

Supplementary Materials for

Pandemic impact on training and mental health of medical residents: an Italian multicentre prospective study

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Questionnaire – ENG version (part developed by the Authors)

Long version (T0)

Items in blue: items used both for the long version (T0) and the short version (T1, T2, T3, T4). In the short version, items referred to the last two months (participants were shown a note specifying it).

SOCIO-DEMOGRAPHIC AREA

1. Gender: ☐ Male ☐ Female ☐ Non-binary
2. Year of birth: _____
3. Specialization Area: ☐ Medical ☐ Surgical ☐ Clinical Services
4. Specialization Class – Based on the answer to question 3: drop-down menu with specialization classes
5. Region of Specialization School: ☐ Emilia Romagna ☐ Friuli-Venezia Giulia ☐ Piemonte ☐ Sicilia
6. Are you attending one of the following Specialization Schools: Emergency Medicine; Anesthesia, Resuscitation, Intensive Care, and Pain Management? ☐ Yes ☐ No
7. Year of Specialization School: ____
8. Nationality: ☐ Italian ☐ Other: _____
9. Current housing situation: ☐ Living alone ☐ With roommates ☐ With family ☐ With partner (± children) ☐ Other
10. Do you have children: ☐ Yes ☐ No

IMPACT OF COVID-19 ON PRIVATE LIFE

11. Have you had to change your housing situation because of the pandemic in recent months and/or currently (e.g., to avoid living with at-risk individuals)?
Between March and May 2020:
☐ No ☐ Yes, for less than a month ☐ Yes, for more than a month
Currently:
☐ No ☐ Yes, for less than a month ☐ Yes, for more than a month
12. Has the pandemic caused a significant change in your family's economic situation?
☐ No ☐ Yes, it has improved ☐ Yes, it has worsened
13. Have you needed psychological and/or psychopharmacological support that you did not need before the pandemic?
Between March and May 2020:
☐ No ☐ Yes
Currently:
☐ No ☐ Yes
14. Do you belong to a category of particularly vulnerable and at-risk individuals for SARS-CoV-2 (excluding smoking)? ☐ Yes ☐ No
15. Does someone very close to you belong to a category of particularly vulnerable and at-risk individuals for SARS-CoV-2 (excluding smoking)? ☐ Yes ☐ No
16. How would you describe your fear of personally contracting SARS-CoV-2 (if you contracted the infection, refer to the fear experienced before learning about the infection)?
Relatively to potential consequences on your health: ☐ None ☐ Little ☐ Moderate ☐ A lot
Regarding potential health consequences for people very close to you with whom you often come into contact:
☐ None ☐ Little ☐ Moderate ☐ A lot
17. Has someone very dear to you suffered serious health damage following infection with SARS-CoV-2? ☐ Yes ☐ No

PROFESSIONAL IMPACT OF COVID-19

18. Do you have a contract under the "Urgent measures to strengthen the National Health Service in relation to the COVID-19 emergency"? ☐ Yes ☐ No
19. Due to the pandemic, were you reassigned to tasks that you believe are far removed from your area of expertise?
Between March and May 2020:
☐ No ☐ Yes
Currently:
☐ No ☐ Yes
20. Due to the pandemic, were you reassigned to tasks very different from those you previously performed (but within your area of expertise)?
Between March and May 2020:
☐ No ☐ Yes
Currently:
☐ No ☐ Yes
21. Have your working hours changed significantly due to the pandemic compared to your usual working hours before the pandemic?
Between March and May 2020:
☐ No ☐ Yes, they have decreased ☐ Yes, they have increased
Currently:
☐ No ☐ Yes, they have decreased ☐ Yes, they have increased
22. Have you worked/are you working from home for most of your working hours?
Between March and May 2020:
☐ No ☐ Yes
Currently:
☐ No ☐ Yes

23. In general, do you believe that the pandemic has significantly modified your specialist training (e.g., impact on learning, autonomy, professional growth)?
☐ No ☐ Yes, predominantly positive ☐ Yes, predominantly negative

