001
	yes	39.32	12.93			
DIS	no	25.80	6.88	-1.73	175	.085
	yes	27.67	7.35			

Note. SIPS=Social Interaction Phobia Scale; ASI-3=Anxiety Sensitivity Index-3; BFNE-S= Brief Fear of Negative Evaluation Scale, Straightforward Items; IUS-12=Intolerance of Uncertainty Short Form; FPES=Fear of Positive Evaluation Scale; DTS=Distress Tolerance Scale; DIS=Discomfort Intolerance Scale.

Table 3: Multiple Linear Regression - SIPS

Independent variable	Coefficients			Correlations		Model Statistics		
	$\beta$	<i>t</i>	<i>p</i>	Part <i>r</i>	<i>r</i>	Adj $R^2$	<i>F</i>	<i>p</i>
ASI-3	.20	2.42	.02	.16	.44	.30	18.25	<.001
IUS-12	.26	3.04	<.01	.20	.49			
DTS	-.22	-2.68	.01	-.18	-.47			
DIS	<.01	.01	.99	<.01	.19			

Note. SIPS=Social Interaction Phobia Scale; ASI-3=Anxiety Sensitivity Index-3; IUS-12=Intolerance of Uncertainty Short Form; DTS=Distress Tolerance Scale; DIS=Discomfort Intolerance Scale.

Table 4: Multiple Hierarchical Regression - SIPS

Independent variable	Coefficients			Correlations		Model Statistics		
	$\beta$	<i>t</i>	<i>p</i>	Part <i>r</i>	<i>r</i>	$\Delta R^2$	$\Delta F$	<i>p</i>
BFNE-S	.45	7.27	<.001	.36	.70	.62	128.72	<.001
FPES	.38	6.08	<.001	.30	.67			
ASI-3	.10	1.68	.095	.08	.45	.01	1.58	.197
IUS-12	.04	.57	.570	.03	.49			
DTS	<-.01	-.01	.990	<-.01	-.47			

Note. SIPS=Social Interaction Phobia Scale; ASI-3=Anxiety Sensitivity Index-3; BFNE-S= Brief Fear of Negative Evaluation Scale, Straightforward Items; IUS-12=Intolerance of Uncertainty Short Form; FPES=Fear of Positive Evaluation Scale; DTS=Distress Tolerance Scale; DIS=Discomfort Intolerance Scale.

