



HEALTH ANXIETY, FEAR, AND UNCERTAINTY

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Background

- ▣ Researchers are increasingly describing health anxiety (HA) as a continuum construct, with mild health anxiety occurring commonly at one end (e.g., worry that a mole is indicative of malignant cancer) and extreme HA at the other (e.g., hypochondriasis)



Background

- ▣ Cognitive-behavioural models of HA include several features such as
 - 1) Disease-related fear
 - 2) Bodily preoccupation



Background

- ▣ There is also a readily apparent association between high HA and obsessive compulsive disorder (OCD)



Background

- ▣ Intolerance of Uncertainty (IU) is generally considered to be a substantial and robust cognitive component of OCD
- ▣ A similar relationship may exist between IU and HA in addition to more directly related fears (e.g., illness, pain)



Background

- Recent evidence has supported the notion that IU may be a fundamental component of all anxiety disorders, necessary and often sufficient to result in pathology
 - Carleton, Sharpe, & Asmundson, 2007



Background

- Intolerance of Uncertainty (IU)
 - The tendency for an individual to consider the possibility of a negative event occurring as unacceptable and threatening irrespective of the probability of its occurrence
 - At least two dimensions
 - Inhibitory Anxiety
 - Prospective Anxiety



Purposes

- Assess the relationship between HA and IU
- Evaluate the unique contribution of IU to HA independent of negative affect, fear of pain, fear of somatic symptoms, and fears of illness and injury



Participants

- Participants ($n=311$) were community volunteers
 - 85 men, 18-54 years ($M_{age} = 29.9$; $SD = 10.9$)
 - 222 women, 18-55 years ($M_{age} = 30.4$ $SD = 10.9$)
- All participants completed several questionnaires as part of a larger study



Measures

- Whiteley Index-Likert Scale
 - WI; Welch, Carleton, & Asmundson, 2009
- Positive and Negative Affect Schedule-Expanded
 - PANAS-X; Watson & Clark, 1994; Watson, Clark, & Harkness, 1994
- Illness/Injury Sensitivity Index-Revised
 - ISI-R; Carleton et al., 2006
- Pain Anxiety Symptoms Scale-20
 - PASS-20; McCracken and Dhingra, 2002
- Intolerance of Uncertainty-Short Form
 - IUS-12; Carleton, Norton, & Asmundson, 2007



Measures

- Whiteley Index-Likert Version (WI)
 - Two factorially distinct components
 - 1) Disease Conviction
 - "Do you often have the symptoms of very serious illnesses?"
 - 2) Disease Worry/Fear
 - "Do you worry a lot about your health?"
 - **Total score is considered a valid measure of HA**



Measures

- Positive and Negative Affect Schedule-Expanded (PANAS-X)
 - Two factorially distinct subscales
 - 1) Negative Affect (Neuroticism)
 - “nervous”
 - 2) Positive Affect (Extraversion)
 - “cheerful”



Measures

- Illness/Injury Sensitivity Index-Revised (ISI-R)
 - Two factorially distinct components
 - 1) Fear of Illness
 - “I get scared if I think I am coming down with an illness.”
 - 2) Fear of Injury
 - “I am frightened of being injured.”



Measures

- Pain Anxiety Symptoms Scale-20 (PASS-20)
 - Four factorially distinct components
 - 1) Cognitive anxiety
 - “I can't think straight when in pain”
 - 2) Pain-related fear
 - “Pain sensations are terrifying”
 - 3) Escape and avoidance
 - “I try to avoid activities that cause pain”
 - 4) Physiological anxiety
 - “Pain makes me nauseous”
 - Total score is considered a valid measure of pain-related anxiety



Measures

- Anxiety Sensitivity Index-3 (ASI-3)
 - Three factorially distinct components
 - 1) Fear of somatic sensations; ‘somatic’
 - “It scares me when my heart beats rapidly.”
 - 2) Fear of cognitive dyscontrol; ‘cognitive’
 - “When I cannot keep my mind on a task, I worry that I may be going crazy.”
 - 3) Fear of socially observable anxiety reactions; ‘social’
 - “It is important to me not to appear nervous.”



Measures

- Intolerance of Uncertainty Scale, Short Form (IUS-12)
 - Two factorially distinct components
 - 1) Inhibitory Anxiety
 - “The smallest doubt can stop me from acting.”
 - 2) Prospective Anxiety
 - “Unforeseen events upset me greatly.”