COVID-19 EXPOSURE

24. In which department did you work between March and May 2020? _____
25. In which department are you currently working? _____
26. In the department where you worked/work, were patients with SARS-CoV-2 treated during your presence in the department?
 Between March and May 2020:
☐ No ☐ Yes
 Currently:
☐ No ☐ Yes
27. Was/is the department where you worked/work entirely dedicated to treating patients with SARS-CoV-2?
 Between March and May 2020:
☐ No ☐ Yes
 Currently:
☐ No ☐ Yes
28. Did/do you personally treat patients with SARS-CoV-2?
 Between March and May 2020:
☐ No ☐ Yes
 Currently:
☐ No ☐ Yes
29. Have you been isolated for suspected or diagnosed SARS-CoV-2? ☐ No ☐ Yes, for 2 days or less ☐ Yes, for more than 2 days ☐ I am currently in isolation
30. Have you tested positive for a SARS-CoV-2 diagnostic test? ☐ Yes ☐ No ☐ I am currently positive
31. If yes/currently positive to the previous question, how would you describe the symptoms you had or currently have following a SARS-CoV-2 infection? ☐ Asymptomatic ☐ Mild ☐ Moderate ☐ Severe
32. Based on your perception of the availability of personal protective equipment (PPE), have you worked or are you currently working in a context where PPE is provided sufficiently to ensure the safe performance of your duties?
 Between March and May 2020:
☐ No ☐ Yes
 Currently:
☐ No ☐ Yes
33. Have you already received the SARS-CoV-2 vaccination? ☐ No ☐ Yes, currently only the first dose ☐ Yes, both doses
34. If you have not yet received the SARS-CoV-2 vaccination, choose one of the following options: ☐ I have not yet received the vaccination, but I will do so as soon as possible.
☐ I do not intend to get vaccinated. ☐ Other

Table S1

Longitudinal subsample with complete timepoints: descriptive analysis of time invariant variables at T0 (longitudinal subsample, n=97)

Characteristic		Sample at T0 (n=356)		p-value*
		N	%	
Gender	Male	33	34.02	0.975
	Female	63	64.95	
	Non-binary	1	1.03	
Area of specialization	Medical area	49	50.52	0.178
	Surgical area	9	9.28	
	Clinical services area	39	40.21	
Specialization related to Emergency-Urgency area	No	74	76.30	0.256
	Yes	23	23.70	
Location of University	Piedmont	49	50.50	0.403
	Friuli Venezia Giulia	24	24.70	
	Emilia-Romagna	18	18.60	
	Sicily	6	6.20	
Year of specialization	2	32	32.99	0.990
	3	30	30.93	
	4	23	23.71	
	5	12	12.37	
Nationality	Italian	97	100	0.459
	Other	0	0	
Having children	No	92	94.85	0.285
	Yes	5	5.15	
Belonging to a risk group for COVID-19 complications	No	97	100	0.136
	Yes	0	0	
Loved ones belonging to a risk group for COVID-19 complications	No	28	28.87	0.161
	Yes	69	71.13	
Change of living condition during the first lockdown due to the pandemic (e.g. to not share the house with frail individuals)	No	80	82.47	0.486
	Yes, less than one month	3	3.09	
	Yes, more than one month	14	14.43	
Psychological/psychopharmacological support during lockdown (not needed before the pandemic)	No	89	91.75	0.340
	Yes	8	8.25	
Reallocation to tasks that, according to the participant, are too far from his/her area of expertise (during the lockdown)	No	88	90.72	0.870
	Yes	9	9.28	
Reallocation to tasks that are very different from the usual ones but still within their area of expertise (during lockdown)	No	67	69.07	0.264
	Yes	30	30.93	
Working hours substantially modified due to the pandemic (during lockdown)	No	31	31.96	0.664
	Reduced	37	38.14	
	Increased	29	29.9	
Working from home for most of the working hours (during lockdown)	No	87	89.69	0.918
	Yes	10	10.31	
In the department where he/she worked, COVID-19 patients were treated (during lockdown)	No	52	53.61	0.700
	Yes	45	46.39	
The department where he/she worked was entirely dedicated to the treatment of COVID-19 patients (during lockdown)	No	76	78.35	0.853
	Yes	21	21.65	
The participant personally treated COVID-19 patients (during lockdown)	No	56	57.73	0.254
	Yes	41	42.27	
The participant felt that the available PPE at work was enough to keep him/her safe (during lockdown)	No	55	56.7	0.955
	Yes	42	43.3	

