Cognitive Constructs and Social Anxiety Disorder

Beyond fearing negative evaluation

Michelle J. N. Teale, B.A. Hons
Myriah K. Mulvogue, B.A.
Murray P. Abrams, M.A.
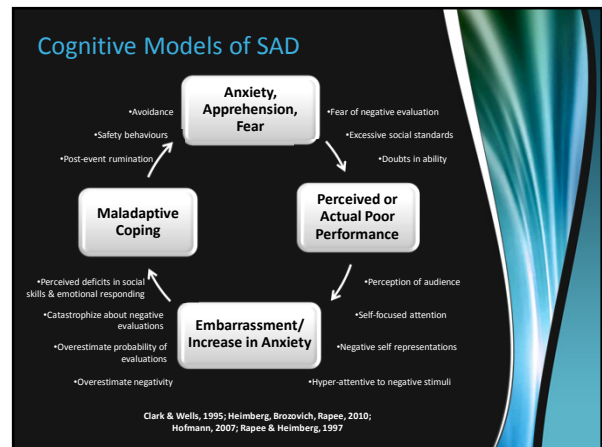R. Nicholas Carleton, Ph.D.

Acknowledgements

- Saskatchewan Health Research Foundation
  - No other financial conflicts

- University of Regina

- Justin Weeks, Ph.D.

- Richard G. Heimberg, Ph.D.

Background

- Social anxiety disorder (SAD)
  - Impairing anxiousness, discomfort, and fear, experienced before, during, and after social interaction or performance situations

  - Somatic, cognitive, and behavioural symptoms

  - 4th most prevalent psychiatric disorder, affecting between 7-13% of the population

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Cognitive Models of SAD

- Avoidance
- Safety behaviours
- Post-event rumination

Anxiety, Apprehension, Fear

- Fear of negative evaluation
- Excessive social standards
- Doubts in ability

Maladaptive Coping

Perceived or Actual Poor Performance

- Perceived deficits in social skills & emotional responding
- Catastrophize about negative evaluations
- Overestimate probability of evaluations
- Overestimate negativity

Embarrassment/ Increase in Anxiety

- Perception of audience
- Self-focused attention
- Negative self representations
- Hyper-attentive to negative stimuli

Clark & Wells, 1995; Heimberg, Brozovich, Rapee, 2010; Hofmann, 2007; Rapee & Heimberg, 1997

Related Constructs

- Fear of Negative Evaluation
  - Watson & Friend, 1969

- Fear of Positive Evaluation
  - Weeks et al., 2008

- Anxiety Sensitivity – Social Subscale
  - Deacon & Abramowitz, 2006

- Intolerance of Uncertainty – Inhibitory Subscale
  - Carleton et al., 2010

Intolerance of Uncertainty (IU)

- Growing evidence that IU is ubiquitous in anxiety and mood disorders
  - McEvoy & Mahoney, 2011; Carleton et al., 2012; Mahoney & McEvoy, in press; McEvoy & Mahoney, in press

IU and SAD

- Inherent uncertainty of social situations

- Conceptually congruent with cognitive models

- Performance ratings worse in ambiguous situations
  - Moscovitch & Hofmann, 2007

IU and SAD

- Carleton et al., 2010
  - A community sample (n=286)

  - Examined affect, fear of negative evaluation, anxiety sensitivity, IU, and social anxiety symptoms
    - IU predicted variance comparable to fear of negative evaluation

  - Inhibitory IU

IU and SAD

- IU and SAD symptoms – Inhibitory IU
  - McEvoy and Mahoney, 2011
  - Carleton et al., 2012
  - McEvoy and Mahoney, in press

- Reducing IU facilitates SAD symptom improvement
  - Mahoney and McEvoy, 2012

The Current Study

- Replicate and extend Carleton et al. (2010)
  - A clinical sample meeting diagnostic criteria for SAD
  - Fear of Positive Evaluation

- Each of the measured constructs will account for significant variance in SAD symptoms

Participants

- Eligibility
  - 18-65 years of age
  - Meet DSM-IV diagnostic criteria for SAD
  - Identify SAD as a primary psychological concern
  - Self-report clinically significant symptom levels as measured by the Social Interaction Phobia Scale
  - Not be actively engaged in psychotherapy for SAD
  - If taking prescription psychotropic medication, be on a stable dosage for at least the past month

Participants

- Participants (n=193)
  - 65 men, 18-64 years, (M_{age}=37.3; SD = 12.8)
  - 128 women, 18-65 years (M_{age}=39.0; SD =13.0)
  - 89% Caucasian

- Completed a web-based questionnaire battery
  - Fear of Negative Evaluation
  - Fear of Positive Evaluation
  - Anxiety Sensitivity
  - IU
  - Social anxiety symptoms

Measures

- Social Anxiety Symptoms
  - Social Interaction Phobia Scale
    - SIPS; Carleton et al., 2009
  - Social Avoidance and Distress Scale
    - SADS; Watson & Friend, 1969

- Related Constructs
  - Brief Fear of Negative Evaluation Scale, Straightforward
    - BFNE-S; Carleton et al., 2012
  - Fear of Positive Evaluation Scale
    - FPES; Weeks et al., 2008
  - Anxiety Sensitivity Index-3
    - ASI-3; Taylor et al., 2007
  - Intolerance of Uncertainty Scale, Short Form
    - IUS-12; Carleton et al., 2007

Analyses

- Theorized Relationships
  - Pearson correlations

- Sex Differences
  - Independent t-tests

- Predictive Nature of the Related Constructs
  - Multiple hierarchical regressions

