

Emotion dysregulation and acquired capability for suicide: A correlational analysis

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BACKGROUND:

Pain tolerance increases can elevate acquired capability for lethal or near-lethal self-harm (van Orden et al., 2010) Emotion dysregulation may be a buffer to the acquired capability for suicide (Law et al., 2015)

- Difficulties regulating emotion predict lower self-reported capability for suicidal behavior (Heffer & Willoughby, 2018).

Low baseline respiratory sinus arrhythmia (RSA) and excessive RSA withdrawal are associated with difficulties regulating emotion (Beauchaine, 2015)

- Lower baseline RSA is observed among female attempters and parasuicidal adolescents compared to non-suicidal controls (Crowell et al., 2005; Tsypes et al., 2018).
- Greater withdrawal RSA is shown among parasuicidal adolescents (Crowell et al., 2005)

AIMS

- Examine the association between emotion dysregulation and acquired capability using behavioral, psychophysiological, and self-report measures

METHODS

- Undergraduate student sample recruited through SONA systems ($n = 40$, $M_{Age} = 20.45$, $SD = 3.49$, 75% Female, 63% White)
- **Self-Report Measure:**
 - Difficulties in Emotion Regulation Scale (DERS; Gratz and Roemer, 2004)
- **Behavioral Measures:**
 - Pain Tolerance, Pain Persistence, Pain Threshold: Cold Pressor Task (CPT; Gratz et al., 2011)
- **Psychophysiological Measures:**
 - Extracted RSA values from electrocardiogram (ECG) and Respiration data in 30s epochs of a 5-min resting baseline (Baseline RSA) and individual CPT (Withdrawal RSA)
 - Averages were calculated taking the average of the last 60 seconds for baseline and the last 30-60 seconds for CPT, depending on individual's total hand in times
 - Biopac MP150 and Acqknowledge (v. 5.0.1)
 - Correlation Analysis₁ using Rstudio (v. 2022.07.0)

Baseline respiratory sinus arrhythmia was significantly associated with greater pain persistence

Table 1. Bivariate Correlations of All Variables

Variable	1	2	3	4	5	6	7	8
1. Age	--							
2. Gender	-.126	--						
3. DERS	-.031	.209	--					
4. Baseline RSA	-.258	-.244	.016	--				
5. Withdrawal RSA	.183	.196	.025	-.585***	--			
6. Pain Tolerance	-.304	-.382*	.048	.230	-.018	--		
7. Pain Persistence	-.249	-.491**	.046	.352*	-.183	.864***	--	
8. Pain Threshold	-.244	-.065	.028	-.036	.211	.738***	.298	--

Note. DERS = difficulties with emotion regulation. RSA = respiratory sinus arrhythmia. * $p < .05$, ** $p < .01$, *** $p < .001$

¹Canonical correlation results were nonsignificant ($p > .05$)

RESULTS

- Female gender was significantly associated with lower pain tolerance ($r = -0.38$, $p = .015$) and pain persistence ($r = -0.49$, $p = .001$)
- Baseline RSA was significantly associated with lower RSA withdrawal ($r = -0.59$, $p < .001$) and greater pain persistence ($r = 0.35$, $p = .026$)
- Pain tolerance was significantly associated with greater pain persistence ($r = 0.86$, $p < .001$) and pain threshold ($r = 0.74$, $p < .001$)
- DERS scores were not significantly associated with any focal variables

DISCUSSION

- Objective measures of emotion dysregulation may provide further clarity, above and beyond a self-report measure, in assessing the ability to persist through painful experiences
- As expected, an individual's ability to regulate themselves at rest is associated with greater persistence through a painful experience
 - Pain persistence should also be considered as a notable indicator of acquired capability for suicide (Law et al., 2017)

LIMITATIONS

- Lack of sufficient power to detect effects due to small sample size
- Participants may have had low motivation to complete the cold pressor task, thereby impacting accurate measurements of pain tolerance, pain persistence, and pain threshold

FUTURE DIRECTIONS

- Explore the impact of an emotion induction task on ability to persist through a cold pressor task

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