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This research is funded by

M[i]⁴

Interdisciplinary Initiative in
Infection and Immunity

NURSES AND PHYSICIANS' DISTRESS, BURNOUT, AND COPING STRATEGIES DURING COVID-19

- SOURCES OF STRESS
- IMPACT ON PERCEIVED PERFORMANCE
- IMPACT ON INTENTIONS TO QUIT
- PERCEIVED SUPPORT & NEEDS

Report prepared by Nigel Mantou Lou, Tina Montreuil [PA], Liane Feldman, Gerald Fried, Mélanie Lavoie-Tremblay, Farhan Bhanji, Heather Kennedy, Pepa Kaneva, Susan Drouin, Jason M. Harley [NPA] (2020)

Key Takeaways

- Healthcare professionals' (HCPs') well-being is an urgent and serious matter in pandemic responses. Stressful experiences during COVID-19 have worsened HCPs' psychological and mental health problems, which negatively impact their motivation to retain their job. We found that 50% nurses and 20% of physicians expressed intentions to quit.
- Maintaining HCPs' mental health during the pandemic is essential for their performance. HCPs reported that stress during COVID have negatively impacted their performance, including professional self-doubt and perceived quality of patient care.
- The type of stressors, particularly health concerns and work-related stress, should be considered when developing effective strategies for stress management.
- A reduced workload is considered by HCP as an important way to reduce stress, but few HCPs received this opportunity.
- Counselling services are perceived to be useful, but it is important to encourage more use of counselling services to reduce this resource's under-utilization.
- Education, including resilience training, may help the use of existing resources and encourage more adaptive coping strategies.

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INTRODUCTION

Healthcare providers (HCPs) experience high levels of stress, anxiety, and burnout, even under normal circumstances.^{1,2} Stressful experiences during the novel coronavirus (COVID-19) outbreak have further compromised HCPs' wellbeing. COVID-19 affects HCPs directly because they are often front line workers and exposed to many of these risk factors and more: deal with COVID patients, work in conditions that have a higher risk of infection, often have excessive workload/work hours.³ In addition to high rates of HCP infection and mortality, lockdown policies, social isolation, worry about family's health, and stigma continues to increase HCPs' stress and anxiety.^{4,5} These issues and worries can exacerbate HCPs' vulnerability and mental health problems.

This study, led by Drs. Jason Harley (nominated principal applicant) and Tina Montreuil (principal applicant) aimed to investigate HCPs' psychological distress, burnout, coping strategies, and their impacts on HCPs during the COVID-19 pandemic.

¹ Imai, H., Nakao, H., Tsuchiya, M., Kuroda, Y., & Katoh, T. (2004). Burnout and work environments of public health nurses involved in mental health care. *Occupational and Environmental Medicine*, 61(9), 764-768.

² Shanafelt TD, Hasan O, Dyrbye et al. Changes in burnout & satisfaction with work-life balance in physicians & gen. US pop between 2011–2014. *Mayo Clin Proc*. 2015;90(12):1600

³ Spoorthy, M. S., Pratapa, S. K., & Mahant, S. (2020). Mental health problems faced by healthcare workers due to the COVID-19 pandemic—A review. *Asian journal of psychiatry*, 51, 102119.

⁴ Kang L, Li Y, Hu S, Chen M, Yang C, Yang BX, et al. The mental health of medical workers in Wuhan, China dealing with the 2019 novel coronavirus. *The Lancet Psychiatry*. 2020;7(3):e14

⁵ Liu S, Yang L, Zhang C, Xiang YT, Liu Z, Hu S, Zhang B. Online mental health services in China during the COVID-19 outbreak. *The Lancet Psychiatry*. 2020 Apr 1;7(4):e17-18.



PRODUCT/SERVICE/METHODOLOGY⁶

This study used a cross-sectional, descriptive, correlational design. Data were collected at MUHC network, from July 31st to August 15th, 2020. The survey invitation was sent out to each unit head as well as nurse managers to forward it to HCPs. The response rate was unattainable because the number of HCPs who received the invitation was unknown through our recruitment. The survey took around 15 to 20 minutes to complete and was available in both French and English. We received 153 total responses, with 131 valid responses (i.e., the survey was completed). We excluded the respondents who did not indicate if they were nurses or physicians in the hospital from the analyses, resulting in a final sample of 119 participants. The final sample comprises 64 nurses (90.6% females) and 55 physicians (54.5% females).

The questionnaires included: (a) Depression, Anxiety, and Stress Scale (DASS)⁷, Maslach Burnout Inventory⁸, COPE Inventory⁹, perceptions of stressors, perceived impact of stress on work, Intentions to quit¹⁰, and perceived support(Author generated).

⁶ The study was approved by the RI-MUHC human research ethics board. Participants voluntarily completed the study via RedCap online survey, read a consent form, and were offered a \$25 gift-card as compensation.

⁷ Henry JD, & Crawford JR. The short-form version of the Depression Anxiety Stress Scales (DASS-21): Construct validity and normative data in a large non-clinical sample. *Br J Clin Psychol* 2005;44(2):227-39.

⁸ Maslach C, & Leiter MP. Understanding the burnout experience: Recent research and its implications for psychiatry. *World Psychiatry* 2016;15:103-111.

⁹ Carver CS. You want to measure coping but your protocol's too long: Consider the brief cope. *Int J Behav Med* 1997;4(1):92.

¹⁰ O'Driscoll, M. P., & Beehr, T. A. (1994). Supervisor behaviors, role stressors and uncertainty as predictors of personal outcomes for subordinates. *Journal of Organizational Behavior*, 15(2), 141-155.

KEY FINDINGS

1. Significant Increases of Stress, Anxiety, Depression, and Burnout During COVID

As shown in Fig 1, both nurses (left) and physicians (right) reported feeling higher levels of burnout, stress, depression, and anxiety than they reported remembering experiencing before the pandemic. All increases are statistically significant. These findings suggest that the pandemic may contribute to HCPs' burnout, stress, depression, and anxiety.

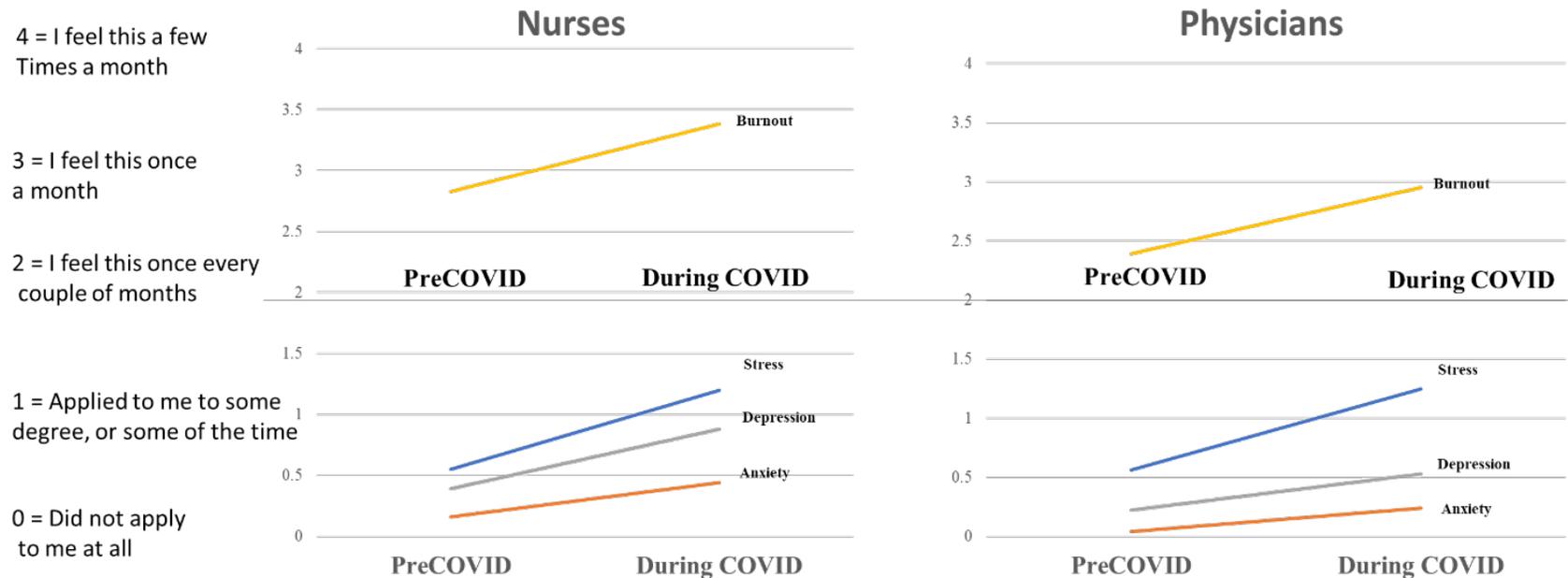


Fig 1. Increases in Stress, Anxiety, Depression and Burnout

Note. Stress, anxiety, and depression (scale ranged from 0-did not apply to me at all to 3-applied to me very much or most of the time); Burnout (scale ranged from 1- I never feel this to 7- I feel this every day)

2. The Strongest Stressor was Worry About the Health of Family Members

As shown in Fig 2, nurses generally reported higher levels of stressors than physicians. For nurses, the highest stressor among all was “worry about the health of family,” followed by “work-life balance,” and “keeping up with information on management strategies.” For physicians, the highest stressor was “work-life balance,” followed by “worry about the health of family,” and “keeping up with information on management strategies.”

