Predilections for posttraumatic distress: Exploring cognitive, environmental, and genetic diatheses for PTSD

Predilections for posttraumatic distress: Exploring cognitive, environmental, and genetic diatheses for PTSD

Nick Carleton, M. A., Chair

EDUCATIONAL OBJECTIVES

1. To learn more about the relationship between traumatic event exposure and subsequent anxiety in several populations
2. To learn more about possible cognitive factors underlying anxiety disorders that co-occur with posttraumatic stress symptoms
3. To learn more about environmental and genetic influences on traumatic event exposure and subsequent anxiety
4. To learn more about the statistical independence of the fundamental fears and symptoms of depression
5. To explore avenues of future research into diatheses of posttraumatic stress

Predilections for posttraumatic distress: Exploring cognitive, environmental, and genetic diatheses for PTSD

The Fundamental Fears and Symptoms of Posttraumatic Stress: Assessing Construct Relationships

R. Nicholas Carleton, M.A., University of Regina, Canada
Kelsey C. Collimore, M.A., University of Regina, Canada
Gordon J. G. Asmundson, Ph.D., University of Regina, Canada

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Associations between Dimensions of Anxiety Sensitivity and PTSD Symptom Clusters in Active Duty Police Officers

Gordon J. G. Asmundson, Ph.D., University of Regina, Canada
Jennifer A. Stapleton, M.A., University of Regina, Canada

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Correlates of Perceived Need for Mental Health Care in Active Military Personnel

Jitender Sareen, B.Sc., M.D., FRCPC, University of Manitoba, Canada
Shay-Lee Belik, B.Sc. (Hons), University of Manitoba, Canada
Murray B. Stein, M.D., FRCPC, MPH, University of California, San Diego, California
Gordon J. G. Asmundson, Ph.D., University of Regina, Canada

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Social Anxiety and Trauma: Exploring Environmental and Genetic Influences

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Predilections for posttraumatic distress: Exploring cognitive, environmental, and genetic diatheses for PTSD

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The fundamental fears and symptoms of posttraumatic stress:

Assessing the construct relationships

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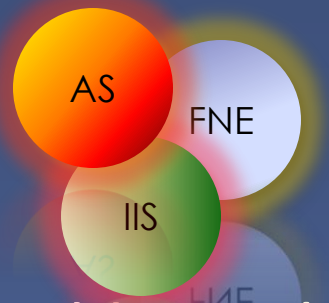
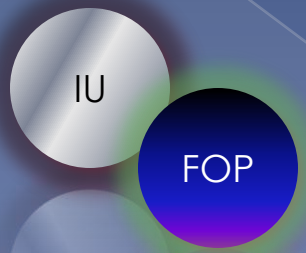
Background

- Three fears have been proposed as being fundamental constructs associated with fearful reactions and the development of anxiety disorders
  - Anxiety sensitivity (AS)
  - Fear of negative evaluation (FNE)
  - Illness/injury sensitivity (IIS)



- Researchers have recently suggested two additional fears may be appropriate
  - Intolerance of uncertainty (IU)
  - Fear of pain (FOP)



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Background

- Relative to other anxiety disorders (e.g., panic disorder, social anxiety disorder), research on the relationships between the fundamental fears and posttraumatic stress disorder (PTSD) symptoms has been limited

Background

- Links between AS and PTSD
  - Several post-trauma evaluations
    - Heightened AS is associated with symptoms of PTSD
  - Very few prospective investigations
    - AS predicted PTSD symptoms

Background

- AS may represent a significant vulnerability factor for PTSD symptomatology

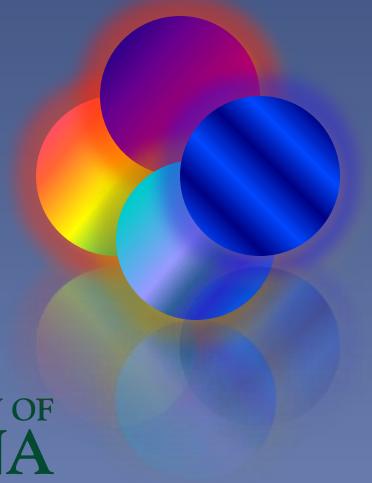
- Few studies have explored associations between the empirically-supported **PTSD symptom clusters** and the more specific **lower-order dimensions of AS**

Background

PTSD Symptom Clusters	Lower-Order Dimensions of AS

- Re-experiencing
- Avoidance
- Numbing
- Hyperarousal

- Fear of mental incapacitation concerns (ASI-COG)
  - When I cannot keep my mind on a task, I worry that I may be going crazy
- Fear of publicly observable symptoms (ASI-SOC)
  - It is important to me not to appear nervous
- Fear of somatic sensations (ASI-SOM)
  - It scares me when I feel ‘shaky’