n=sample size; figures are expressed as number (N) and column percentages (%); PPE: personal protective equipment; *p-value obtained via Chi-Squared test comparing the overall sample with the longitudinal subsample; the median age of this sample was 30 years (IQR=29-32).

Table S2

Longitudinal subsample with complete timepoints: descriptive analysis of time varying variables across timepoints (longitudinal subsample, n=97)

Characteristic		T0 n=97 N (%)	T1 n=97 N (%)	T2 n=97 N (%)	T3 n=97 N (%)	T4 n=97 N (%)	p-value Cochran Q Test*	p-value Chi- squared test**
Living condition	Alone	30 (30.93)	29 (29.9)	29 (29.9)	28 (28.87)	26 (26.8)	0.472	0.923
	Flatmates	12 (12.37)	10 (10.31)	11 (11.34)	13 (13.4)	12 (12.37)		
	Family	13 (13.4)	11 (11.34)	10 (10.31)	9 (9.28)	10 (10.31)		
	Partner w/wo children	42 (43.3)	47 (48.45)	47 (48.45)	47 (48.45)	49 (50.52)		
Change of living condition	No	85 (87.63)	85 (87.63)	91 (93.81)	90 (92.78)	92 (94.85)	0.188	0.585
	Yes, less than one month	4 (4.12)	6 (6.19)	2 (2.06)	2 (2.06)	1 (1.03)		
	Yes, more than one month	8 (8.25)	6 (6.19)	4 (4.12)	5 (5.15)	4 (4.12)		
The pandemic is causing a substantial change of the economic situation of the participant's family	No	72 (74.23)	75 (77.32)	78 (80.41)	79 (81.44)	80 (82.47)	0.415	0.612
	Yes, it improved	16 (16.49)	18 (18.56)	15 (15.46)	13 (13.4)	12 (12.37)		
	Yes, it worsened	9 (9.28)	4 (4.12)	4 (4.12)	5 (5.15)	5 (5.15)		
Psychological/ psychopharmacological support (not needed before the pandemic)	No	88 (90.72)	84 (86.6)	84 (86.6)	85 (87.63)	83 (85.57)	0.474	0.861
	Yes	9 (9.28)	13 (13.4)	13 (13.4)	12 (12.37)	14 (14.43)		
Fear of personally contracting COVID-19 in relation to potential consequences on one's own health	None	14 (14.43)	16 (16.49)	23 (23.71)	25 (25.77)	19 (19.59)	0.060	0.924
	Little	43 (44.33)	55 (56.7)	49 (50.52)	48 (49.48)	54 (55.67)		
	Moderate	36 (37.11)	25 (25.77)	23 (23.71)	20 (20.62)	20 (20.62)		
	A lot	4 (4.12)	1 (1.03)	2 (2.06)	4 (4.12)	4 (4.12)		
Fear of personally contracting COVID-19 in relation to potential consequences on the health of one's loved ones	None	1 (1.03)	3 (3.09)	4 (4.12)	4 (4.12)	3 (3.09)	0.473	0.406
	Little	9 (9.28)	11 (11.34)	16 (16.49)	21 (21.65)	22 (22.68)		
	Moderate	31 (31.96)	39 (40.21)	47 (48.45)	47 (48.45)	49 (50.52)		
	A lot	56 (57.73)	44 (45.36)	30 (30.93)	25 (25.77)	23 (23.71)		
A loved one has suffered serious health damage after COVID-19	No	88 (90.72)	81 (83.51)	87 (89.69)	87 (89.69)	91 (93.81)	0.087	0.930
	Yes	9 (9.28)	16 (16.49)	10 (10.31)	10 (10.31)	6 (6.19)		
Holder of a contract entered into following urgent provisions for the pandemic	No	79 (81.44)	58 (59.79)	68 (70.1)	74 (76.29)	77 (79.38)	<0.001	0.694
	Yes	18 (18.56)	39 (40.21)	29 (29.9)	23 (23.71)	20 (20.62)		
Reallocation to tasks that, according to the participant, are too far from his/her area of expertise	No	93 (95.88)	91 (93.81)	94 (96.91)	96 (98.97)	94 (96.91)	0.299	0.705
	Yes	4 (4.12)	6 (6.19)	3 (3.09)	1 (1.03)	3 (3.09)		
Reallocation to tasks that are very different from the usual ones but still within their area of expertise	No	83 (85.57)	77 (79.38)	77 (79.38)	86 (88.66)	85 (87.63)	0.022	0.567
	Yes	14 (14.43)	20 (20.62)	20 (20.62)	11 (11.34)	12 (12.37)		
Working hours substantially modified due to the pandemic	No	65 (67.01)	61 (62.89)	62 (63.92)	69 (71.13)	72 (74.23)	0.265	0.840
	Reduced	3 (3.09)	7 (7.22)	8 (8.25)	4 (4.12)	4 (4.12)		
	Increased	29 (29.9)	29 (29.9)	27 (27.84)	24 (24.74)	21 (21.65)		
Working from home for most of the working hours	No	96 (98.97)	95 (97.94)	97 (100)	97 (100)	97 (100)	0.171	0.938
	Yes	1 (1.03)	2 (2.06)	0 (0)	0 (0)	0 (0)		
Believing that the pandemic is substantially changing one's specialization training	No	26 (26.8)	27 (27.84)	40 (41.24)	43 (44.33)	50 (51.55)	0.155	0.216
	Yes, positively	20 (20.62)	15 (15.46)	17 (17.53)	16 (16.49)	12 (12.37)		
	Yes, negatively	51 (52.58)	55 (56.7)	40 (41.24)	38 (39.18)	35 (36.08)		
In the department where he/she worked, COVID-19 patients were treated	No	40 (41.24)	41 (42.27)	43 (44.33)	51 (52.58)	58 (59.79)	<0.001	0.547
	Yes	57 (58.76)	56 (57.73)	54 (55.67)	46 (47.42)	39 (40.21)		