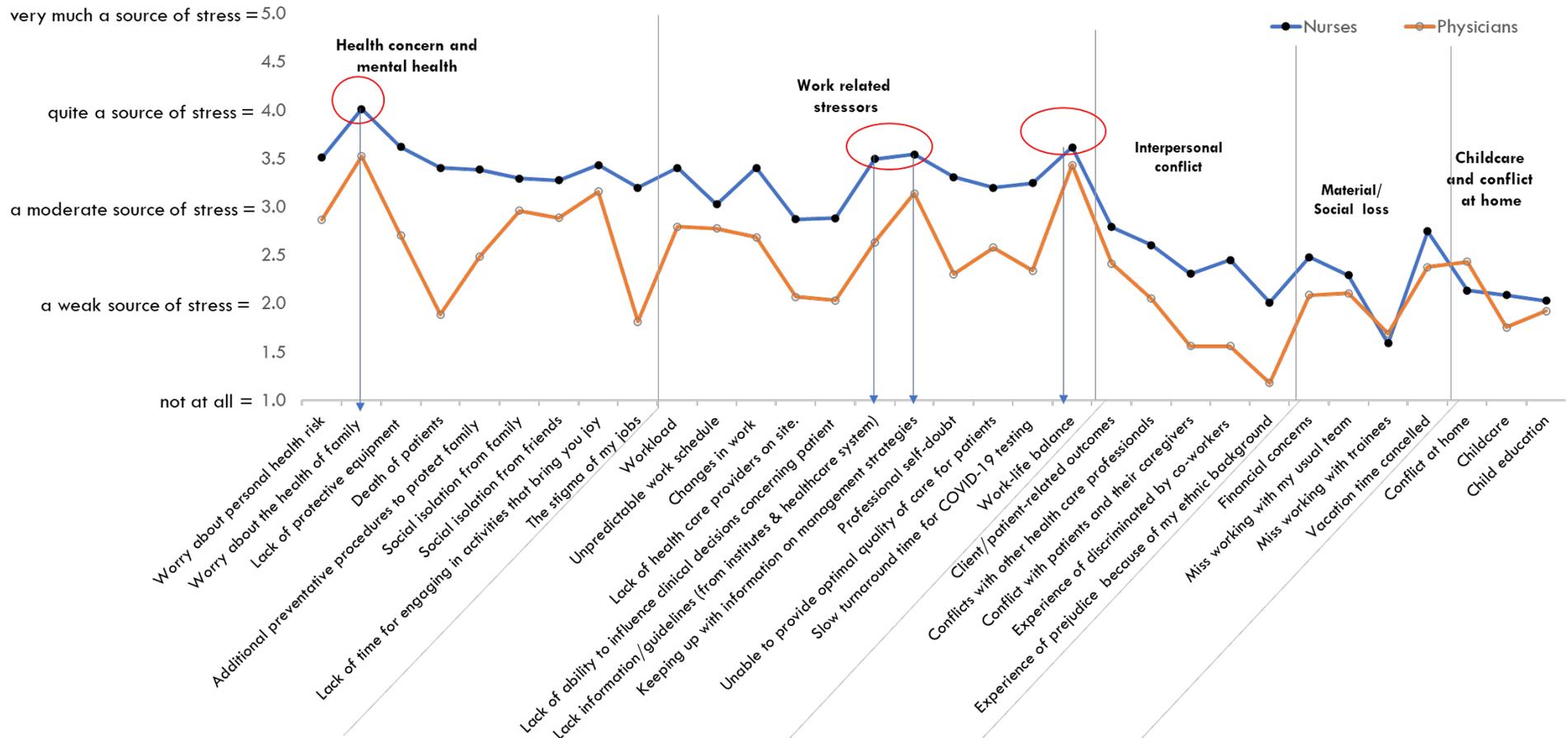


Fig 2. Levels of Different Stressors During COVID Among Nurses and Physicians

3. Stress Negatively Impacted Perceived Work Performance

HCPs indicated whether stress during COVID-19 had impacted their performance and communication at work on a seven-point scale. A score of 4 indicated no impact, higher than 4 represented a positive impact, and lower than 4 indicated a negative impact. As shown in Figure 3, both nurses and physicians reported that stress negatively impacted their performance (indicated by lower values), including professional self-doubt and perceived quality of patient care.

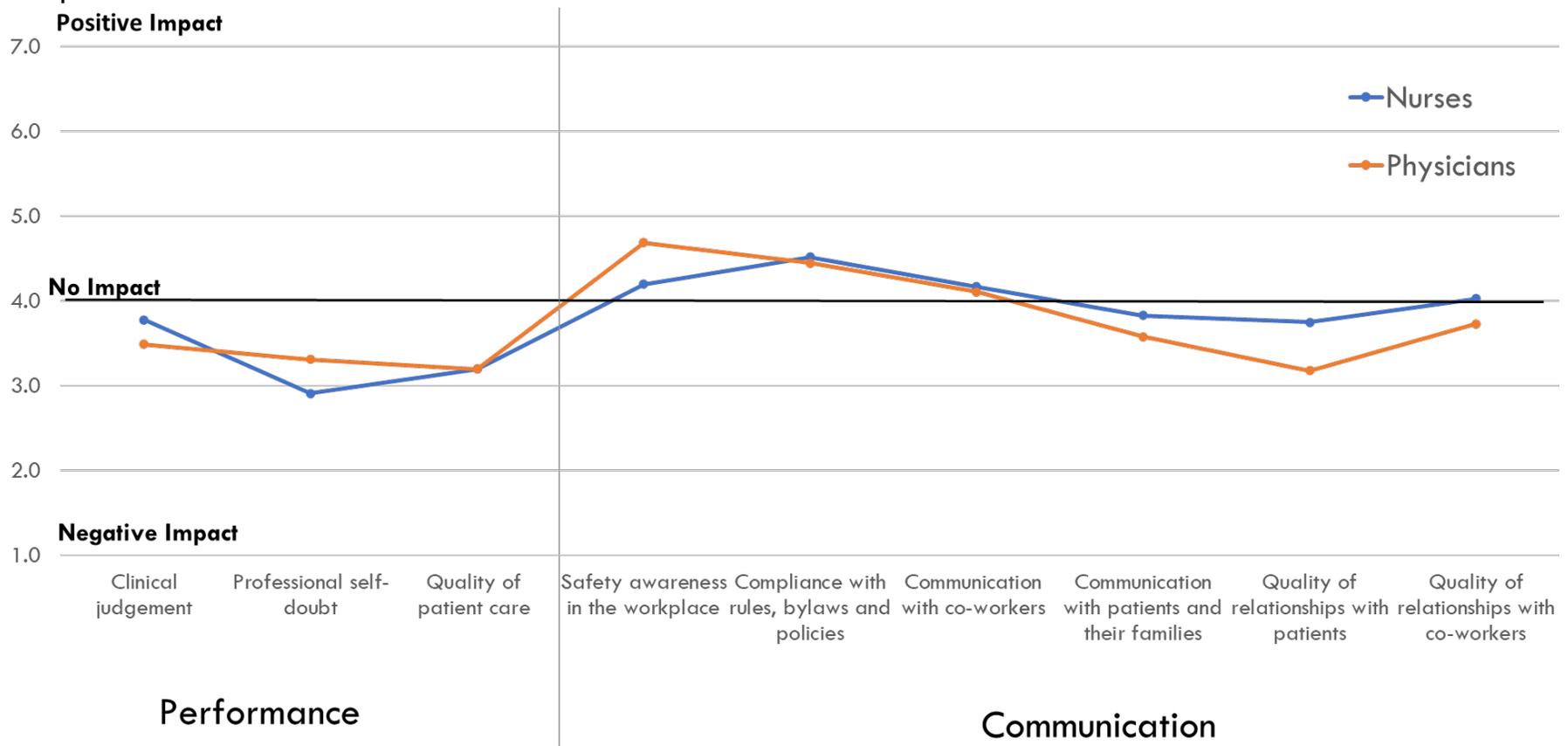


Fig 3 The Impact of Stress on Work Performance and Communication

4. Coping Strategies Used by HCPs

HCPs indicated how often they used the below strategies (Fig 4) when coping with stress at work. For both nurses and physicians, the most commonly used coping strategy was acceptance, followed by self-distraction. We found little differences between nurses and physicians in coping strategies, except that nurses scored higher on venting(*) and denial(*) – both are maladaptive coping strategies.

