2020

# A Comparison of PTSD, AUD, and MDD Symptom Patterns in Different Trauma Types

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## Introduction

•Trauma exposure is common, particularly in college populations
• Interpersonal traumas (IPT; e.g., physical or sexual abuse/assault) confer higher risk for posttraumatic stress disorder (PTSD), compared to accidental traumas (e.g., motor vehicle accident/MVA, natural disaster;).
•Differences in trauma type are also related to variability in symptom cluster presentation (e.g., hypervigilance, re-experiencing).
•Those with IPT exposure also had higher rates of comorbidity between PTSD and substance abuse and major depression compared to accidental trauma exposure.
•Little research thus far has explored the relation between trauma type and PTSD symptom cluster presentation and common comorbidities (e.g., Alcohol Use Disorder/AUD, depression) in college students.

**Aims:**

– Examine whether trauma type (i.e., IPT versus accidental) is associated with PTSD total symptoms and cluster scores, depression symptoms, and AUD symptoms in a representative college population.

**Hypothesis:**

– College students who experienced IPTs (i.e., IPT only or IPT and accidental groups) will have higher PTSD symptom severity and will report more depressive and AUD symptoms compared to those who have experienced accidental traumas only.

## Methodology

**Participants**

• Participants from longitudinal study Spit 4 Science (S4S), conducted at Virginia Commonwealth University (VCU). Participants for current study were in cohort 5 of VCU's S4S who experienced at least one traumatic event prior to starting college (N=1,756).

• 45.8% white, 19.8% black, 15.8% Asian, 18.6% other, unknown or chose not to answer

• 67.4% were assigned female at birth

**Measures**

•**Life Events Checklist;** LEC (Gray, Litz, Hsu, Lombardo, 2004): yes/no determination for trauma exposure for 5 different stressful events. Stressful events were then grouped into interpersonal traumas (IPT) (i.e., physical assaults, sexual assaults, unwanted or uncomfortable sexual experiences) and accidental traumas (i.e., natural disasters and transportation accidents).
•**PTSD Checklist for DSM-5**; PCL-5 (Weathers, Litz, Herman, Huska, & Keane, 1993): 20 item self-report questionnaire corresponding to the DSM-5 PTSD symptom criteria. Scoring was on a 0-4 scale for each symptom. This study used a total sum score and symptom cluster scores.
•**Semi-Structured Assessment for the Genetics of Alcoholism**; SSAGA (Bucholz et al., 1994): Used to reported DSM-5 AUD symptoms. Symptoms were summed, then grouped into threshold (1) and below threshold (0) for analysis.
•**Symptom Checklist-90**; SCL-90 (Derogatis, Lipman, & Covi, 1973) : Specific items from this measure assessing depression symptoms were used, including worrying too much about things, feeling blue, feeling no interest in things, feeling hopeless for the future. A total sum score was used for analyses.

**Data Analytic Plan**

•Groups were created based on trauma exposure: 1) only accidental traumas (19.8%), 2) only IPTs (8.2%) and 3) both types (72.0%).

•A series of Analyses of Variance (ANOVA) were conducted measuring the impact of trauma type on AUD, PTSD, and depressive symptoms. Chi Square analyses were conducted measuring the impact of sex and race on trauma type exposure.

## Results

**Sex Differences:**

•88.6% female in IPT group, 71.3% female in the both IPT and accidental exposure group, and 56.7% female in the accidental exposure group. Females endorsed greater rates of trauma exposure in all 3 trauma types (F51.96; p<.001).

**Race Differences:**

•Accidental: 38.2% White, 27.1% Black, 20.7% Asian, and 14.0% other/chose not to answer.
•IPT: 49.0% White, 14.7% Black, 9.8% Asian, 26.6% other/chose not to answer.
•Both Trauma groups: 47.5% White, 18.4% Black, 15.1% Asian, 19.0% other, chose not to answer. individuals identifying as White reporting higher rates of all trauma types (54.87; p<.001).