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Background

- Few studies have explored the relationship between AS dimensions and general PTSD symptoms
  - Feldner et al., 2006; Keogh et al., 2002; Lang et al., 2002
- Among those, none have simultaneously assessed the relationship with individual PTSD symptom clusters

Background

- Associations between AS and PTSD suggest that the other fundamental fears may also be PTSD diatheses
  - The relationship between these fears and symptoms remains to be assessed

- Depressive symptoms have also shown consistent positive correlations of moderate magnitude with symptoms of PTSD in community and veteran samples

Hypotheses

- Significant associations between each of the fears and PTSD symptoms
- Controlling for reported levels of depression would not have a substantial impact on these associations in the *regressions*
- Fear construct endorsement would proceed sequentially
  - Probable diagnosis of PTSD> Subclinical PTSD symptoms> Features of PTSD> Controls
- After controlling for the effects of AS, none of FNE, IIS, IU, and FOP would continue to be significantly different **between groups**

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Participants

- Participants included 203 university student volunteers from the University of Regina
  - 41 men aged 18-31 years (*M*=20.4; *SD*=2.8)
  - 162 women aged 17-49 years (*M*=20.9; *SD*=5.0)

- All participants completed a paper-and-pencil administered questionnaire battery as part of a larger ongoing study

Measures

- A checklist of traumatic events
  - The distress caused by an event was rated on a scale ranging from 1 (no distress) to 5 (extreme distress)

- The PTSD Checklist-Civilian Version (PCL-C), a 17-item self-report measure corresponding to PTSD DSM-IV-TR symptoms.

Measures

- Anxiety Sensitivity Index (ASI)
- Brief Fear of Negative Evaluation scale-II (BFNE-II)
- Illness/Injury Sensitivity Index-Revised (ISI-R)
- Intolerance of Uncertainty Scale, Short Form (IUS-12)
- Pain Anxiety Symptoms Scale - Short Form (PASS-20)
- Center for Epidemiologic Studies Depression Scale (CESD)

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Groups

- Probable PTSD (*n*=18; 89% women)
  - Met criteria (APA, 2000) for a probable diagnosis of PTSD
- Subclinical (*n*=22; 77% women)
  - Reported subclinical PTSD symptoms (i.e., met symptom criteria but reported no impairment)
- Features of PTSD (*n*=40; 85% women)
  - Reported features of PTSD (i.e., distressing or impairing symptoms that did not meet full criteria)
- Control (*n*=123; 77% women)
  - Exposed to a traumatic event but reported neither significant distress nor impairment

Analyses

- Regressions
  - PCL-C total and subscale scores as the dependent variables, evaluating the unique contributions of each of the fear constructs before and after controlling for AS or depressive symptoms
- Analysis of variance (ANOVA)
  - Compare each of the groups on the total scores from the ASI, ISI-R, BFNE-II, PASS, IU, and CESD
- Analyses of covariance (ANCOVA)
  - Either AS or depressive symptoms as covariates to make the same group comparisons, evaluating whether they moderate the between group differences

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Regressions

- Reexperiencing subscale, Adj. R^2 = .40, p < .01
  - CESD (r = .15; p < .01)
  - ASI-COG (r = .21; p < .01)
- Avoidance subscale, Adj. R^2 = .35, p < .01
  - The IUS-12 inhibitory anxiety subscale (r = .16; p < .01)
  - BFNE-II (r = .16; p < .01)
- Numbing subscale, Adj. R^2 = .53, p < .01
  - CESD (r = .29; p < .01)
  - ASI-COG (r = .25; p < .01)
  - ASI-SOC (r = -.11; p < .05)

Regressions

- Hyperarousal subscale, Adj. R^2 = .53, p < .01
  - CESD (r = .35; p < .01)
  - ASI-COG (r = .19; p < .01)
  - The IUS-12 prospective anxiety subscale (r = .18; p < .01)
  - The PASS-20 cognitive subscale (r = .12; p < .05)
  - The ISI-R fear of illness subscale (r = -.10; p < .05)

Regressions

- Controlling for either depressive symptoms did not change the subsequent pattern of significant independent variables in the *regression* analyses