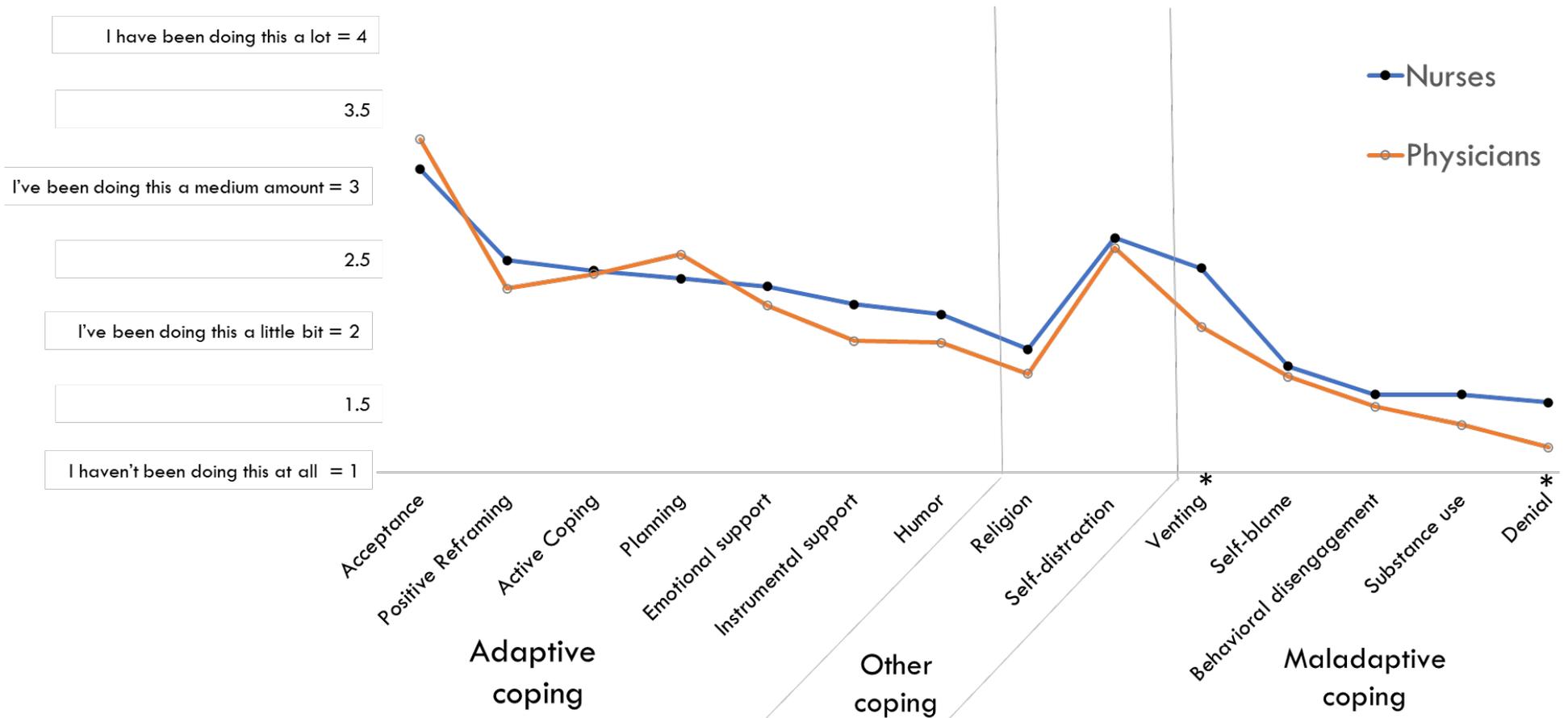


Fig 4. The Frequency of Different Coping Strategies Used by Nurses and Physicians

5. HCPs' Intentions to Quit

About 36% of the HCPs expressed intentions to quit. Specifically, as shown in Fig 5, there were more nurses (50%) who reported an intention to quit than physicians (20%).

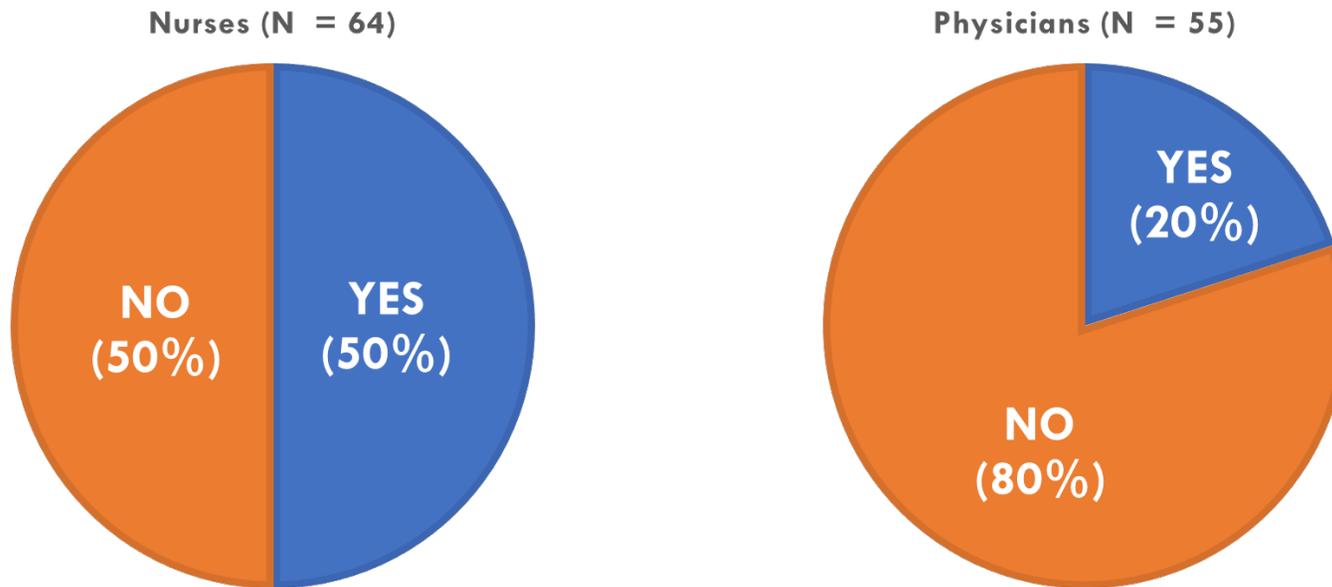


Fig 5. Intentions to Quit

6. HCP-reported Perceived Sources of Support: Personal Resources

As shown in Fig 6, most personal resources listed (family support, support from friends, hobbies, comfort food, spending time in nature; see Appendix for the full list of resources) were rated as available, except for substance use.

Among the available personal resources, most nurses reported that they spent time in nature (86%), relied on family support (78%), and hobbies (76%). The most helpful personal resources that were available to nurses were family support (90%), support from friends (90%), hobbies (100%), and spending time in nature (98%).

Similarly, when dealing with stress, most physicians reported they spent time in nature (71%), relied on family support (91%), and hobbies (81%). The most helpful personal resources that were available to physicians were family support (96%), support from friends (81%), and spending time in nature (92%).

