

Stressors and Coping Mechanisms of Medical Students

Tracey Criss MD, Elizabeth Pline LMSW, David Musick PhD, Mariah Rudd BS, Aubrey Knight MD
Virginia Tech Carilion School of Medicine

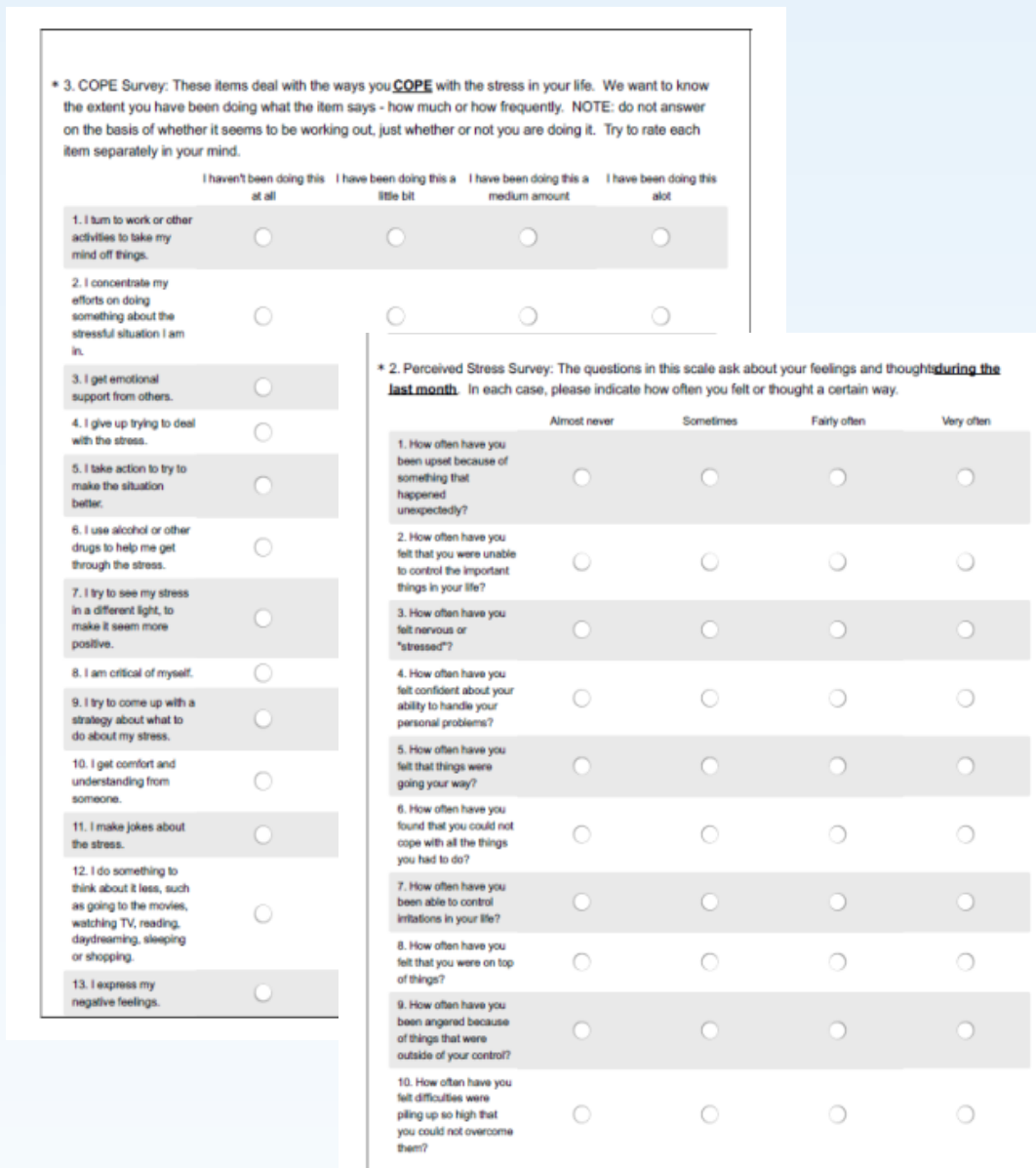


Background

• Research has documented significant levels of psychological distress and burnout in medical students. Some research has found that medical school can erode the students' natural resilience to stress. Our project sought to identify self-reported coping mechanisms, compare them with the stressors and determine how medical students are effectively and ineffectively caring for themselves and present opportunities for students, faculty and staff to provide timely and critical interventions.