Continues

Table S2
Continued

Characteristic		T0 n=97 N (%)	T1 n=97 N (%)	T2 n=97 N (%)	T3 n=97 N (%)	T4 n=97 N (%)	p-value Cochran Q Test*	p-value Chi- squared test**
The department where he/she worked was entirely dedicated to the treatment of COVID-19 patients	No	79 (81.44)	73 (75.26)	74 (76.29)	85 (87.63)	88 (90.72)	<0.001	0.510
	Yes	18 (18.56)	24 (24.74)	23 (23.71)	12 (12.37)	9 (9.28)		
The participant personally treated COVID-19 patients	No	51 (52.58)	47 (48.45)	50 (51.55)	56 (57.73)	69 (71.13)	<0.001	0.302
	Yes	46 (47.42)	50 (51.55)	47 (48.45)	41 (42.27)	28 (28.87)		
Having been in isolation due to suspicion or diagnosis of COVID-19	No	65 (67.01)	76 (78.35)	88 (90.72)	89 (91.75)	94 (96.91)	<0.001	0.275
	Yes	32 (32.99)	21 (21.65)	9 (9.28)	8 (8.25)	3 (3.09)		
Having tested positive for COVID-19 through a swab test	No	86 (88.66)	87 (89.69)	91 (93.81)	93 (95.88)	96 (98.97)	0.001	0.578
	Yes	11 (11.34)	10 (10.31)	6 (6.19)	4 (4.12)	1 (1.03)		
The participant felt that the available PPE at work was enough to keep him/her safe	No	4 (4.12)	11 (11.34)	10 (10.31)	9 (9.28)	5 (5.15)	0.107	0.056
	Yes	93 (95.88)	86 (88.66)	87 (89.69)	88 (90.72)	92 (94.85)		
Having already received anti-COVID-19 vaccine	No	11 (11.34)	3 (3.09)	2 (2.06)	1 (1.03)	1 (1.03)	<0.001	0.725
	Yes	86 (88.66)	94 (96.91)	95 (97.94)	96 (98.97)	96 (98.97)		