Analyses

- Descriptive Statistics
- Pearson correlations between all variables
- Regressions evaluating contributions of the independent variables to WI scores



Results: Descriptive Stats

	M	SD	S (.14)	K (.28)	t	r ²
Whiteley Total	29.93	11.10	1.05	.80	1.70	<.01
PANAS-X Negative Affect	23.50	9.00	.61	-.35	1.72	<.01
ISI-R Injury	4.38	4.40	.98	.02	2.11*	.01
ISI-R Illness	6.27	5.39	.81	-.35	2.12*	.01
PASS-20 Total	25.12	19.19	.84	.07	2.35*	.02
ASI-3 Somatic	5.42	5.41	1.06	.37	.53	<.01
IUS-12 Prospective	19.45	6.60	.26	-.72	.18	<.01
IUS-12 Inhibitory	11.33	5.40	.71	-.49	1.20	<.01

*p<.05, women scored higher than men



Results: Correlations

	Whiteley	1	2	3	4	5	6
1. PANAS-X Neuroticism	.52						
2. ISI-R Injury	.54	.36					
3. ISI-R Illness	.72	.42	.72				
4. PASS-20 Total	.69	.48	.65	.64			
5. ASI-3 Somatic	.65	.41	.58	.61	.65		
6. IUS-12 Prospective	.51	.52	.34	.42	.48	.44	
7. IUS-12 Inhibitory	.57	.59	.44	.46	.56	.53	.74

All correlations were statistically significant, p<.01



Results: Linear Relationships

	Dependent Variable: Whiteley Total						
	β	t	part r	ΔR ²	ΔF	Tol	VIF
IUS-12 Prospective	.20	2.98**	.14			.45	2.21
IUS-12 Inhibitory	.42	6.10**	.28	.34	80.67**	.45	2.21
PANAS-X Negative Affect	.10	2.41*	.08			.60	1.67
ISI-R Injury	.14	-2.75**	-.09			.41	2.44
ISI-R Illness†	.45	8.47**	.28	.33	59.84**	.39	2.56
PASS-20 Total	.24	4.69**	.16			.41	2.46
ASI-Somatic	.19	4.03**	.13			.48	2.08

† Despite the strong relationship (i.e., r=.72), there were no problems with multicollinearity



Discussion

- Assess the relationship between HA and IU
 - There appears to be a robust relationship between HA and IU as measured by the Whiteley and IUS-12, respectively
- The relationship appears more heavily weighted to uncertainty causing behavioural inhibition than to worry, but both appear important



Discussion

- Evaluate the unique contribution of IU to HA independent of neuroticism, fear of pain, fear of somatic symptoms, and fears of illness and injury
 - IU accounted for a full third of the variance in HA, which was as much as negative affect, fears of illness, injury, pain, and somatic sensations together



Discussion

- The relationship between HA and fears of illness was significant and substantial; however, the two were sufficiently distinct that no problems were found with multicollinearity
- The relationship suggests that HA symptom endorsement requires more than a fear of illness – it seems to also require significant IU



Discussion

- ❑ When it comes to health, there is no “certainty” available, suggesting that a key factor in reducing HA is increasing tolerance for the necessary uncertainty
- ❑ Seemingly highly related to OCD, at least through IU



Summary

- ❑ There appears to be a significant and substantial relationship between HA and IU
- ❑ The relationship accounts for as much variance as several other related fears together
- ❑ IU may be a key component for HA as indicated by the distinction between fears of illness and symptoms of HA



Implications

- ❑ HA appears to be more than a fear of being or becoming ill (or injured) - it involves an inability to tolerate the possibility catastrophic consequences, no matter how improbable



Implications

- ❑ People with HA appear to have fears not better accounted for by general negative affect (neuroticism)
- ❑ Exposure to feared HA-related stimuli may be further benefited by contingency planning and acceptance of uncertainty or an exploration of the uncertainty that is driving the HA



Limitations & Future Research

- ❑ Self-reported symptoms
- ❑ Participants were not assessed for diagnostic status
- ❑ Cross-sectional data
- ❑ A qualitative analysis of the specific feared future consequences may be enlightening



THANK YOU

Questions?

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