

The Role of Distress Tolerance in terms of Anxiety Sensitivity among Young Adults with Asthma

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Asthma: Prevalence & Impact

- Prevalence = 1 in 12 adults
- 85% report symptoms of poor asthma control
- Impact on healthcare system:
 - 8.9 million doctor's visits
 - 1/4 of all ED visits
 - 14.2 million lost work days
 - \$56 billion in annual health care costs

Asthma & Panic Psychopathology

- Rates of PA and PD in asthma 4.5x higher
- Adverse effects on asthma despite no differences in lung function
 - Poorer control
 - Increased functional impairment
 - Increased bronchodilator use
 - Greater HCU

Asthma & Anxiety Sensitivity (AS)

- AS = fear of arousal-related physical and psychological sensations
 - May be mechanism underlying panic-asthma association
- AS associated with
 - Anxiety in response to asthma symptoms
 - Poorer control
 - Increased asthma-related functional impairment
 - Increased nocturnal waking
 - Greater bronchodilator use
- Physical concerns domain

Distress Tolerance (DT)

- Ability to tolerate or withstand negative or aversive *emotional* states
- Evaluations of and expectations about emotions in terms of:
 - Level of aversiveness and tolerability
 - Acceptability
 - Need for emotion regulation strategies intended to avoid or reduce it
 - Absorption of attentional resources and disruption of behavior

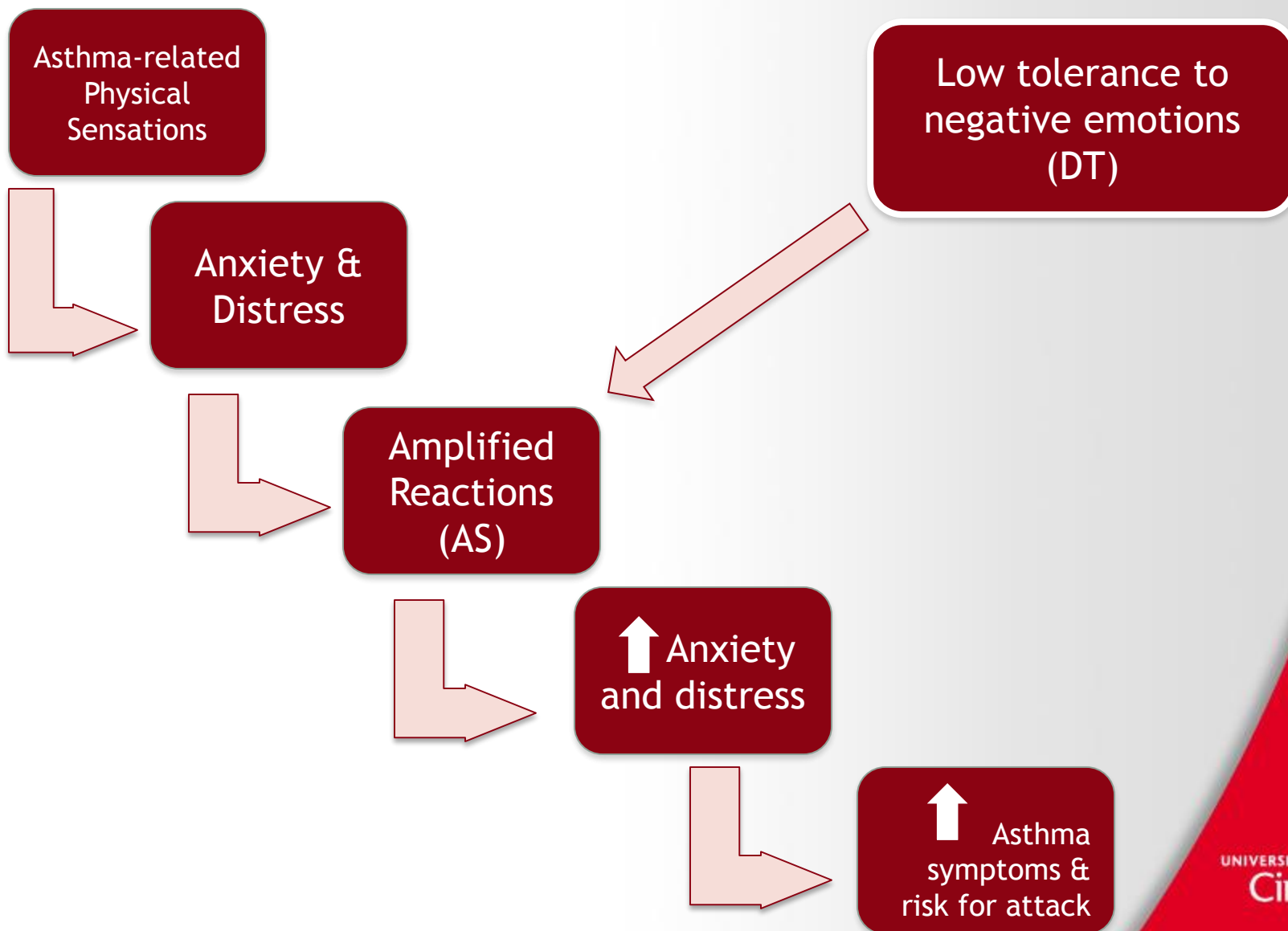
Distress Tolerance (DT)