n=sample size; figures are expressed as number (N) and column percentages (%); PPE: personal protective equipment; *p-value obtained via related-samples Cochran's Q test comparing the longitudinal subsample across all timepoints; **p-value obtained via Chi-Squared test comparing the overall sample at T0 with the longitudinal subsample at T0.

Table S3

Longitudinal subsample with complete timepoints: descriptive analysis of the mental health outcomes across timepoints and related-samples Cochran's Q test (longitudinal subsample, n=97)

	T0 n=97 N (%)	T1 n=97 N (%)	T2 n=97 N (%)	T3 n=97 N (%)	T4 n=97 N (%)	p-value Related-Samples Cochran's Q Test*	p-value Chi-squared test**
PTSD –symptoms							
No	77 (79.4)	72 (74.2)	83 (85.6)	82 (84.5)	81 (83.5)	0.018	0.830
Yes	20 (20.6)	25 (25.8)	14 (14.4)	15 (15.5)	16 (16.5)		
Depressive symptoms							
No	68 (70.1)	69 (71.1)	72 (74.2)	81 (83.5)	78 (80.4)	0.007	0.981
Yes	29 (29.9)	28 (28.9)	25 (25.8)	16 (16.5)	19 (19.6)		
Anxiety symptoms							
No	62 (63.9)	66 (68)	68 (70.1)	74 (76.3)	67 (69.1)	0.138	0.978
Yes	35 (36.1)	31 (32)	29 (29.9)	23 (23.7)	30 (30.9)		
Poor sleep quality							
No	82 (84.5)	87 (89.7)	90 (92.8)	89 (91.8)	92 (94.8)	0.032	0.943
Yes	15 (15.5)	10 (10.3)	7 (7.2)	8 (8.2)	5 (5.2)		

PTSD: post traumatic stress disorder; *p-value obtained via related-samples Cochran's Q test comparing the longitudinal subsample across all timepoints; **p-value obtained via Chi-Squared test comparing the overall sample at T0 with the longitudinal subsample at T0.

Pairwise comparisons after significant Cochran Q tests:

PTSD: T1 vs T2 (p=0.003), T1 vs T3 (p=0.007), T1 vs T4 (p=0.015).

Depressive symptoms: T0 vs T3 (p=0.002), T0 vs T4 (p=0.020), T1 vs T3 (p=0.005), T1 vs T4 (p=0.036), T2 vs T3 (p=0.036).

Poor sleep quality: T0 vs T3 (p=0.035), T0 vs T4 (p=0.003), T0 vs T2 (p=0.016).

Table S4

Whole sample – univariable logistic regressions: PTSD and depressive symptoms (whole sample, n=451)

