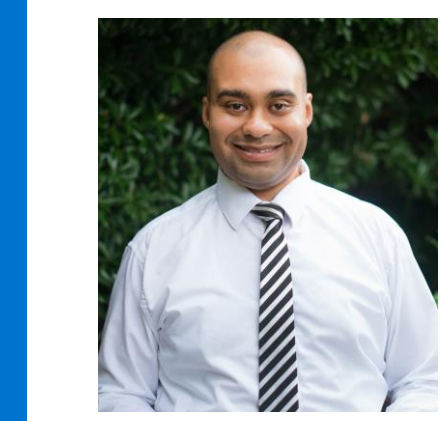


# Mental Health of Residents and Fellows at SUNY Downstate During the Pandemic of COVID-19

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## BACKGROUND:

- COVID-19, caused by SARS-CoV-2, was declared by World Health Organization as pandemic on March 11<sup>th</sup>, 2020.
- Brooklyn was one of the most affected areas in NY early during the time from March to June 2020.
- Medical residents and fellows at State University of New York (SUNY) Downstate Health Sciences Center were among the essential workers during the pandemic.

## METHODS

We sent an anonymous cross-sectional Qualtrics-mediated online survey to all residents and fellows affiliated with SUNY Downstate (N=960) during the period from May - July 2020 and data were analyzed using SPSS 27. The survey allowed subjects to skip questions if they wanted.

- Dr. ElSayed's role was to prepare IRB application, create the Qualtrics survey, analyze the data and prepare the abstract and poster.
- The survey included questions about:
  - Demographic Information
  - Time spent in physical contact with COVID-19 patients
  - Generalized Anxiety Disorder (GAD-7)**
  - Screening for **Depression** with Patient Health Questionnaire-2 (PHQ-2)
  - Screening questions for **Post-traumatic Stress Disorder (PTSD)** (See Table 2).

## RESULTS

- We received 125 responses, of which 121 were valid.
- See **Table 1**, **Figure 1**, **Figure 2** and **Figure 3** on the right for detailed results.

Table 1	Categories	Number of Subjects (N)	Mean GAD-7 score (+SD)	p value	N	Mean PHQ-2 score (+SD)	p value	N	Mean probable PTSD score (+SD)	p value
<b>Age</b>	25-29 years	35	6.46 (5.76)	0.135	38	1.61 (1.85)	0.19	32	1.09 (1.38)	0.694
	30-34 years	47	9.3 (6.78)		50	2.3 (1.99)		43	0.95 (1.45)	
	35-39 years	17	7.24 (6.77)		18	1.56 (1.76)		15	0.867 (1.41)	
	40-44 years	3	1.67 (2.89)		3	0.33 (0.577)		3	0	
	45-49 years	2	10.5 (14.84)		2	3 (4.24)		1	0	
<b>Gender</b>	Male	49	7.12 (7.17)	0.376	52	1.92 (2.17)	0.84	42	0.79 (1.42)	0.346
	Female	56	8.27 (6.04)		60	1.85 (1.75)		53	1.06 (1.35)	
<b>Self-Reported Race</b>	Asian	38	7.24 (6.47)	0.83	39	1.95 (1.96)	0.19	34	0.71 (1.22)	0.063
	Native Hawaiian/Pacific Islander	1	21		1	5		1	2	
	African American/Black	5	7 (5.7)		6	1.83 (2.23)		5	2.4 (1.82)	
	White	36	9.22 (6.86)		38	2 (1.99)		35	1 (1.43)	
	More than one race	12	8.58 (5.93)		12	2.58 (1.83)		11	1.27 (1.56)	
	Other/Unknown	11	4.18 (5.04)		13	0.92 (1.5)		9	0.22 (0.67)	
<b>Medical Education</b>	US Medical School Graduate	54	8.37 (6.24)	0.38	55	2.24 (1.93)	0.40	49	1.2 (1.5)	0.15
	US citizen graduated from international medical school	16	9.13 (6.11)		17	1.71 (1.83)		16	0.63 (1.088)	
	Non-US citizen graduated from international medical school	32	6.69 (7.2)		34	1.74 (2.02)		30	0.667 (1.269)	
<b>Training Program</b>	Emergency Medicine Residency	8	9.13 (4.12)	0.088	9	1.67 (1.23)	0.09	8	1 (1.195)	0.247
	Internal Medicine Residency	11	9.18 (6.43)		12	2.33 (2.06)		9	1.67 (1.87)	
	Internal Medicine-Emergency Medicine Residency	5	7 (5.92)		5	1.6 (2.07)		5	0.8 (1.1)	
	Orthopedic Surgery Residency	6	10.33 (8.62)		7	2.43 (2.51)		3	1.33 (2.31)	
	Otolaryngology Residency	10	10.9 (6.51)		10	3.1 (1.97)		10	1.7 (1.57)	
	Pediatrics Residency	22	4.5 (5.43)		23	1.09 (1.3)		20	0.05 (0.224)	
	Radiation Oncology Residency	6	6.8 (5.16)		6	1.67 (1.21)		5	1.2 (1.64)	
<b>Time spent in physical contact with COVID-19 patients</b>	None (either video or phone to COVID-19 or treatment of Non-COVID-19 patients)	25	6.44 (6.31)	0.15	27	1.41 (1.58)	0.045	25	0.2 (0.817)	0.004
	25-75% of time spent in physical contact with COVID-19 patients	26	7.38 (6.95)		27	1.78 (2.12)		25	0.96 (1.43)	
	More than 75% up to 100% in physical contact with COVID-19 patients	49	9.37 (6.24)		50	2.5 (1.94)		45	1.33 (1.46)	

