Gender Differences in Distress Tolerance Among a Psychiatric Inpatient Sample

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INTRODUCTION

- Distress tolerance (DT) is defined as the perceived (i.e., self-report) or actual/behaviorally-indexed (e.g., computer tasks) ability to tolerate negative or aversive emotional or physical states (Leyro et al., 2010)
- DT has been linked to various types of psychopathology, including anxiety, mood, trauma-related, substance use, and personality disorders. (Perkins et al., 2008; Fetzner et al., 2014)
- DT also has been associated with negative treatment outcomes across populations (e.g., Feltzner et al., 2014; Keough et al., 2010, Leyro et al., 2010).
- It is important to consider specific demographic factors that can affect levels of DT.
  - Men had significantly higher scores in behavioral measures of DT when compared to women but there was no significant difference between the genders when comparing self report measures. However, woman do report utilizing a much wider range of emotional coping mechanisms when compared to men. (Macpherson et al., 2017; Copeland et al., 1955)
  - Literature based around DT among treatment-seeking individuals has shown males with lower self-reported DT scores are more likely to be at risk of not completing treatment plans in comparison to females. (Macpherson et al., 2008; Tull et al., 2013)
- *No studies to date have looked at differences in gender relative to DT within acute-care psychiatric inpatient samples.*

Aims:
- To examine gender differences in self-reported and behaviorally-indexed DT among psychiatric inpatients.

Hypotheses:
- **Male psychiatric inpatients will have higher levels of behaviorally indexed DT in comparison to female psychiatric inpatients.**
- **No gender differences in self-reported DT will be demonstrated.**
- All effects were expected above theoretically relevant covariates (number of psychiatric diagnosis, trauma exposure).

METHOD

Participants

102 trauma-exposed psychiatric inpatients at an acute-care psychiatric inpatient hospital

Measures
- Life Events Checklist for DSM-5 (LEC-5; Weathers et al, 2013)
- Demographics Questionnaire
- Distress Tolerance Scale (DTS; Simons & Gaher, 2005)
- Mirror-Tracing Persistence Task (MTPT; Quinn et al., 1996)
- Breath-Holding Task (BH; Hajek et al., 1987)

Procedure

All psychiatric inpatients who consented to the study completed behavioral DT tasks and a battery of self-report measures; no financial compensation was provided.

METHOD

Analytic Plan
1. Descriptive statistics and bivariate correlations (IBM SPSS 24.0)
2. One-way analyses of covariance (ANCOVA; IBM SPSS 24.0)
3. Gender differences in DTS, MTPT, and BH were compared across male and female inpatients
   a) Covariates: trauma load (LEC-5 total) and # of psychiatric diagnoses.

TABLE 1: Participant Characteristics

Demographics	M(SD) or %
Race/Ethnicity	43.6% white; 37.9% Black; 1.9% Asian; 15.2% Hispanic; .5% Native Hawaiian or Other Pacific Islander
Sex	61.1% Male; 37.9% Female
Education	27% less than high school; 37.4% high school; 9% college degree
Number of Psychiatric Diagnosis at Intake	2.12 (1.25)
Monthly Income	$350.42 (SD= $1,365.82)
Number of Trauma Event Types	6 (3.76)
Trauma Exposure Types	13% Serious Accident at Work/Home; 12% Transportation Accident; 12% Assault with a Weapon; 11.1% Fire/Explosion
Diagnostic Composition	55.8% Bipolar (Including NOS); 32.9% Major Depressive Disorders; 29.8% Psychotic Disorders; 6.9% Personality Disorder; 6.7% Psychosis NOS; 6% Mood Disorder Diagnosis NOS; 3.6% Anxiety Disorder.
Substance Use Disorder Composition	68.6% Cannabis; 62.3% Cocaine; 47.6% Anxiolytic; 56.5% Alcohol; 28.1% Opioid; 23.4% Amphetamine; 16.6% Hallucinogen.

TABLE 2. Bivariate Correlations

Variable	1	2	3	4	5	6
1. Sex (male or female)	-					
2. DTS Total	.01	-				
3. Breath Holding Task	-.21**	.04	-			
4. MTPT	-.11	.03	.27**	-		
5. LEC Total	.08	-.17*	.04	.10	-	
6. # of Psychiatric Diagnosis	.05	.00	.10	-.02	.00	-
Mean	1.38	44.40	37.21	109.99	6.00	2.12
SD	.49	13.38	20.56	143.63	3.76	1.25
Range	1.00	51.00	144.32	1133.23	15.00	5.00

*Note: 1 = Sex, (Male = 1, Female = 2). 2 = Distress Tolerance Scale Total. 3 = Breath Holding Task. 4 = Mirror Tracing Persistance Task. 5 = Life Events Checklist Total. 6 = Number of Psychiatric Diagnosis. ** Correlation is significant at the .01 Level; * Correlation is significant at the .05 level.*

Results

- Men demonstrated significantly higher levels of behavioral DT (i.e., breath holding in number of seconds) in comparison to women.

- No significant gender differences were found for self-reported DT (i.e., DTS total score).

- No significant gender differences were found for behavioral DT as measured by the MTPT task.

Table 3. ANCOVA

M/n (SD/%)	Full Sample (n=187)	Male (n=118)	CI (95%)	Male Adj Means	Female (n=69)	CI (99%)	Female Adj Means	df	F-value	p-value	η²
1. BH	134.00 (20.47)	40.57 (20.58)	[36.95-44.26]	40.60 (1.85)	31.87 (19.31)	[27.04-36.59]	31.82 (1.85)	(1, 183)	8.31	< 0.01	.05
2. DTS Total Score	44.40 (13.38)	44.26 (13.53)	[41.36-46.97]	44.17 (1.42)	44.60 (13.28)	[41.42-48.05]	44.73 (1.68)	(1, 147)	.07	NS	.00
3. MTPT	109.99 (143.63)	121.52 (158.70)	[95.59-149.27]	122.43(13.60)	89.99 (111.20)	[53.04-123.79]	88.42 (17.92)	(1, 171)	2.28	NS	.01

Note: Sex; Male = 1, Female = 2. BH = Breath Holding Task. DTS Total Score = Distress Tolerance Scale Total. MTPT = Mirror Tracing Persistence Task.

Conclusion

- Gender may be an important factor to consider in better understanding DT and associated psychopathology.

- Longitudinal studies are necessary to evaluate the temporal relations between DT and mental health symptoms over time among men and women.

- The limitations of this of this study include the cross-sectional study design and the severe nature of the psychiatric inpatient population studied.

- The strengths include a diverse sample and a nearly equal amount of men and women in the sample. It is also one of the first analyses examining differences in gender among self-report and behavioral DT in acute psychiatric inpatients.

- Future directions of this topic should utilize interview-based, longitudinal analyses. Further, research should further explore how gender may moderate, or exacerbate, the association between DT and psychiatric disorders.