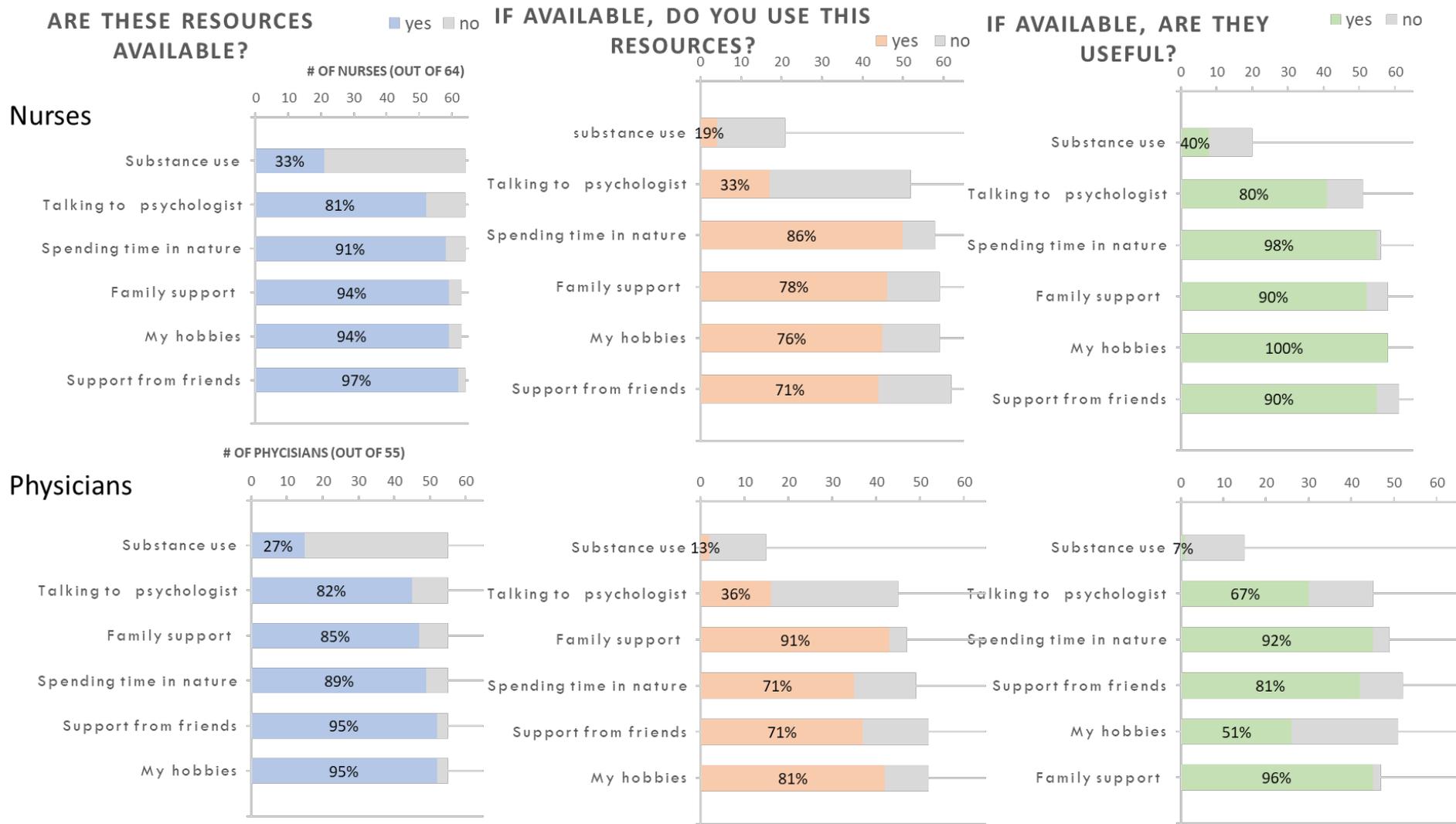


Fig 6. Perceived Support -- Personal Resources Among Nurses (Above) and Physicians (Below)

7. HCP-reported Perceived Sources of Support: Hospital Resources

Regarding hospital resources, HCPs reported that personal protective equipment was widely available. However, according to survey responses, psychological counselling was only available to 63% of nurses and 57% of physicians. Even less available to HCPs were skill training and resilience training (44% nurses and 27% physicians), appropriate pay (33% nurses and 51% physicians), and reduced workload (22% nurses and 15% physicians). It is also of interest to know if there were (a) resources that were considered *useful*, but *insufficiently available* to nurses and physicians and (b) resources that were widely available but under-utilized.

Notably, as shown in Fig 7, most nurses (93%) who received skills training and resilience training mentioned the training was helpful, but was only available to 44% of nurses. Similarly, most physicians (81%) who received skills training and resilience training mentioned the training was helpful, but only available to 27% of them. This finding suggests that there was a large gap between needs and recourses in training. Most nurses (90%) reported that appropriate pay was an important need, but was only available to 33% of them. This gap in pay was smaller among physicians: Most physicians (51%) reported that appropriate pay was available to them. Finally, another notable gap was reduced workload. Most nurses (92%) who received a reduced workload reported that it was useful, but it was only available to 22% of the nurses. Physicians who received a reduced workload (70%) reported they were useful, but it was only available to 15% of the physicians.

Regarding under-utilized hospital resources, we found that counselling services were available to more than half of the physicians (51%) and nurses (63%). However, only 10% of those physicians and 13% of nurses used this resource. Moreover, even though 88% of those nurses and 77% of physicians perceived that counselling service was helpful, they were not likely to use this resource. Therefore, it may be important to encourage the use of counselling services to reduce the under-utilization of this resource.

Finally, it is important to note that resources regarding personal protective equipment (PPE) were reportedly widely available ($\geq 94\%$), utilized ($\geq 92\%$), and useful (98%).

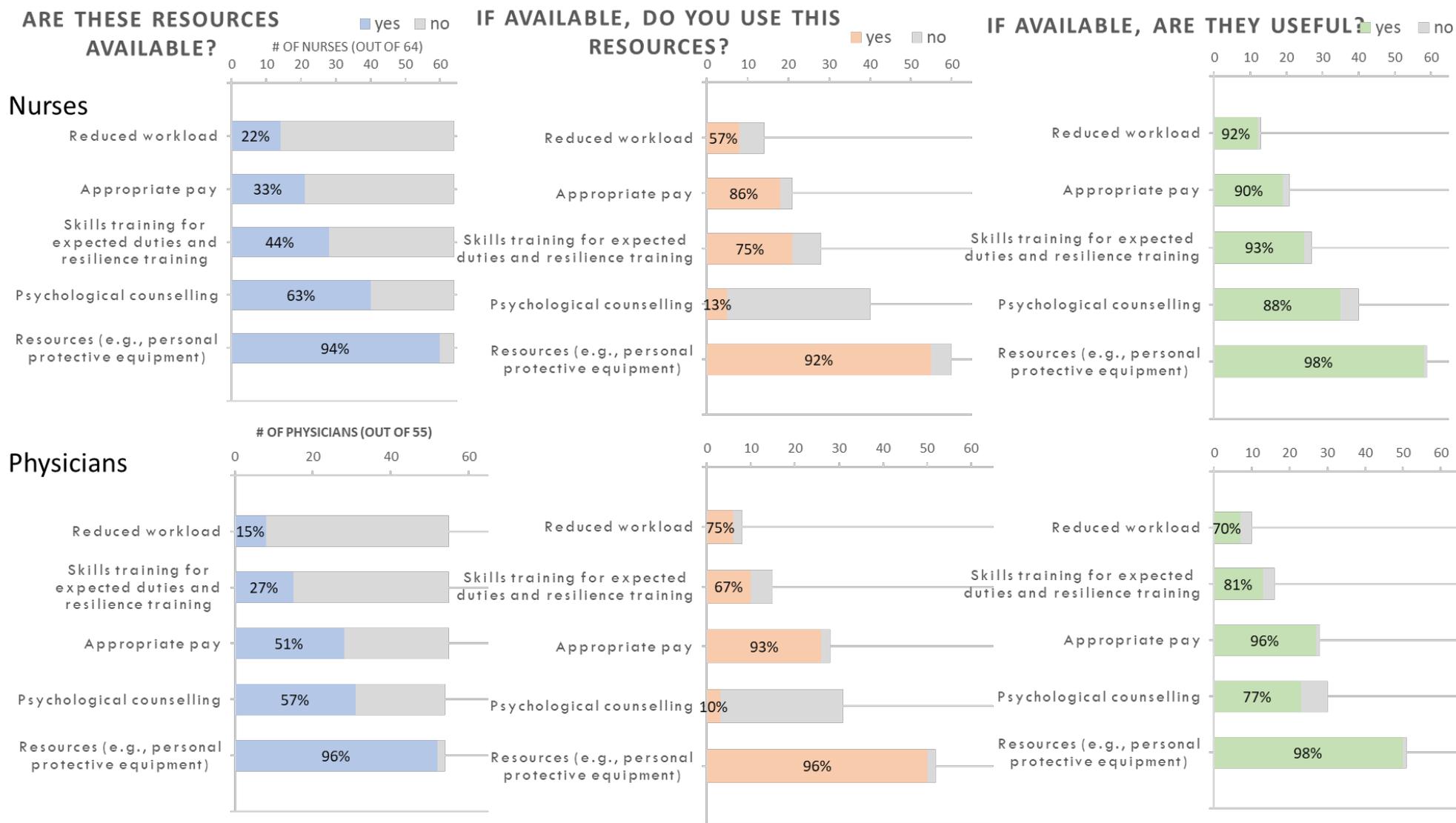


Fig 7. Perceived Hospital Support Among Nurses (Above) and Physicians (Below)

8. HCP-reported Perceived Sources of Support: Healthcare System Resources

System resources refer to the supports related to healthcare policies and the government, which may directly impact hospital resources and indirectly impact HCPs. As shown in Fig 8, HCPs reported that continued policies of social distancing and clear communication of COVID were widely available. However, free counselling program was only available to 63% of nurses and 44% of physicians. Even less available to HCPs were rewards/incentives (59% nurses and 15% physicians) and job protection (46% nurses and 15% physicians).