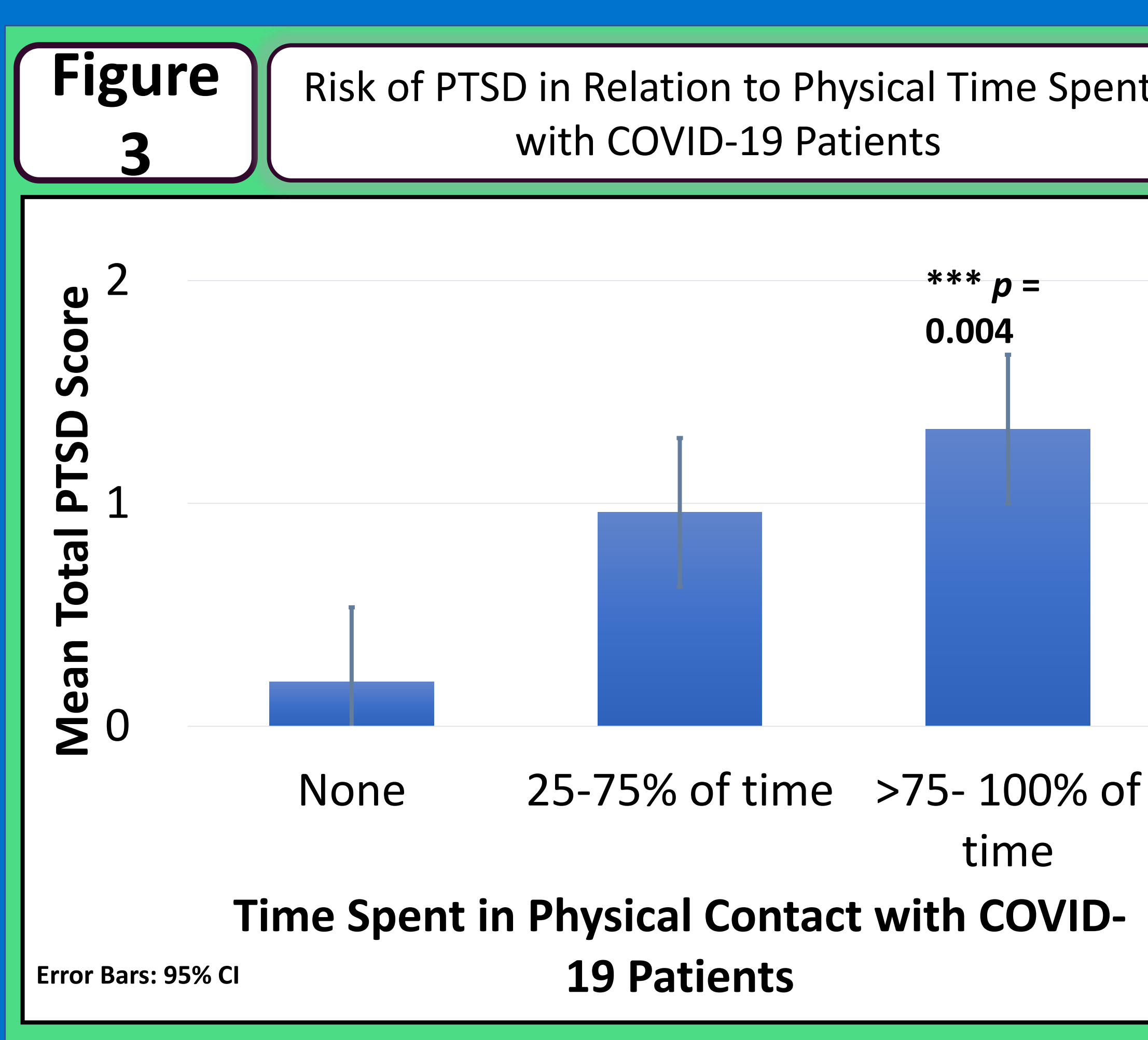
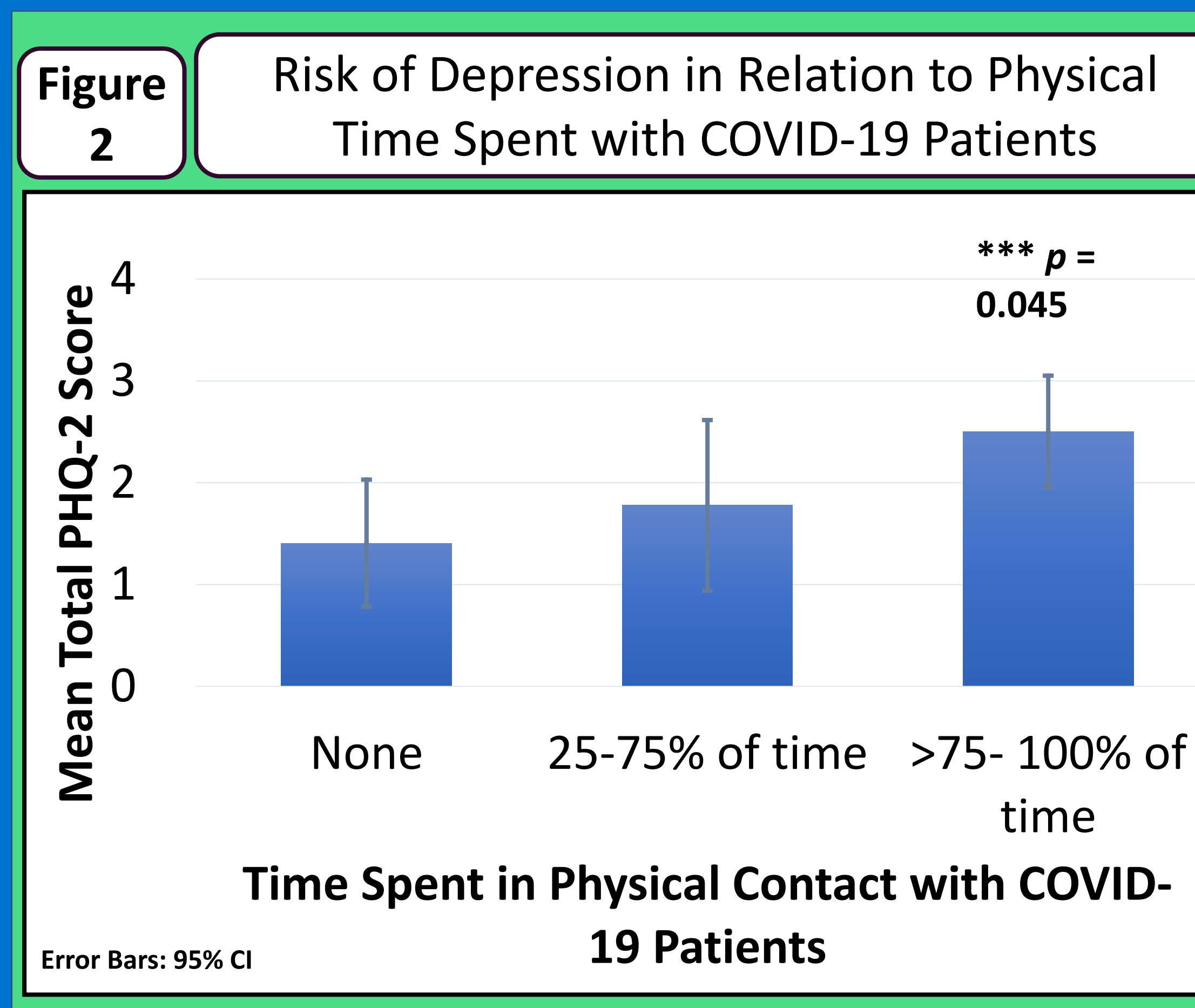
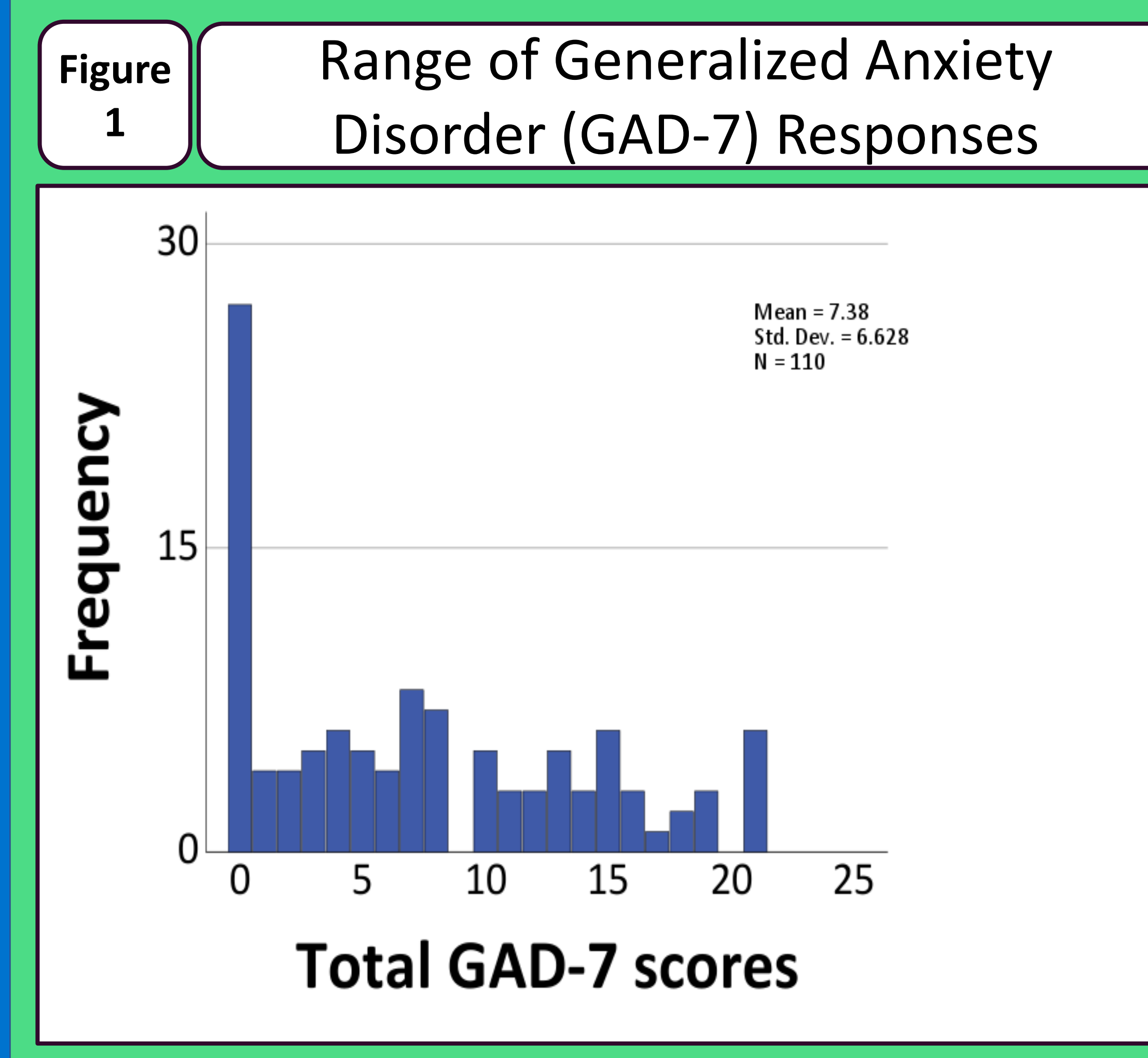


Table 2	Probable PTSD Questions (Range 0- 4)
	Have you ever experienced a <b>traumatic event</b> related to COVID-19?
	Sometimes images or strong memories of traumatic events keep coming back in flashbacks, thoughts that you can't get rid of, or repeated nightmares. <b>Has that ever happened to you related to your COVID-19 traumatic event?</b>
	Did you make a special effort to avoid thinking or talking about what happened or deliberately stayed away from things or people that reminded you of <b>the terrible experience related to COVID-19?</b>
	<b>After the COVID-19 traumatic experience</b> did you have trouble sleeping, have difficulty concentrating, were unusually irritable, have outbursts of anger, felt overly watchful or on guard, or been very jumpy or easily startled?

## Discussion

- The degree of physical contact to COVID-19 patients was associated with increased risk of for depression (screened by PHQ-2) and PTSD (screened by PTSD questionnaire) among residents and fellows.

## Limitations

- Low response rate (125/960)

## Future Directions

- We will examine group differences (sex, race, age, previous PTSD) in the associations between physical time spent with COVID-19 with depression and PTSD.

## References

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