

Hope College

Hope College Digital Commons

19th Annual Celebration of Undergraduate
Research and Creative Activity (2020)

Celebration of Undergraduate Research and
Creative Activity

4-17-2020

How Do Resilience Resources Change in Response to Acute Stress?

Victoria Gardner
Hope College

Nina Cuthrell
Hope College

Sydney Tressler
Hope College

Follow this and additional works at: https://digitalcommons.hope.edu/curca_19



Part of the [Psychology Commons](#)

Recommended Citation

Repository citation: Gardner, Victoria; Cuthrell, Nina; and Tressler, Sydney, "How Do Resilience Resources Change in Response to Acute Stress?" (2020). *19th Annual Celebration of Undergraduate Research and Creative Activity (2020)*. Paper 22.

https://digitalcommons.hope.edu/curca_19/22

April 17, 2020. Copyright © 2020 Hope College, Holland, Michigan.

This Poster is brought to you for free and open access by the Celebration of Undergraduate Research and Creative Activity at Hope College Digital Commons. It has been accepted for inclusion in 19th Annual Celebration of Undergraduate Research and Creative Activity (2020) by an authorized administrator of Hope College Digital Commons. For more information, please contact digitalcommons@hope.edu.

Background

Resilience, a common construct, is the ability to bounce back from adversity (Bonanno, 2004; Smith et al., 2008). Measuring resilience is not an easy undertaking. Current scales like the Connor Davidson Resilience Scale (Connor & Davidson, 2003) and the Brief Resilience Scale (BRS) (Smith et al., 2008) are too brief, and cover resilience in a way that makes resilience parallel to recovery, or relate so strongly to positivity and optimism that they may actually just be measuring those constructs instead. We sought to study resilience, and other constructs that aid in building it, or resilience resources, pertaining to stress. Julian and colleagues (in prep.) developed the Resilience Resources Scale (RRS), that assess resilience resources, which may be more valid measures of resilience. We also studied stress within the context of resilience. We used the RRS among many other scales measuring stress, in a study where we assessed the relationship of resilience and stress before and after acute stressors. We predicted that the RRS would not change after exposure to an acute stressor, whereas other measures of resilience and stress would change. Secondly, we predicted that RRS scores at the beginning of the study would predict lower perceived stress and state anxiety after the stressor.

Measures

- **Resilience Resource Scale** (Julian et al., in prep.)
- **The Brief Resilience Scale** (Smith et al., 2008)
- **Connor Davidson Resilience Scale** (Connor & Davidson, 2003)
- **Satisfaction with Life Scale** (Diener et al., 1985)
- **The Life-Orientation Test** (Scheier et al., 1994)
- **BRIEF Coping Scale** (Carver, 1997)
- **ENRICH Social Support Instrument** (Mitchell et al., 2003)
- **Perceived Stress Scale (PSS)** (Cohen & Williamson, 1988)
- **PROMIS Scales** (anxiety and depression) (Pilkonis et al., 2011)
- **The State Trait Anxiety Inventory (STAI)** (Spielberger et al., 1983)
- **Ten Item Personality Inventory** (Gosling et al., 2003)
- **Conscientiousness**
- **Brief Emotional Intelligence Scale** (Davies et al., 2010)
- **Emotional Regulation Questionnaire** (Gross & John, 2003)
- **Positive and Negative Affect Schedule** (Watson et al., 1988)
- **Multidimensional Measurement of Religiousness/ Spirituality** (Fetzer/ NIH Working Group, 1999)
- **ENRICH Social Support Instrument** (Mitchell et al., 2003)
- **Patient Health Questionnaire 15** (Kroenke, Spitzer, & Williams, 2002)



Results

- t-tests were run to assess data
- There was not a significant difference between part 1 and part 2 scores for the
 - RRS 12 ($t_{66} = -.807, p = .423$)
 - RRS 18 ($t_{66} = -1.402, p = .166$)
 - BRS ($t_{64} = -1.157, p = .252$)
 - STAI ($t_{62} = .814, p = .419$)
- There was a significant difference between the PSS scores from part 1 and part 2 ($t_{51} = -4.806, p < 0.001$)
 - The PSS scores from part 1, with a mean of 21.0769 (11.62426) were significantly lower than the scores from part 2, with a mean of 24.1731 (5.87023)
- To test whether resilience resource levels were associated with less stress, regressions were run
 - RRS12 levels on the pre-survey predicted lower perceived stress at part 2 ($\beta = -.418, p < 0.001$)
 - RRS12 levels on the lab survey predicted lower state anxiety at part 2 ($\beta = -.562, p < 0.001$)

Methods

Participants first took a pre-survey via online link. See measures section for content.

Five to 10 days later, participants attended a lab session. They engaged with the Paced Auditory Serial Addition Task (PASAT) (Tombaugh, 2006) and an anger writing task (AEMT; Mills & D'Mello, 2014) as stressors, followed by the stress and resilience scales used previously. We also included a values affirmation task (Hales et al., 2017) to mitigate any distress caused by the stress tasks.

Participants: 84 undergraduate students

- 18.71 (.944) years old
- 72.6% Female; 26.2% Male
- 10.7% Hispanic/Latino; 86.9% Non-Hispanic/Latino
- 82.1% White; 3.6% African American; 4.8% Asian; 9.5% Other

Data Analysis proceeded with cleaning and scoring the data, conducting a manipulation check on the AEMT, running descriptive statistics, and hypothesis testing through regression analyses and t-tests in SPSS.

Conclusions

The findings of the study supported our hypotheses. We predicted that the RRS would not change after exposure to acute stressors, whereas other measures of resilience and stress would change. The RRS did not change and the measure of stress (PSS) did change after acute stress which supports our hypothesis. This suggests our stress manipulation was strong. However, the BRS also did not change after the acute stressors. Furthermore, the measure of state anxiety did not change which suggests this measure may not be appropriate for assessing acute stress in the context of our study or our stress manipulation may represent perceived stress rather than state anxiety. Secondly, we predicted that RRS scores at the beginning of the study would predict lower perceived stress and state anxiety after the stressor. We found that the RRS predicted lower levels of stress and state anxiety. This suggests that those who have higher levels of resilience resources experience less stress following acute stressors. Our research added information about resilience and acute stress in undergraduate students. Future resilience and stress studies might implement random sampling and the RRS.

References:

- Bonanno, G. A. (2004). Loss, trauma, and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events?. *American Psychologist*, 59(1), 20-28. Connor, K. M., & Davidson, J. R. (2003). Development of a new resilience scale: The Connor-Davidson resilience scale (CD-RISC). *Depression and Anxiety*, 18(2), 76-82. Julian, M., Cheadle, A. C. D., Knudsen, K., Bilder, R. M., Dunkel Schetter, C. Resilience Resource Scale (RRS): A resilience measure validated with adolescents and young adults, (*under review*). Smith, B. W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., & Bernard, J. (2008). The Brief Resilience Scale: Assessing the ability to bounce back. *International Journal of Behavioral Medicine*, 15(3), 194-200. Tombaugh, T. N. (2006). A comprehensive review of the paced auditory serial addition test (PASAT). *Archives of Clinical Neuropsychology*, 21(1), 53-76.