The most useful healthcare system resources were job protection (92% nurses and 100% physicians), and clear communication and disease information about COVID-19 (95% nurses and 94% physicians), as well as continued implementation of social distancing to reduce the spread of the COVID-19 (97% nurses and 94% physicians). Regarding resources that were considered useful, but insufficiently available, although most nurses and all physicians who indicated job protection was available thought that this was helpful, job protection was available to only 46% of nurses and 15% of physicians.

Regarding resources that were considered *underutilized*, although many nurses (81%) also perceived that free counselling and psychology support was helpful, only 20% used this resource. On the other hand, among the physicians who said free counselling was available to them (44%), only 4% used this resource.

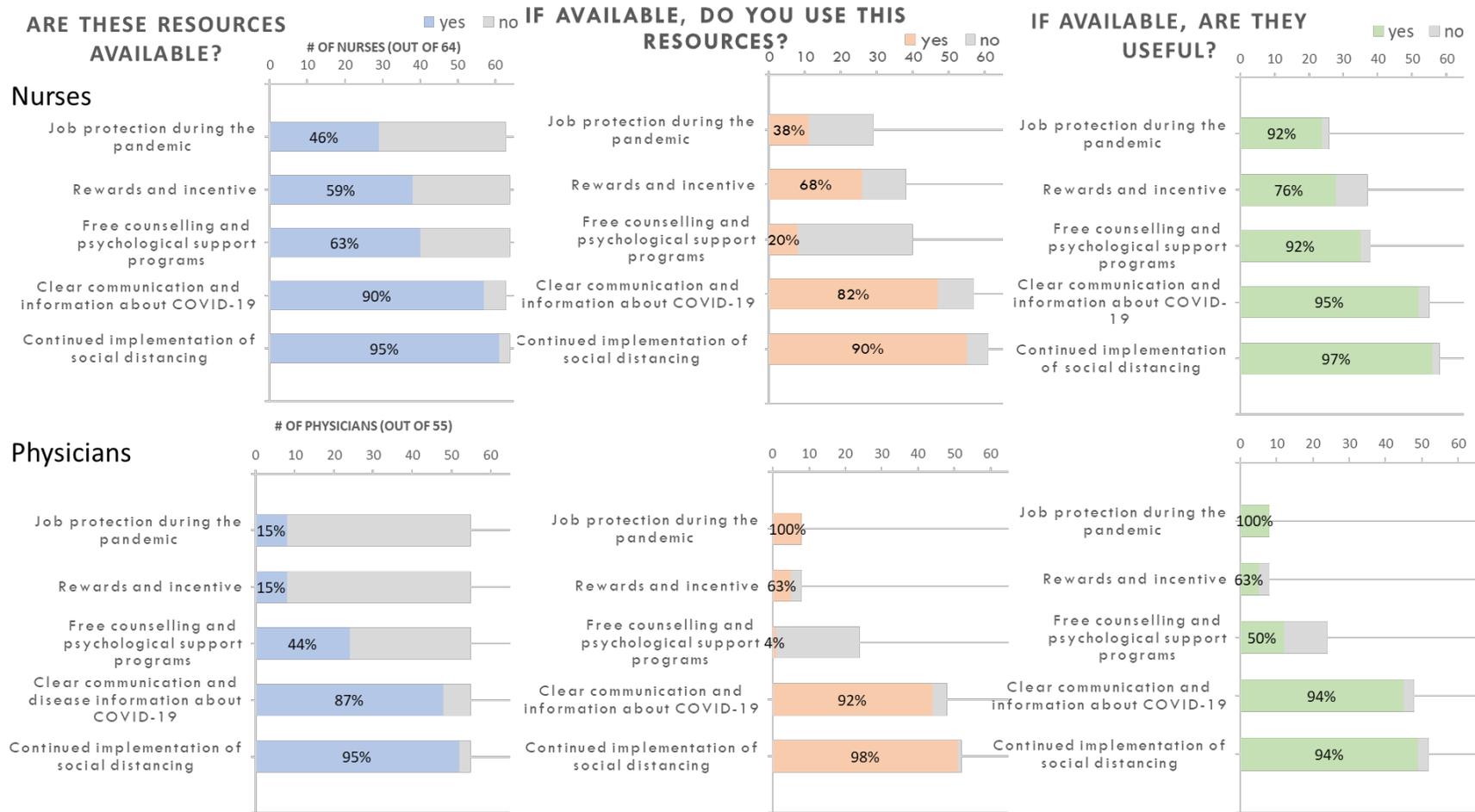


Fig 8. Perceived System Resources Among Nurses (Above) and Physicians (Below)



CONCLUSION

The COVID-19 pandemic has had a detrimental impact on the healthcare system, amplifying pre-existing distress and burnout in HCPs. Indeed, we found that both nurses and physicians experienced more distress and burnout during COVID-19 than before, which could impact HCPs' work performance and intentions to quit.

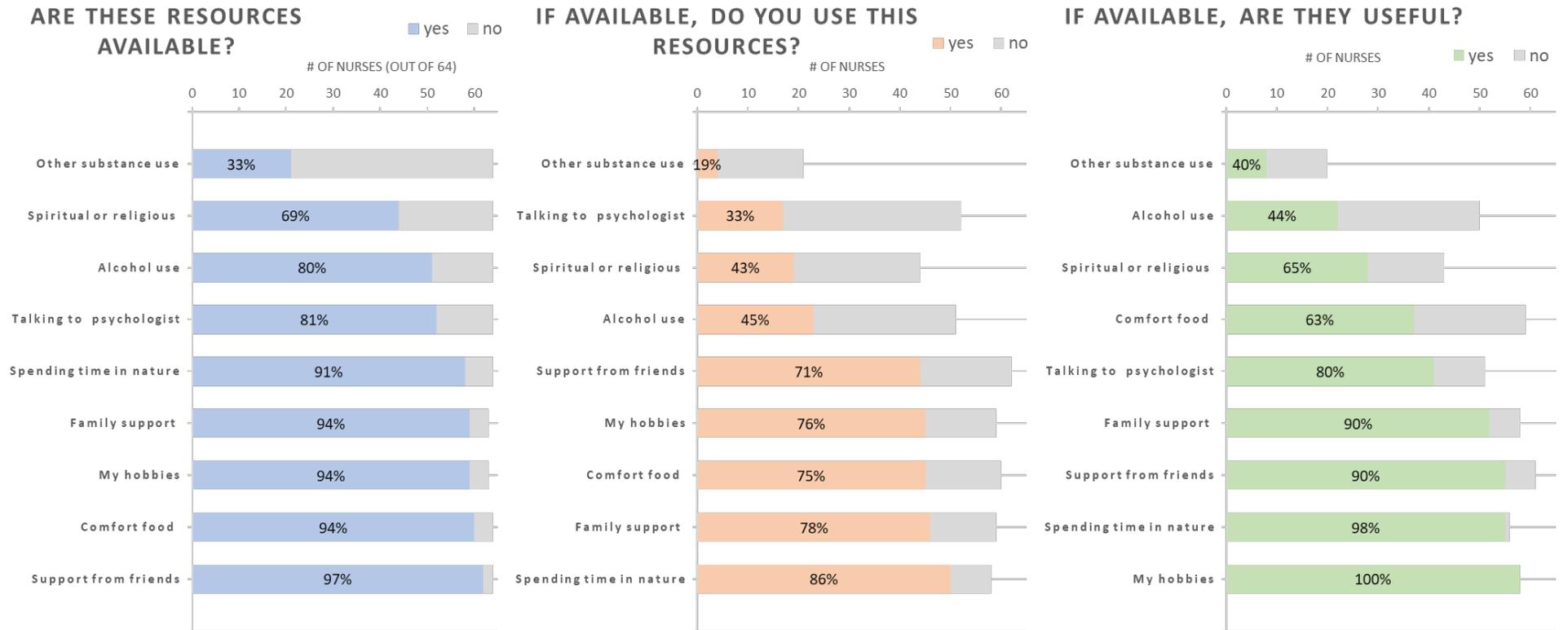
Improving HCP wellbeing is not just on HCP personal resources and coping strategies, but also on institutional/hospital support and resources that address needs, perceived as useful, accessible, and used. A better understanding of HCPs' challenges, risks, and protective factors can provide implications to help improve the distribution of institutional resources. Thus, the type of stressors, particularly health concerns and work-related stress, should be considered when developing effective strategies for stress management. It is crucial to provide resources and supports that directly address stressors and allow HCPs to endorse adaptive strategies (e.g., seeking support, problem-solving strategies) to deal with new challenges during COVID (e.g., isolation and stigma). Specifically, the highest stressor among all was "worry about the health of family," followed by "work-life balance," and "keeping up with information on management strategies."