		PTSD		Depressive symptoms	
		OR (95% CI)	p	OR (95% CI)	p
Timepoint: T0		Ref.		Ref.	
	<i>T1</i>	1.28 (0.78-2.10)	0.334	0.98 (0.63-1.53)	0.922
	<i>T2</i>	0.39 (0.22-0.71)	0.002	0.50 (0.30-0.82)	0.007
	<i>T3</i>	0.27 (0.13-0.55)	<0.001	0.27 (0.15-0.49)	<0.001
	<i>T4</i>	0.31 (0.16-0.62)	0.001	0.28 (0.16-0.51)	<0.001
Gender: Male		Ref.		Ref.	
	<i>Female</i>	2.88 (1.36-6.13)	0.006	1.99 (1.05-3.74)	0.034
	<i>Non-binary*</i>			4.26 (0.16-112.4)	0.386
Specialization related to Emergency-Urgency area		3.58 (1.43-8.99)	0.007		
Location of University: Piedmont		Ref.		Ref.	
	<i>Friuli Venezia Giulia</i>	1.77 (0.74-4.22)	0.196	2.51 (1.21-5.24)	0.014
	<i>Emilia-Romagna</i>	4.25 (1.78-10.16)	0.001	4.42 (2.08-9.39)	<0.001
	<i>Sicily</i>	6.39 (2.08-19.65)	0.001	3.47 (1.29-9.32)	0.014
Year of specialization: 2		Ref.			
	<i>3</i>	0.34 (0.13-0.91)	0.032		
	<i>4</i>	0.79 (0.29-2.13)	0.646		
	<i>5</i>	0.97 (0.29-3.16)	0.954		
Change of living condition: No		Ref.			
	<i>Yes, less than one month</i>	1.53 (0.60-3.94)	0.375		
	<i>Yes, more than one month</i>	2.87 (1.04-7.88)	0.041		
The pandemic is causing a substantial change of the economic situation of the participant's family: No		Ref.		Ref.	
	<i>Yes, it improved</i>	2.17 (1.12-4.22)	0.022	1.69 (0.94-3.06)	0.080
	<i>Yes, it worsened</i>	1.61 (0.63-4.08)	0.316	3.19 (1.45-7.02)	0.004
A loved one has suffered serious health damage after COVID-19		4.96 (2.50-9.82)	<0.001		
Reallocation to tasks that, according to the participant, are too far from his/her area of expertise		3.75 (1.58-8.88)	0.003		
Reallocation to tasks that are very different from the usual ones but still within their area of expertise		2.18 (1.24-3.85)	0.007	2.96 (1.76-4.97)	<0.001
Working hours substantially modified due to the pandemic: No		Ref.		Ref.	
	<i>Reduced</i>	1.54 (0.60-3.99)	0.373	2.54 (1.12-5.76)	0.025
	<i>Increased</i>	4.14 (2.44-7.02)	<0.001	3.12 (1.95-5.02)	<0.001
Believing that the pandemic is substantially changing one's specialization training: No		Ref.		Ref.	
	<i>Yes, positively</i>	7.08 (3.06-16.36)	<0.001	1.53 (0.72-3.25)	0.270
	<i>Yes, negatively</i>	5.70 (3.05-10.66)	<0.001	5.35 (3.23-8.86)	<0.001
The participant personally treated COVID-19 patients		2.88 (1.72-4.83)	<0.001	2.02 (1.30-3.14)	0.002
Having been in isolation due to suspicion or diagnosis of COVID-19		2.62 (1.53-4.48)	<0.001	1.91 (1.19-3.08)	0.008

PTSD: post-traumatic stress disorder.

Table S5

Whole sample – univariable logistic regressions: anxiety and poor sleep (whole sample, n=451)