Table 1
ANOVA Results and Descriptive Statistics for PTSD, AUD, and Depression Symptom Score Differences Between Trauma Types

| | df | F | p | μ |
|---|---|---|---|---|
| **AUD** | 2 | 13.37 | <.001 | |
| IPT | | | | 2.44 |
| Accidental | | | | 1.26 |
| IPT and Accidental | | | | 1.89 |
| **PTSD** | 2 | 35.50 | <.001 | |
| IPT | | | | 28.5 |
| Accidental | | | | 14.0 |
| IPT and Accidental | | | | 22.8 |
| **Depression** | 2 | 21.62 | <.001 | |
| IPT | | | | 11.7 |
| Accidental | | | | 9.24 |
| IPT and Accidental | | | | 10.9 |

Table 2
ANOVA Results and Descriptive Statistics for PTSD Symptom Cluster Score Differences Between Trauma Types

| | df | F | p | μ |
|---|---|---|---|---|
| **Reexperiencing** | 2 | 27.52 | <.001 | |
| IPT | | | | 6.5 |
| Accidental | | | | 3.5 |
| IPT and Accidental | | | | 5.7 |
| **Avoidance** | 2 | 40.83 | <.001 | |
| IPT | | | | 3.8 |
| Accidental | | | | 1.7 |
| IPT and Accidental | | | | 2.9 |
| **Negative Alterations** | 2 | 29.59 | <.001 | |
| IPT | | | | 10.58 |
| Accidental | | | | 7.96 |
| IPT and Accidental | | | | 10.9 |
| **Arousal** | 2 | 26.62 | <.001 | |
| IPT | | | | 7.68 |
| Accidental | | | | 3.77 |
| IPT and Accidental | | | | 6.11 |

Table 3
Multiple Comparisons for PTSD, AUD, and Depression symptom Score Differences Between Trauma Types

| | Mean Diff. | p |
|---|---|---|
| **AUD** | | |
| IPT-Acc. | 1.18 | <.001 |
| IPT-IPT and Acc. | 0.544 | 0.02 |
| IPT and Acc.-Acc. | 0.633 | <.001 |
| **PTSD** | | |
| IPT-Acc. | 14.5 | <.001 |
| IPT-IPT and Acc. | 5.72 | 0.003 |
| IPT and Acc.-Acc. | 8.77 | <.001 |
| **Depression** | | |
| IPT-Acc. | 2.46 | <.001 |
| IPT-IPT and Acc. | 0.806 | 0.109 |
| IPT and Acc.-Acc. | 1.65 | <.001 |

Table 4
Multiple Comparisons for PTSD Symptom Cluster Score Differences Between Trauma Types

| | Mean Diff | p |
|---|---|---|
| **Reexperiencing** | | |
| IPT-Acc. | 2.09 | <.001 |
| IPT and Acc. | 0.83 | 0.219 |
| IPT and Acc.-Acc. | 1.26 | <.001 |
| **Avoidance** | | |
| IPT-Acc. | 3.91 | <.001 |
| IPT-IPT and Acc. | 1.59 | .001 |
| IPT and Acc.-Acc. | 2.33 | <.001 |
| **Negative Alterations** | | |
| IPT-Acc. | 5.51 | <.001 |
| IPT-IPT and Acc. | 2.61 | <.001 |
| IPT and Acc.-Acc. | 2.89 | <.001 |
| **Arousal** | | |
| IPT-Acc. | 3.91 | <.001 |
| IPT-IPT and Acc. | 1.59 | 0.11 |
| IPT and Acc.-Acc. | 2.33 | <.001 |

## Discussion

**Findings Regarding Primary Hypotheses:**

•The hypotheses were broadly supported, as results revealed that the IPT included groups (i.e., IPT and both IPT and accidental groups) were always significantly different than the accidental only group.
•However, those exposed only to IPT(s) had significantly higher symptoms (even than those with both IPT and accidental trauma) in most analyses.
•The results support previous research.

**Findings Regarding Exploratory Aim:**

•We expected IPT exposure and both IPT and accidental exposure to have similar outcomes. Only for depressive symptoms and PTSD reexperiencing symptoms did we see this trend, so additional follow-up analyses were conducted to try and better understand this finding.
•Sex attenuated but did not explain differences, while total trauma count did help explain the differences between those who experienced accidental only and those who experienced both IPT and accidental trauma. there remained differences in symptom outcome between IPT exposure and both IPT and accidental exposure that was not explained by these covariates.

**•Limitations:**

•Individuals in the IPT only group made up only 8.2% of the total N=1756.
•Screening measures were brief and only addressed symptoms, rather than a thorough assessment of trauma.

**Areas for future research:**

•Further research is needed to investigate the relationship between multiple trauma types and symptom severity and to determine if there is indeed a significant relationship. Results of such analyses could have clinical implications.
•Further research is needed to examine sex differences in both exposure to different trauma types and symptom outcome based on exposure. This research should also be extended into clinical samples.

## Acknowledgements

Spit for Science has been supported by Virginia Commonwealth University, P20 AA017828, R37AA011408, K02AA018755, and P50 AA022537 from the National Institute on Alcohol Abuse and Alcoholism, and UL1RR031990 from the National Center for Research Resources and National Institutes of Health Roadmap for Medical Research.

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