Practitioners and managers may consider what resources are available, underutilized, and useful when developing effective strategies for HCPs' stress management. For example, although we found that resilience training was perceived to help HCPs manage stress, most HCPs perceived training was not available. It is also important to note that reduced workload and appropriate pay were also perceived to help deal with stress but rather unavailable to many HCPs. Moreover, we found that even when supporting and counselling services were available and rated as useful, HCPs, especially physicians, rarely used them. This is likely because of barriers, including the stigma of seeking mental health support. Hospitals may take actions to reach out to HCPs who may benefit from receiving help by developing systems for offering support to HCPs rather than relying on self-referral. Moreover, supporting programs should also address the de-stigmatization and normalization of mental health supports.

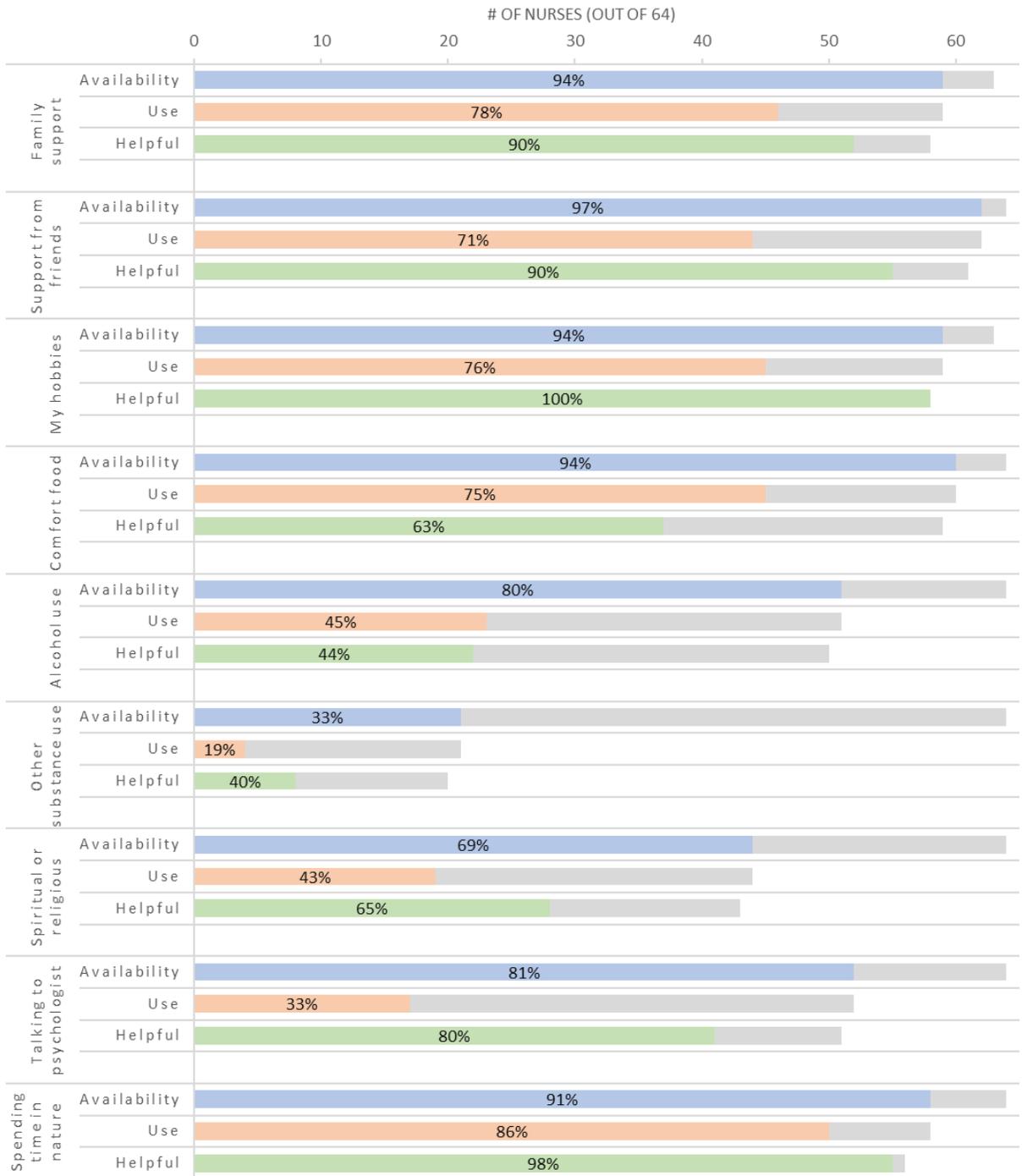
APPENDIX

A complete list of resources rated by nurses and physicians

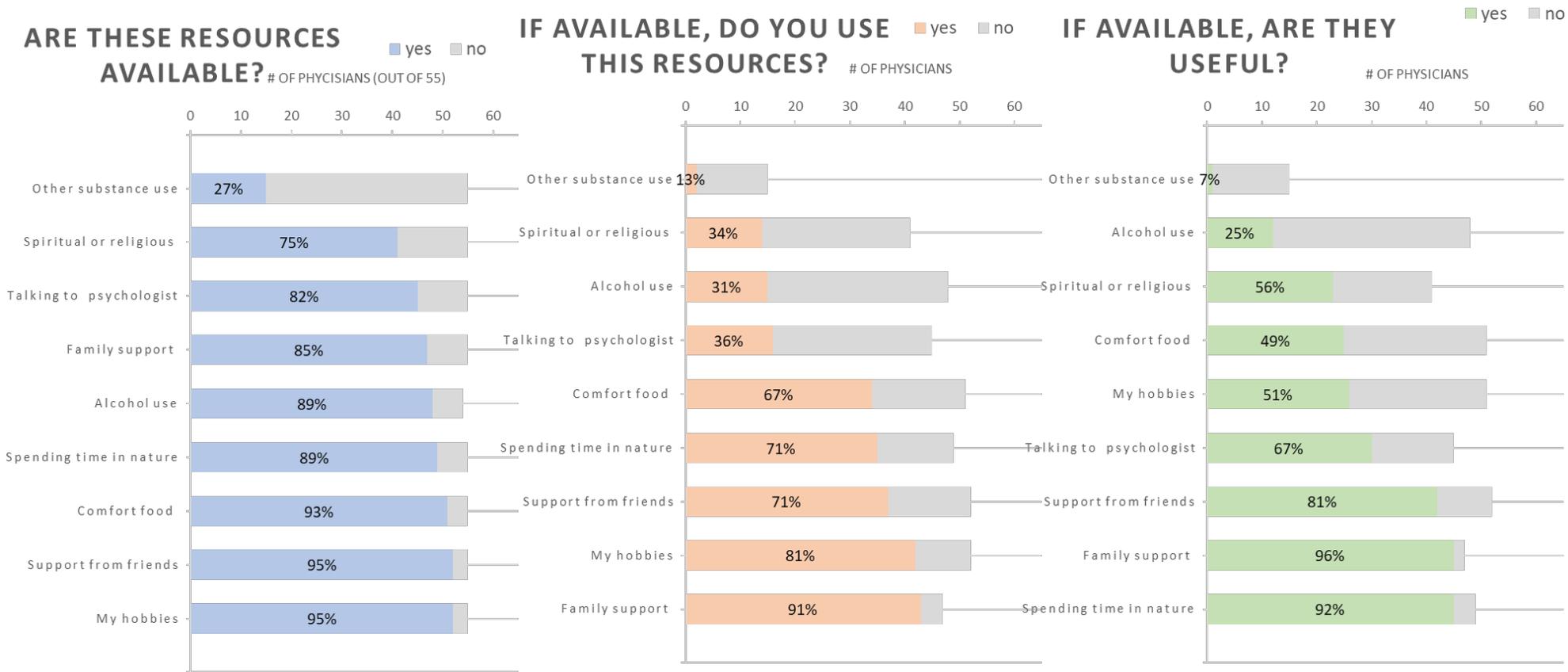
Nurses' personal resources



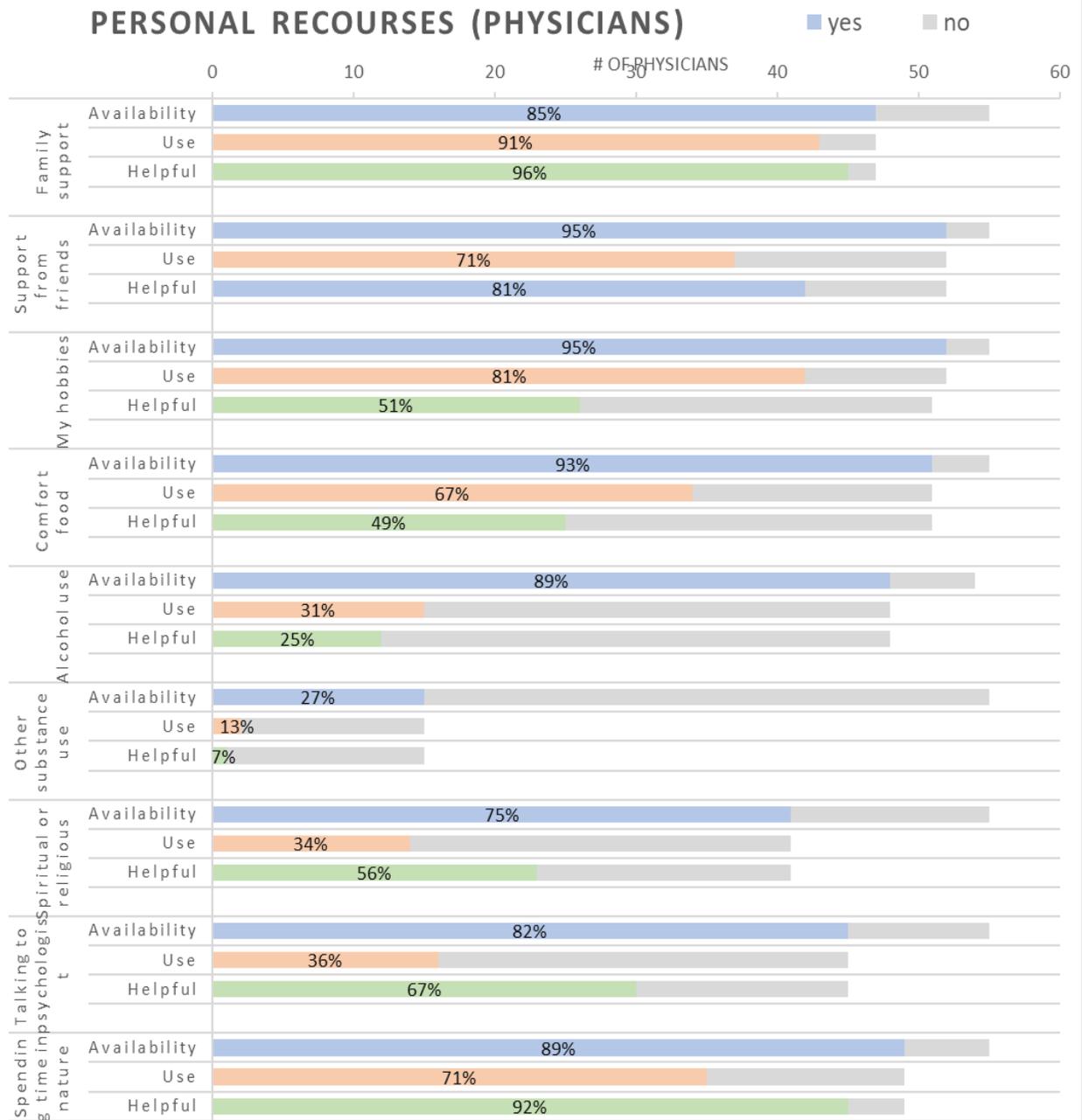
PERSONAL RECOURSES (NURSES)



Physicians' personal resources

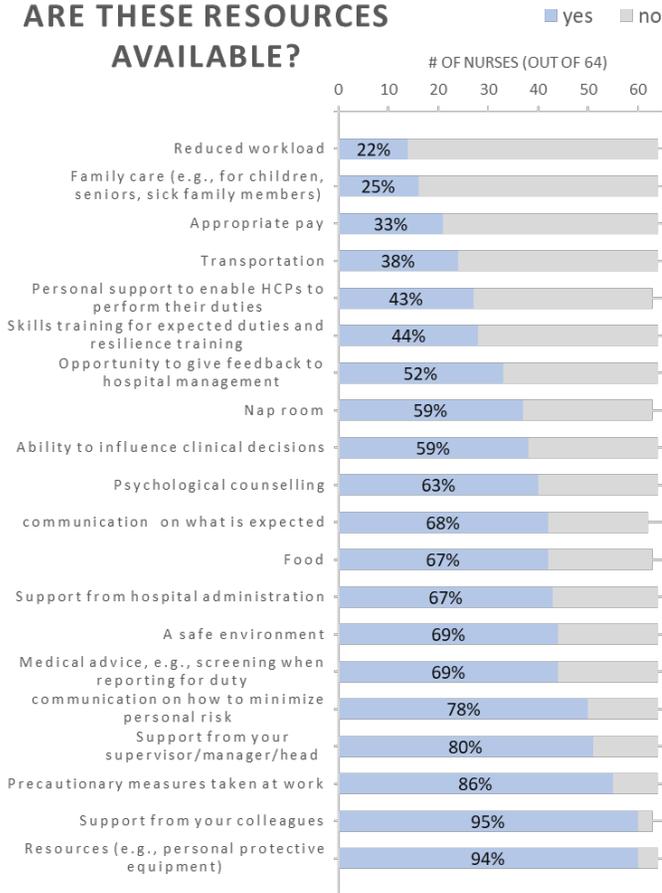


PERSONAL RECOURSES (PHYSICIANS)

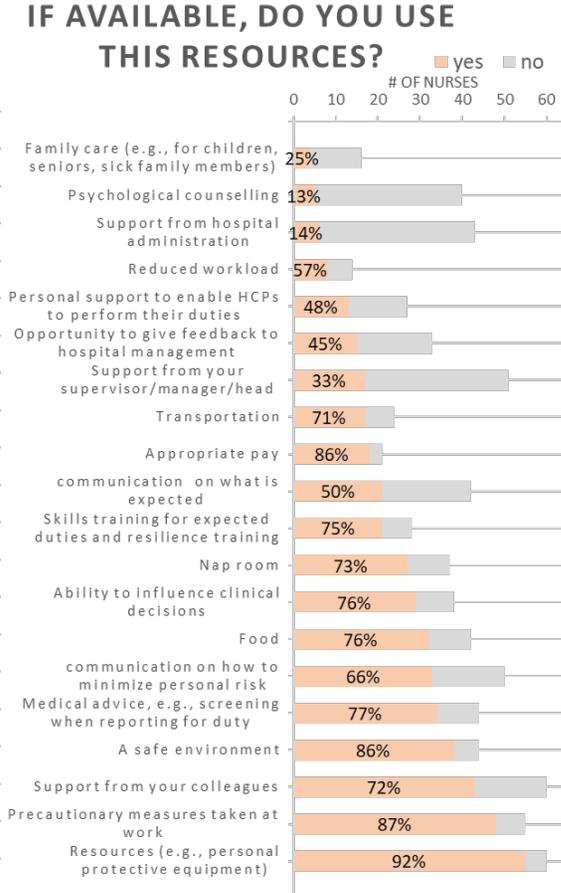


Nurses' hospital resources

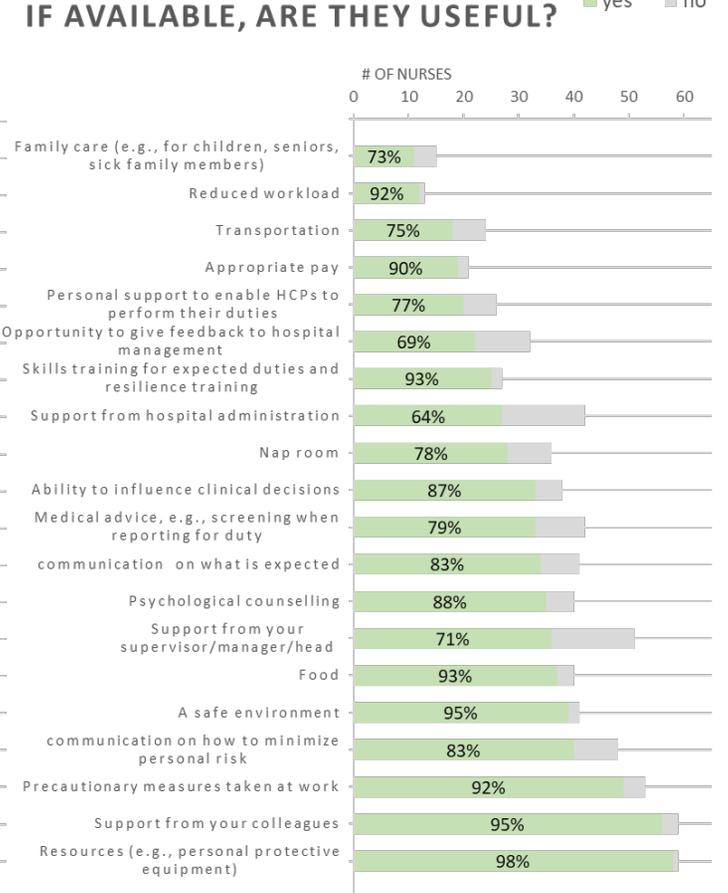
ARE THESE RESOURCES AVAILABLE?