	Anxiety symptoms		Poor sleep quality	
	OR (95% CI)	p	OR (95% CI)	p
Timepoint: T0	Ref.		Ref.	
T1	0.93 (0.61-1.42)	0.728	0.83 (0.47-1.46)	0.517
T2	0.62 (0.39-0.99)	0.046	0.68 (0.37-1.27)	0.226
T3	0.31 (0.18-0.54)	<0.001	0.56 (0.27-1.15)	0.116
T4	0.62 (0.37-1.04)	0.068	0.19 (0.08-0.45)	<0.001
Gender: Male	Ref.		Ref.	
Female	2.51 (1.37-4.62)	0.003	1.40 (0.63-3.11)	0.403
Non-binary*				
Location of University: Piedmont	Ref.		Ref.	
Friuli Venezia Giulia	1.95 (0.96-3.94)	0.063	1.52 (0.60-3.87)	0.378
Emilia-Romagna	4.57 (2.21-9.45)	<0.001	2.71 (1.06-6.96)	0.038
Sicily	1.78 (0.68-4.69)	0.241	2.35 (0.68-8.15)	0.179
Reallocation to tasks that are very different from the usual ones but still within their area of expertise	1.96 (1.19-3.22)	0.008		
Working hours substantially modified due to the pandemic: No	Ref.			
Reduced	1.05 (0.48-2.31)	0.905		
Increased	3.05 (1.95-4.76)	<0.001		
Believing that the pandemic is substantially changing one's specialization training: No	Ref.		Ref.	
Yes, positively	2.20 (1.11-4.36)	0.024	1.97 (0.80-4.89)	0.141
Yes, negatively	3.79 (2.38-6.03)	<0.001	3.09 (1.61-5.94)	<0.001
The participant personally treated COVID-19 patients	1.77 (1.17-2.68)	0.007	2.13 (1.21-3.75)	0.009
The participant felt that the available PPE at work was enough to keep him/her safe	0.57 (0.32-1.02)	0.056		
Age			1.17 (1.04-1.32)	0.007
Having children			6.10 (1.65-22.58)	0.007
A loved one has suffered serious health damage after COVID-19			2.69 (1.23-5.86)	0.013
Loved ones belonging to a risk group for COVID-19 complications			2.39 (0.98-5.83)	0.056

OR: odds ratio; CI: confidence intervals.

Table S6

Longitudinal subsample with complete timepoints – multivariable logistic regression models: PTSD and depressive symptoms (longitudinal subsample, n=97)

	PTSD		Depressive symptoms	
	adjOR (95% CI)	p	adjOR (95% CI)	p
Timepoint: T0	Ref.		Ref.	
<i>T1</i>	1.37 (0.47-3.99)	0.563	0.9 (0.34-2.35)	0.823
<i>T2</i>	0.41 (0.13-1.35)	0.144	0.83 (0.31-2.26)	0.721
<i>T3</i>	0.6 (0.19-1.94)	0.396	0.27 (0.09-0.82)	0.021
<i>T4</i>	1.01 (0.31-3.32)	0.990	0.4 (0.13-1.21)	0.104
Gender: Male	Ref.		Ref.	
<i>Female</i>	5.24 (1.21-22.74)	0.027	3.32 (0.74-14.91)	0.118
<i>Non-binary*</i>	-	-	-	-
Specialization related to Emergency-Urgency area	3.27 (0.64-16.85)	0.156		
Location of university: Piedmont	Ref.		Ref.	
<i>Friuli Venezia Giulia</i>	7.84 (1.6-38.38)	0.011	4 (0.78-20.55)	0.097
<i>Emilia-Romagna</i>	15.4 (2.8-84.71)	0.002	9.21 (1.52-55.78)	0.016
<i>Sicily</i>	8.43 (0.63-113.19)	0.108	17.85 (1.25-253.84)	0.033
Year of specialization: 2	Ref.			
<i>3</i>	0.79 (0.15-4.06)	0.774		
<i>4</i>	1.8 (0.31-10.3)	0.508		
<i>5</i>	0.6 (0.07-5.16)	0.642		
Change of living condition: No	Ref.			
<i>Yes, less than one month</i>	8.43 (1.04-68.12)	0.045		
<i>Yes, more than one month</i>	0.44 (0.02-7.83)	0.577		
The pandemic is causing a substantial change of the economic situation of the participant's family: No	Ref.		Ref.	
<i>Yes, it improved</i>	0.85 (0.21-3.46)	0.818	1.57 (0.4-6.08)	0.515
<i>Yes, it worsened</i>	0.23 (0.03-1.88)	0.171	4.09 (0.85-19.73)	0.079
A loved one has suffered serious health damage after COVID-19	4.26 (1.19-15.27)	0.026		
Reallocation to tasks that, according to the participant, are too far from his/her area of expertise	2.17 (0.32-14.54)	0.424		
Reallocation to tasks that are very different from the usual ones but still within their area of expertise	3.16 (0.89-11.22)	0.075	1.96 (0.62-6.24)	0.253
Working hours substantially modified due to the pandemic: No	Ref.		Ref.	
<i>Reduced</i>	0.31 (0.02-4.22)	0.378	3.99 (0.58-27.44)	0.159
<i>Increased</i>	2.58 (0.89-7.44)	0.079	1.28 (0.47-3.48)	0.634
Believing that the pandemic is substantially changing one's specialization training: No	Ref.		Ref.	
<i>Yes, positively</i>	4.19 (0.85-20.69)	0.079	1.52 (0.35-6.56)	0.575
<i>Yes, negatively</i>	4.59 (1.27-16.53)	0.020	6.29 (2.11-18.76)	0.001
The participant personally treated COVID-19 patients	1.58 (0.56-4.43)	0.389	0.47 (0.18-1.21)	0.119
Having been in isolation due to suspicion or diagnosis of COVID-19	0.68 (0.2-2.31)	0.542	0.82 (0.26-2.58)	0.729