- Transdiagnostic risk factor:
 - Depressive symptoms
 - Bulimic symptoms
 - Substance Use
 - Self-harm
 - Risky sexual behavior
 - Anxiety psychopathology

Distress Tolerance and Anxiety Sensitivity

- Inverse relationship
 - High in AS → Low in DT
- AS and DT are lower-order facets of the same higher-order factor
- Related but unique constructs

Theoretical Model



Current Study

Specific Aim

- Examine unique predictive ability of DT in terms of global AS and AS- Physical, Cognitive, and Social Concerns among young adults with asthma

Hypothesis

- After controlling for the effects of gender, negative affect and asthma control, DT will significantly predict AS

Method - Participants

- 101 undergraduates with asthma
 - 76.2% female
 - 75.2% Caucasian
 - $M_{age} = 19.69$ years
 - ($SD = 3.77$; Range = 18-49)
 - M_{age} at asthma diagnosis = 9.86 years
 - ($SD = 5.95$)
 - 46.5% hospitalized
 - 9.7% intubated

Method: Measures

Covariates

- Demographic information (gender)
- Positive Affect Negative Affect Schedule-Negative Affect subscale (PANAS-NA)
- Asthma Control Test (ACT - Total)

Predictor Variable

- Distress Tolerance Scale (DTS)

Criterion Variables

- Anxiety Sensitivity Index-3
 - Total score (AS-Total)
 - Physical Concerns subscale (AS-Physical)
 - Cognitive Concerns subscale (AS-Cognitive)
 - Social Concerns subscale (AS-Social)

Method: Procedure

- Eligibility
 - Age 18-65
 - Asthma diagnosis
 - Self-reported physician diagnosis of asthma
 - Evidence of current prescription for asthma medication
 - Symptoms within past year
 - Non-smoker
- Completed self-report measures
- Compensated with course credit

Results: Zero-Order Correlations

- DT was significantly negatively correlated with global AS and all three subscales
- Ranged from $r = -.24$ to $r = -.37$

Results: AS-Total

	ΔR^2	t	β	sr^2	p
Criterion Variable: Global Anxiety Sensitivity					
Step 1	.34				.00**
Gender		-.27	-.02	.00	.79
Asthma Control		-.29	-.03	.00	.77
NA		6.79	.59	.33	.00**
Step 2	.03				.05*
DTS		-2.01	-.18	.03	

* $p < .05$, ** $p < .01$

Results: AS-Physical Concerns

	ΔR^2	t	β	sr^2	p
Criterion Variable: Anxiety Sensitivity - Physical Concerns					
Step 1	.21				.00**
Gender		1.69	.16	.02	.09
Asthma Control		-1.32	-.12	.01	.19
NA		4.01	.38	.14	.00**
Step 2	.00				.65
DTS		-2.22	-.05	.01	

* $p < .05$, ** $p < .01$

Results: AS-Cognitive Concerns

	ΔR^2	t	B	sr^2	p
Criterion Variable: Anxiety Sensitivity - Cognitive Concerns					
Step 1	.21				.00**
Gender		-.47	-.05	.00	.64
Asthma Control		.04	.00	.00	.96
NA		4.94	.46	.21	.00**
Step 2	.04				.04*
DTS		-2.10	-.21	.04	

* $p < .05$, ** $p < .01$

Results: AS-Social Concerns

	ΔR^2	t	B	sr^2	p
Criterion Variable: Anxiety Sensitivity - Social Concerns					
Step 1	.32				.00**
Gender		-1.62	-.14	.02	.11
Asthma Control		.28	.02	.00	.78
NA		6.59	.58	.31	.00**
Step 2	.04				.03*
DTS		-2.25	-.21	.04	

* $p < .05$, ** $p < .01$

Conclusions

- Low DT associated with greater
 - Global AS (2.8% unique variance)
 - AS-Cognitive Concerns (3.6% unique variance)
 - AS-Social Concerns (3.5% unique variance)
- Not associated with AS-Physical Concerns
 - Individuals with asthma are used to physical symptoms of anxiety, which resemble asthma exacerbations
 - DT is the ability to withstand negative *emotional* states
- May result in greater difficulties with asthma management
- Interventions to increase DT

Next Steps

- Use a more diverse sample
- Biological verification of asthma
- Longitudinal study
- Examine the role of distress tolerance on asthma control and asthma quality of life

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