IF AVAILABLE, DO YOU USE THIS RESOURCES?

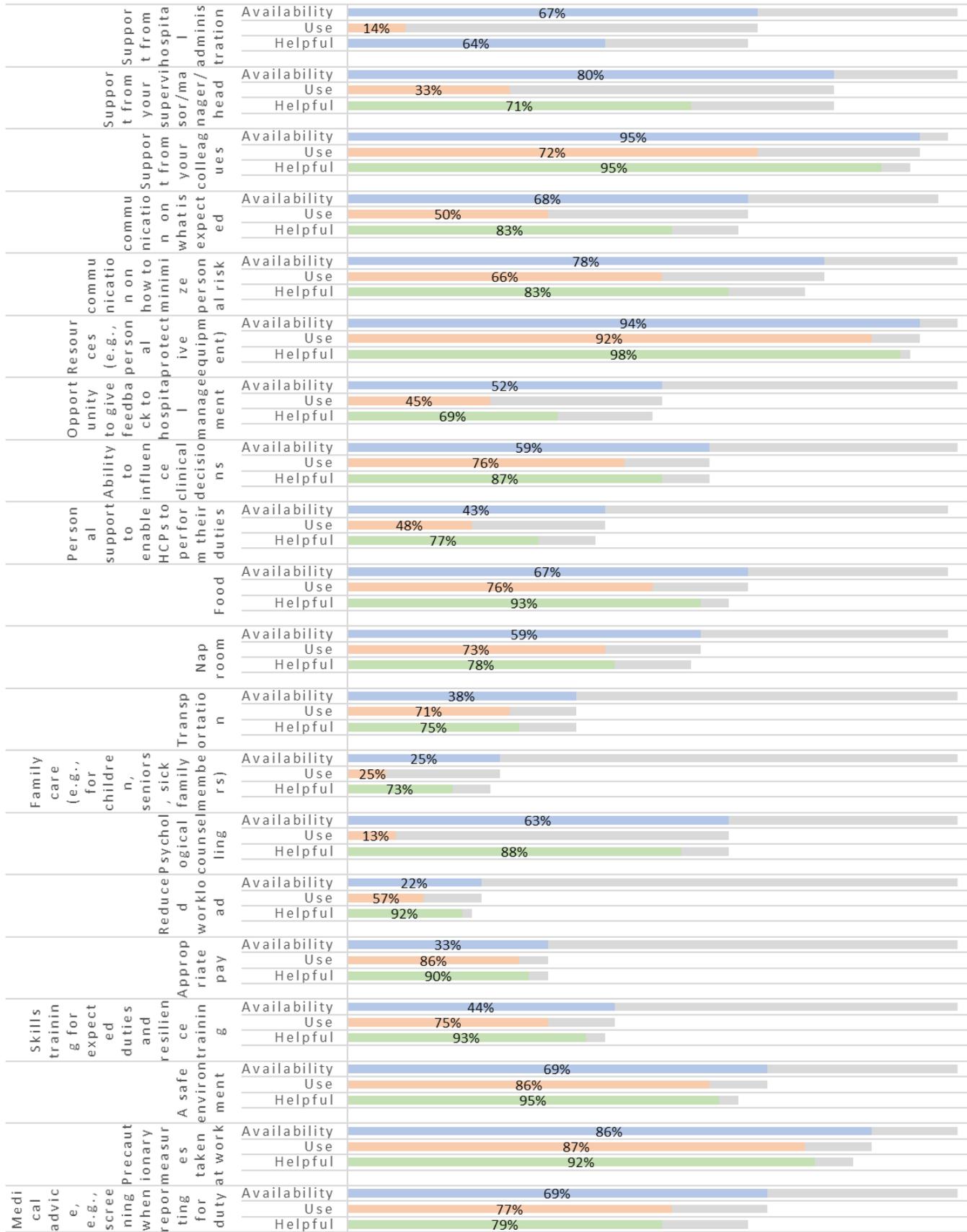


IF AVAILABLE, ARE THEY USEFUL?



HOSPITAL RECOURSES (NURSES)

OF NURSES (OUT OF 64)



Physicians' hospital resources

ARE THESE RESOURCES AVAILABLE?

■ yes ■ no

OF PHYSICIANS (OUT OF 55)

IF AVAILABLE, DO YOU USE THIS RESOURCES?

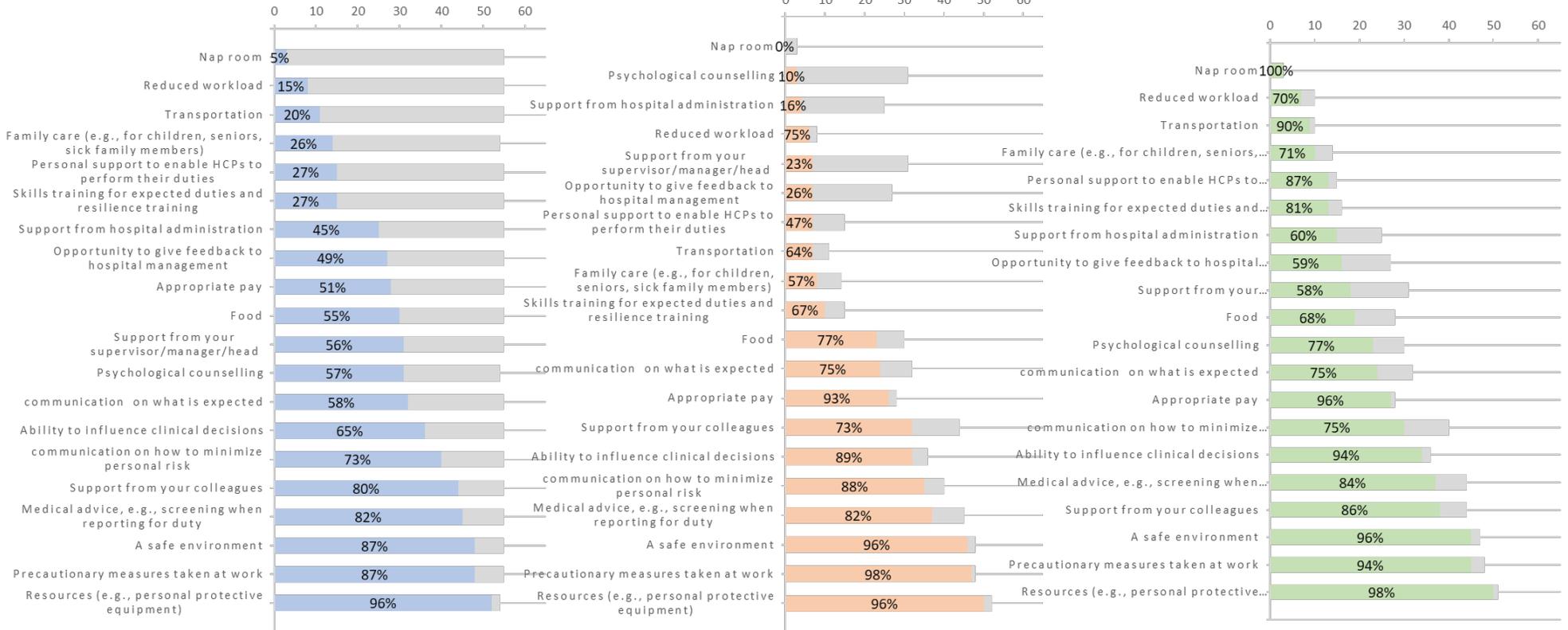
■ yes ■ no

OF PHYSICIANS

IF AVAILABLE, ARE THEY USEFUL?

■ yes ■ no

OF PHYSICIANS



HOSPITAL RECOURSES (PHYSICIANS) # OF PHYSICIANS

