

A New Design for Investigating Precursors for Posttraumatic Stress

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Acknowledgements

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- University of Regina
- Dr. Gordon J. G. Asmundson
- and everyone in my lab...KC



Background

- Posttraumatic stress disorder (PTSD) is the only Axis I disorder that includes an attributed causal event as part of its diagnostic criteria



Background

- Qualifying trauma includes witnessing, experiencing, or being confronted by events involving actual, threatened, or perceived death or severe injury to oneself or another
- Intense maladaptive reactions can occur following direct or vicarious exposure to traumatic events



Background

- Reexperiencing (Hallmark Symptom)
 - > Flashbacks, intrusive thoughts
- Avoidance
 - > Avoiding people, places, or things that invoke memories
- Numbing
 - > Flattened affect
- Hyperarousal
 - > Increased autonomic arousal



Background

- Several theorists have suggested that individual diathetic variables may predispose people to develop PTSD symptoms
 - > Trait Anxiety, Anxiety Sensitivity, Fear of Negative Evaluation, Illness/Injury Sensitivity, Intolerance of Uncertainty, Pain Anxiety, Peritraumatic Dissociation



Background

- Uncovering key diathetic vulnerabilities associated with PTSD would improve theoretical comprehension and treatment methods; nevertheless, most experimental investigations of PTSD have necessarily been retrospective, making causal determinations difficult, if not impossible.



Background

- There have been a few notable exceptions; however, these rely primarily on chance and speed.
 - > 9/11 and Airshows (e.g., Moose Jaw)



Background

- Studies with children have examined anxiety responses following scary movies, which although fictional are designed to be stressful; however, none have explored this as a modality for understanding PTSD diatheses.



Background

- Fictional events, such as those portrayed in many movies, have produced acute states of anxiety as well as a myriad of stress related symptoms not unlike symptoms of PTSD.
- The most prominent and persistent reactions to media-based traumatic imagery have been shown to include acute anxiety, fear, and horror.



Purpose

- The current study was designed to
 - > 1) Assess the possibility of using traumatic fiction to assess potential vulnerability factors for post-traumatic stress reactions
 - > 2) If sufficiently stressing, assess the viability of several current postulates for diatheses



Participants

- Participants included 82 women university student volunteers from the University of Regina, of whom only 62 completed all four parts of this Research Ethics Board approved study
 - > 62 women aged 18-36 years ($M=19.7$; $SD=3.3$)



Procedure...Participants...

1. Completed a confidential web-administered pre-stimulus questionnaire battery 1 week prior to viewing a commercial motion picture (The Descent).
2. Watched a commercial motion picture depicting trauma and harm to others and immediately afterwards complete a confidential post-viewing, paper-based questionnaire battery.
3. Completed a second confidential web-administered follow-up questionnaire battery 1 week later.
4. Completed a third confidential web-administered follow-up questionnaire battery 4 weeks after the viewing.



Measures

- Movie-specific experience questionnaire
- Anxiety Sensitivity Index-3 (ASI-3)
- Brief Fear of Negative Evaluation Scale-II (BFNE-II)
- Illness/Injury Sensitivity Scale-Revised (ISI-R)
- Center for Epidemiological Studies – Depression (CES-D)
- Peritraumatic Dissociation Experience Questionnaire (PDEQ)
- Posttraumatic Symptoms Checklist – Civilian (PCL-C)
- State/Trait Anxiety Index (STAI)



Analyses

- Descriptive statistics
- Repeated Measures Analysis of Variance
- Hierarchical Linear Regression
- Comparisons between those with and without reexperiencing symptoms



Results

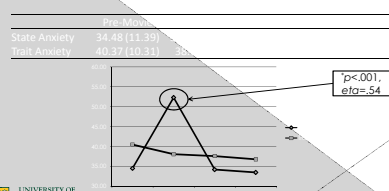
- Hypothesized Diatheses Pre-Movie M (SD)

ASI-3 Total	
BFNE-II Total	22.37 (8.21)
ISI-R Total	11.61 (8.21)
CES-D Total	12.52 (9.45)



Results

- State and Trait Anxiety Over Time M (SD)



Results

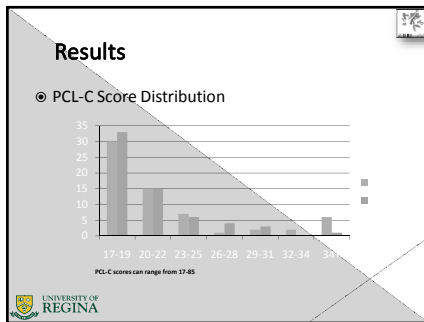
- Movie-Specific PCL-C Scores M (SD)