Methods

- A two-part survey was administered to all students in early 2016.
- Students were provided with an informed consent form prior to taking the survey.^{4,5}
- Using the COPE Scale students rated the frequency in which they engage in specific coping behaviors using a 4-point scale.
- The Perceived Stress Scale consists of ten questions in which students indicated the prevalence within the last month that they felt or thought a certain way using a 4-point scale that ranged from "almost never" to "very often".
- Data was handled by an honest broker and was de-identified prior to being provided to investigators.
- Qualitative themes were derived from the open ended response question asking students to identify three events/experiences that have caused stress in the subsequent academic year.
- Item means were compared using the T-test procedure, with a significance level of $p=.05$. For the purpose of analysis, M1 and M2 student responses were combined and M3 and M4 student responses were combined.



Results

- A total of 94 Virginia Tech Carilion School of Medicine students completed the brief electronic survey (38% response rate).
- Data represents individuals from the graduating classes of 2016 (20), 2017 (27), 2018 (28) and 2019 (19).
- Statistically significant changes were identified for two items.
- For all four years, a majority of students responded "very often" when asked "How often have you felt confident about your ability to handle your personal problems?" (M1: 58%; M2:29%; M3: 29%; M4:50%).
- Themes identified for the three events/experiences that have caused stress for medical students include:
 - Research
 - Personal/family
 - Step exams
 - Block exams
 - Residency/match

COPE Scale (n=94)

	Mean	
	M1/M2	M3/M4
I turn to work or other activities to take my mind off things.	2.77	2.78
I concentrate my efforts on doing something about the stressful situation I am in.	2.96	2.98
I get emotional support from others.	2.96	3.04
I give up trying to deal with the stress.	1.47	1.41
I take action to try to make the situation better	3.30	3.17
I use alcohol or other drugs to help me get through the stress.*	1.19	1.43
I try to see my stress in a different light, to make it seem more positive.	2.34	2.43
I am critical of myself.	3.19	3.20
I try to come up with a strategy about what to do about my stress.	3.02	2.78
I get comfort and understanding from someone.	3.15	3.09
I make jokes about the stress.	2.70	2.80
I do something to think about it less, such as going to the movies, watching TV, reading, daydreaming, sleeping or shopping.	3.15	3.20
I express my negative feelings.	2.55	2.43
I try to find comfort in my religion or spiritual beliefs.	1.68	1.80
I try to get advice or help from other people about what to do	2.51	2.52
I try to learn to live with it.	2.96	3.02
I think hard about what steps I should take next.	3.06	3.00

Perceived Stress Scale (n=94)

	Mean	
	M1/M2	M3/M4
How often have you felt that you were on top of things?	2.64	2.74
How often have you been angered because of things that were outside of your control?	1.96	2.09
How often have you felt difficulties were piling up so high that you could not overcome them?	1.66	1.66
How often have you been upset because of something that happened unexpectedly?	1.85	1.96
How often have you felt that you were unable to control the important things in your life?*	2.06	1.72
How often have you felt nervous or "stressed"?	2.68	2.66
How often have you felt confident about your ability to handle your personal problems?	3.13	3.26
How often have you felt that things were going your way?	2.70	2.96
How often have you found that you could not cope with all the things you had to do?	1.77	1.74
How often have you been able to control irritations in your life?	2.89	3.13

* = Statistically Significant Change

Most Commonly Identified Strategies for Coping with Stress

Class	Coping Strategy
M1	"I take action to try to make the situation better" (47%)
M2	"I get emotional support from others" (50%)
M3	"I get comfort and understanding from someone" (41%)
M4	"I do something to think about it less, such as going to the movies, watching TV, reading, daydreaming, sleeping or shopping" (42%)

Conclusion

- Using an electronic survey comprised of validated instruments to measure stress and coping the authors were able to identify medical students' key stress experiences and identify the key positive coping mechanisms they utilize.
- For this longitudinal study, the same survey tool will be given electronically to all medical students in the following years (2017, 2018, and 2019).
- Ultimately, these findings will be used to educate students on positive coping mechanisms that have been found to be effective.

References

1. Mazurkiewicz R, Korenstein D, Fallar R, and Ripp .I. The prevalence and correlations of medical student burnout in the pre-clinical years: a cross-sectional study. *Psy Health & Med.* Mar 20 12; 17(2):188-195.
2. Dyrbye LN, Thomas MR, Massie FS, et al. Burnout and suicidal ideation among US medical students. *Ann Intern Med.* 2008; 149 :334.
3. Waqas A, Reh man A, Malik A et al. Association of ego defense mechanisms with academic performance, anxiety, and depression in medical students: a mixed methods study. *Cureus.* 2015.7(9):e337. DOI 10.7759/cureus.33 7
4. Cohen S. William son G. *The Social Psychology of Health.* 1988. Sage Newbury Park, CA.
5. Carver CS. You want to measure coping but your protocol 's too long: consider the Brief COPE. *Intl Jnl Behav Med.* 1997;4(1): 92-100.