ANOVA

- Probable diagnosis of PTSD, Subclinical PTSD, Features of PTSD, and Controls
  - Reexperiencing, $p < .01$, $eta^2 = .43$
  - Avoidance, $p < .01$, $eta^2 = .32$
  - Numbing, $p < .01$, $eta^2 = .49$
  - Hyperarousal, $p < .01$, $eta^2 = .49$
- Scheffé post-hoc analyses
  - Probable PTSD = Subclinical > Features = Controls

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ANOVA

- Significant differences were found between the groups on most measures and subscales
  - Exceptions: the ISI-R fear of illness subscale, the ISI-R fear of injury subscale, and the PASS-20 escape/avoidance subscale

- Scheffé post-hoc analyses, in general
  - Probable PTSD = Subclinical > Features = Controls

ANCOVA

- Controlling for depressive symptoms, fewer fear constructs remained significantly different across the four groups
  - ASI-COG, $p < .01$, $eta^2 = .10$
  - IUS-12 prospective anxiety subscale, $p < .05$, $eta^2 = .05$
  - IUS-12 inhibitory anxiety subscale, $p < .05$, $eta^2 = .05$
  - BFNE-II, $p < .05$, $eta^2 = .04$
  - PASS-20 physiological anxiety subscale, $p <$ yy.05, $eta^2 = .05$

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ANCOVA

- Controlling for AS, only depressive symptoms and FNE remained significantly different across the four groups
  - CESD, $p < .01$, $eta^2 = .22$
  - BFNE-II, $p < .05$, $eta^2 = .04$

Discussion

- Hypotheses Check
  - ✓ Significant associations between each of the fears and PTSD symptoms
  - ✓ Controlling for reported levels of depression would not have a substantial impact on fear associations in the *regressions*
  - ✓ Fear construct endorsement would proceed sequentially
    - Probable diagnosis of PTSD= Subclinical PTSD symptoms> Features of PTSD= Controls
  - ~ After controlling for the effects of AS, none of FNE, IIS, IU, and FOP would continue to be significantly different **between groups**

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Discussion

- AS, IU, FNE, and depressive symptoms are associated with PTSD symptoms

- Each PTSD symptom cluster was associated with a different pattern of constructs and symptoms
  - Reexperiencing symptoms
    - ASI-COG, depressive symptoms
  - Numbing symptoms
    - ASI-COG, depressive symptoms
  - Avoidance symptoms
    - IUS-12 inhibitory anxiety subscale and FNE
  - Hyperarousal symptoms
    - Depressive symptoms, ASI-COG, IUS-12 prospective anxiety subscale, PASS cognitive, and ISI-R fear of illness

Discussion

- In the regressions, controlling for depression or AS did not remove the pattern of significant contributions of the independent variables found in the initial regressions

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Discussion

- Persons in the probable or subclinical PTSD group reported higher fears than those in either the features of PTSD or the control group

- Fear levels were comparable in the probable and subclinical PTSD groups, and in the features of PTSD and control groups
  - Probable diagnosis of PTSD= Subclinical PTSD symptoms> Features of PTSD= Controls

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Discussion

- No significant between-group differences were found on the ISI-R fear of illness subscale, the ISI-R fear of injury subscale, or the PASS-20 escape/avoidance subscale

- Specific types of trauma or traumatic injury may be necessary, though not necessarily sufficient, for the development of co-occurring PTSD and chronic pain

Discussion

- Controlling for depressive symptoms
  - The ASI-COG, the IUS-12 prospective anxiety and inhibitory anxiety subscales, the BFNE-II, and the PASS-20 physiological anxiety subscale remained significantly different across the groups

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Discussion

- Controlling for AS
  - Depressive symptoms and FNE remaining statistically significantly different across the groups
  - AS appears to be an important fundamental fear; treating AS may produce diffuse positive effects
  - IU may not have been significantly different across groups when AS was controlled because of their interrelationship

Implications

- All fundamental fears are differentially related to PTSD symptoms; possibly as a function of their relationship with AS

- Understanding the differential relationship between PTSD symptom clusters and the different fundamental fears may offer additional clues for providing treatment

Implications

- FNE remained a key difference variable after controlling for either AS or depression and, therefore, may require special treatment considerations when indicated

- FNE may be a highly important, if understudied, aspect of PTSD symptoms

Limitations and Future Research

- No clinical diagnosis
- PTSD symptoms may be better explained by a more general neuroticism or negative affectivity factor
- Larger samples with commonly co-occurring health conditions (e.g., chronic pain)

Limitations and Future Research

- FNE associations with PTSD using comparisons across different trauma types
- IU may have a unique relationship with PTSD
- Longitudinal data to know whether elevated levels of any fear were precursors or products of traumata

Thank you

Questions?

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