*Omitted for low sample size; PTSD: post traumatic stress disorder; adjOR: adjusted odds ratio; Ref.: reference.

Table S7

Longitudinal subsample with complete timepoints – multivariable logistic regression models: anxiety and poor sleep (longitudinal subsample, n=97)

		Anxiety symptoms		Poor sleep quality	
		adjOR (95% CI)	p	adjOR (95% CI)	p
Timepoint: T0		Ref.		Ref.	
	<i>T1</i>	0.65 (0.28-1.54)	0.331	0.47 (0.15-1.45)	0.189
	<i>T2</i>	0.65 (0.27-1.55)	0.329	0.25 (0.07-0.9)	0.034
	<i>T3</i>	0.37 (0.15-0.91)	0.030	0.37 (0.11-1.26)	0.111
	<i>T4</i>	0.91 (0.37-2.2)	0.826	0.17 (0.04-0.74)	0.018
Gender: Male		Ref.		Ref.	
	<i>Female</i>	3.49 (0.99-12.28)	0.052	2.03 (0.37-11.08)	0.414
	<i>Non-binary*</i>	-	-	-	-
Location of university: Piedmont		Ref.		Ref.	
	<i>Friuli Venezia Giulia</i>	5.34 (1.38-20.64)	0.015	2.19 (0.4-11.91)	0.366
	<i>Emilia-Romagna</i>	2.08 (0.46-9.39)	0.339	0.7 (0.09-5.42)	0.730
	<i>Sicily</i>	3.63 (0.38-34.48)	0.261	0.25 (0.01-12.33)	0.490
Reallocation to tasks that are very different from the usual ones but still within their area of expertise		0.94 (0.33-2.71)	0.910		
Working hours substantially modified due to the pandemic: No		Ref.			
	<i>Reduced</i>	0.81 (0.16-4.21)	0.804		
	<i>Increased</i>	2.06 (0.85-5)	0.110		
Believing that the pandemic is substantially changing one's specialization training: No		Ref.		Ref.	
	<i>Yes, positively</i>	1.88 (0.54-6.48)	0.320	0.53 (0.1-2.86)	0.461
	<i>Yes, negatively</i>	2.68 (1.11-6.46)	0.029	1.25 (0.34-4.64)	0.741
The participant personally treated COVID-19 patients		1.21 (0.54-2.7)	0.640	3.51 (1.02-12.08)	0.046
The participant felt that the available PPE at work was enough to keep him/her safe		0.33 (0.09-1.18)	0.088		
Age				1.11 (0.93-1.33)	0.248
Having children				1.81 (0.09-36.99)	0.700
A loved one has suffered serious health damage after COVID-19				0.66 (0.14-3.15)	0.599
Loved ones belonging to a risk group for COVID-19 complications				4.98 (0.77-32.39)	0.093

*Omitted for low sample size; PPE: personal protective equipment; adjOR: adjusted odds ratio; CI: confidence intervals; Ref.: reference.