Reexperiencing	6.58 (1.21)
Avoidance	2.63 (1.21)
Numbing	5.94 (1.63)
Hyperarousal	7.11 (2.70)
Total	22.26 (7.56)

PCL-C scores can range from 17-85

- Two participants reported PTSD-consistent symptoms at 1 week; no one reported PTSD-consistent symptoms at 4 weeks





Results: Linear Relationships

Dependent Variable: STAI State post movie

Step	R	R ²	Adjusted R ²	F	df	p
1. STAI Trait pre movie	.30	.09	.07	10.80	1, 47	<.001
2. ASD-3 Total	.56	.32	.28	2.86**	1, 46	.11
3. BFNH-II Total	.67	.41	.36	5.84***	1, 45	.02
4. GSI-R Total	.70	.45	.39	6.84***	1, 44	.01

* p < .05
** p < .01
*** p < .001

Trait and temporal linearity entered on step 1; Petrocelli, 2003

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- ### Results
- Comparing those with (36%) and without (64%) at least minimal reexperiencing symptoms (hallmark PTSD symptoms) at 4 weeks
 - Participants reporting reexperiencing symptoms at 4 weeks reported significantly higher values on several movie-related questions and several dependent variables
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Results

● Participants reporting reexperiencing symptoms or not at 4 weeks

Variable	t(60)	p	r ²
I covered my eyes*	1.707	.09	.02
I covered my ears	2.329	.02	.04
I covered my mouth*	1.707	.09	.02
I cried	2.329	.02	.04
I screamed	2.329	.02	.04
I felt my heart race or pound	2.024	.04	.03
I held my breath	2.024	.04	.03
STAI Trait pre movie	3.601	.001	.18
STAI State post movie	3.601	.001	.18

* Statistically significant even after a Bonferroni correction

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- ### Discussion
- ❖ 1) Assess the possibility of using traumatic fiction to assess potential vulnerability factors for post-traumatic stress reactions
 - ✓ The traumatic fiction evoked a statistically significant stress reaction in most of the participants
 - ✓ The stress reaction was maintained for 4 weeks, at least minimally, for 36% of the participants
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- ### Discussion
- ❖ 2) If sufficiently stressing, assess the viability of several current postulates for diatheses
 - ✓ The results of the regression of symptoms at 1 week and at 4 weeks suggest that most of the previously posited diatheses assessed (anxiety sensitivity, fear of negative evaluation, illness/injury sensitivity, depression symptoms, and trait anxiety) were unrelated to PTSD symptoms
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- ### Discussion
- ❖ 2) If sufficiently stressing, assess the viability of several current postulates for diatheses
 - ✓ In contrast, the results do suggest that state anxiety immediately following the movie and peritraumatic dissociation were both highly related to PTSD symptoms
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- ### Discussion
- ❖ Differences were found between participants who did and did not report reexperiencing symptoms
 - ✓ Most robust were symptoms of immediate avoidant sensory coping (covering eyes)
 - ✓ Less robust were symptoms associated with autonomic nervous system changes (racing heart, shallow breath)
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Implications

- Fictional traumatic exposures offer a potentially useful paradigm for researchers to study trauma
- The paradigm sidesteps current dependence on chance traumatic events for performing longitudinal studies



Implications

- The current data suggest that some of the previously posited diatheses for PTSD symptoms may have a less direct association than thought
- State anxiety and peritraumatic dissociation appear to have a relatively more robust association with PTSD symptoms



Limitations

- Only undergraduate women were participants – the pilot study indicate undergraduate men were problematic
- Several other potential diatheses were not assessed (e.g., previous trauma history)
- There may be no way to definitively comparatively test the efficacy of the paradigm; it may be that the fictional stressor is insufficient
- Technically, we measured acute stress, not posttraumatic stress
- The failure to find an association between the precedent diathetic variables may be the result of the fictional nature of the stressor



Future Research

- While potentially “groundbreaking”, several subsequent studies are necessary to determine the utility of this research paradigm
- Given the current results, replication and extension with a qualitative analysis of individual participant experiences is necessary before the results can be considered robust



Future Research

- Hopefully not a research pit...
- We’ll have to see what happens next



Thank you
Questions?

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