Regression Analyses

- SIPS and SADS each as dependent variables

- Set 1
  - Block 1: IUS-12 (IU)
  - Block 2: ASI-3 (Anxiety Sensitivity)
  - Block 3: BFNE-S & FPES (Fears of Evaluation)

- Set 2
  - Block 1: IUS-12 subscales
  - Block 2: ASI-3 subscales
  - Block 3: BFNE-S & FPES

Results

- Positive statistically significant correlations

- Sex differences
  - Women scored slightly higher than men on
    - Inhibitory subscale of the IUS-12 (r^2 = .02)
    - Prospective subscale of the IUS-12 (r^2 = .04)
    - BFNE-S (r^2 = .05)
    - FPES (r^2 = .02)
    - SADS (r^2 = .02)

Results: SIPS

Model step	Coefficient statistics						Model step	
Total Scores	β	β	t	t	Part r	Part r	ΔR^2	ΔR^2
	M	W	M	W	M	W	M	W
1 IUS-12	.53	.41	4.93†	4.99†	.53	.41	.28†	.17†
2 ASI-3	.35	.36	3.46**	4.20†	.34	.32	.12†	.10†
3 BFNE-S	.39	.08	4.12†	1.01	.35	.07	.18†	.11†
FPES	.23	.32	2.47*	4.07†	.21	.29		
Subscale Scores								
1 IUS-12 Prospective	.17	.17	1.11	1.48	.12	.12	.29†	.17†
IUS-12 Inhibitory	.41	.28	2.67**	2.51*	.29	.21		
2 ASI-3 Somatic	-.04	-.08	-.37	-.83	-.04	-.06	.16**	.14†
ASI-3 Cognitive	.26	.32	2.17*	3.28†	.21	.25		
ASI-3 Social	.30	.23	2.97**	2.54*	.29	.19		
3 BFNE-S	.34	.06	3.08**	.58	.26	.04	.14†	.08†
FPES	.24	.30	2.46*	3.87†	.21	.28		

Notes: 2-tailed; *p<.05; **p<.01; †p<.001; Men's results are presented in columns headed with M. Women's results are presented in columns headed with W.

Results: SADS

Model step	Coefficient statistics						Model step	
Total Scores	β	β	t	t	Part r	Part r	ΔR^2	
	M	W	M	W	M	W	M	W
1 IUS-12	.40	.26	3.44**	3.05**	.40	.26	.16†	.07**
2 ASI-3	-.01	.10	-.10	1.02	-.01	.09	<.01	<.01
3 BFNE-S	.37	.11	2.98**	1.13	.33	.09	.12	.07**
FPES	.07	.24	.58	2.66*	.06	.22		
Subscale Scores								
1 IUS-12 Prospective	-.16	.15	-.99	1.25	-.11	.11	.25†	.07*
IUS-12 Inhibitory	.60	.14	3.83**	1.17	.42	.10		
2 ASI-3 Somatic	-.19	-.05	-1.51	-.42	-.16	-.04	.08	.03
ASI-3 Cognitive	-.07	.03	-.50	.24	-.05	.02		
ASI-3 Social	.25	.18	2.24*	1.78*	.24	.15		
3 BFNE-S	.20	.10	1.45	.90	.15	.08	.05	.06*
FPES	.15	.24	1.27	2.61*	.13	.22		

Notes: 2-tailed; *p<.05; **p<.01; †p<.001; Men's results are presented in columns headed with M. Women's results are presented in columns headed with W.

Results: SIPS, SADS, Sex

Model Step	SIPS		SADS	
	Men	Women	Men	Women
Total Scores	ΔR^2	ΔR^2	ΔR^2	ΔR^2
1 IUS-12	.28†	.17†	.16†	.07**
2 ASI-3	.12†	.10†	<.01	<.01
3 BFNE-S	.18†	.11†	.12	.07**
FPES				
Subscale scores				
1 IUS-12 Inhibitory	.29†	.17†	.25	.07*
IUS-12 Prospective				
2 ASI-3 Social	.16**	.14†	.08	.03
ASI-3 Cognitive				
ASI-3 Somatic				
3 BFNE-S	.14†	.08†	.05	.06*
FPES				

Discussion

- Partial support for hypotheses

- Differential variance accounted for in social anxiety symptoms
  - Fear of Negative Evaluation
  - Fear of Positive Evaluation
  - Anxiety Sensitivity
  - IU

Discussion

- Pattern and strength of the relationships varied by sex and symptom measure

- IU – particularly Inhibitory IU – significantly predicted SAD symptoms

- Fears of negative and positive evaluation predicted SAD symptoms differently for men and women

Discussion

- Fear of negative evaluation predicted more variance in symptoms for men

- Fear of positive evaluation predicted more variance in symptoms for women

- Comparable endorsement rates suggests a potential complex interaction of psychosocial variables

Implications

- Support for the role of IU in SAD

- Support for the role of fearing positive evaluation and anxiety sensitivity

- Cognitive factors contributing to SAD may differ based on symptom-type and sex
  - Treatment ramifications

Limitations and Future Directions

- First indications of a potentially important sex difference, contrasting previous research

- Twice as many women as men, primarily Caucasian

- Clinical sample focus results in range restrictions

Limitations and Future Directions

- No interrater reliability for assessors

- Comorbid diagnoses were not used as exclusion criteria

- Extensive self-report measure use

Limitations and Future Directions

- SAD multi-dimensionality requires further research and theory

- Cross-sectional data

Questions
Discussion

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