

### Attachment 3: Factors affecting the mental health of medical students

Author	Year	Nation	Mental health symptoms	Positive factors	Negative factors
Michaeli et al. [57]	2022	Germany	<ul style="list-style-type: none"> <li>• Sleep problems</li> <li>• Irritability</li> <li>• Emotional instability</li> <li>• Anhedonia</li> <li>• Depression</li> </ul>	<ul style="list-style-type: none"> <li>• Social and emotional backing</li> <li>• Exercise</li> </ul>	<ul style="list-style-type: none"> <li>• Social isolation</li> <li>• Quarantine</li> <li>• Increased daily screen time</li> <li>• Poor network connection</li> <li>• Insufficient hands-on activities</li> </ul>
Li et al. [58]	2020	Canada	<ul style="list-style-type: none"> <li>• Anxiety</li> <li>• Stress</li> </ul>	<ul style="list-style-type: none"> <li>• Not mentioned</li> </ul>	<ul style="list-style-type: none"> <li>• Uncertainty about education and careers</li> </ul>
Guldager et al. [59]	2021	Denmark	<ul style="list-style-type: none"> <li>• Stress</li> </ul>	<ul style="list-style-type: none"> <li>• Living with parents</li> </ul>	<ul style="list-style-type: none"> <li>• Female</li> <li>• Increased tasks</li> <li>• Less than 21 years old</li> <li>• Single</li> <li>• Knew someone infected with COVID-19</li> <li>• Afraid of being infected</li> </ul>
Khan et al. [60]	2020	Bangladesh	<ul style="list-style-type: none"> <li>• Anxiety</li> <li>• Depression</li> <li>• Stress</li> </ul>	<ul style="list-style-type: none"> <li>• Physical exercise</li> <li>• Healthy Lifestyle</li> </ul>	<ul style="list-style-type: none"> <li>• Financial burden</li> <li>• Fear of infection</li> <li>• Inadequate food supply</li> <li>• Insufficient information</li> <li>• Overexposure to COVID-19 information</li> </ul>
Alqahtani et al. [61]	2022	Saudi Arabia	<ul style="list-style-type: none"> <li>• Anxiety</li> <li>• Stress</li> <li>• Fatigue</li> <li>• Sleep problems</li> </ul>	<ul style="list-style-type: none"> <li>• Not mentioned</li> </ul>	<ul style="list-style-type: none"> <li>• Poor sleep quality</li> </ul>

<b>Study</b>	<b>Year</b>	<b>Nation</b>	<b>Mental health symptoms</b>	<b>Positive factors</b>	<b>Negative factors</b>
Tahir et al. [62]	2021	Pakistan	<ul style="list-style-type: none"> <li>Anxiety</li> <li>Depression</li> </ul>	<ul style="list-style-type: none"> <li>Not mentioned</li> </ul>	<ul style="list-style-type: none"> <li>Internet addiction</li> <li>Poor sleep quality</li> </ul>
Cao et al. [63]	2020	China	<ul style="list-style-type: none"> <li>Anxiety</li> </ul>	<ul style="list-style-type: none"> <li>Living in city</li> <li>Stable family income</li> <li>Living with parents</li> <li>Social backing</li> </ul>	<ul style="list-style-type: none"> <li>Family or acquaintances infected with COVID-19</li> <li>Financial stress</li> <li>Disturbances to daily life</li> <li>Academic activities postponed</li> </ul>
Alzahrani et al. [64]	2022	Saudi Arabia	<ul style="list-style-type: none"> <li>Anxiety</li> <li>Depression</li> <li>Stress</li> </ul>	<ul style="list-style-type: none"> <li>Not mentioned</li> </ul>	<ul style="list-style-type: none"> <li>Female</li> <li>Smoking</li> <li>Insufficient physical exercise</li> <li>Lower resilience</li> <li>Reduced immune status</li> <li>History of chronic and mental illnesses</li> <li>COVID-19-like symptoms</li> </ul>
Xie et al. [68]	2020	China	<ul style="list-style-type: none"> <li>Anxiety</li> <li>Depression</li> </ul>	<ul style="list-style-type: none"> <li>Provide adequate and accurate information about COVID-19</li> <li>Proper COVID-19-based knowledge training</li> </ul>	<ul style="list-style-type: none"> <li>Overly concerned about the epidemic</li> <li>Informal information sources</li> </ul>
Xiong et al. [69]	2021	China	<ul style="list-style-type: none"> <li>Anxiety</li> <li>Depression</li> <li>Stress</li> </ul>	<ul style="list-style-type: none"> <li>Stress training</li> <li>Sense of control</li> <li>Reduction of perceived constraints</li> </ul>	<ul style="list-style-type: none"> <li>Lack of ability to distinguish correct information</li> </ul>

Study	Year	Nation	Mental health symptoms	Positive factors	Negative factors
Spatafora et al. [70]	2022	Germany	<ul style="list-style-type: none"> <li>• Depression</li> </ul>	<ul style="list-style-type: none"> <li>• Trust in the healthcare system</li> <li>• Provide student counseling and mental health care</li> </ul>	<ul style="list-style-type: none"> <li>• Fear of infection with COVID-19</li> <li>• Female</li> </ul>
Wu et al. [71]	2022	China	<ul style="list-style-type: none"> <li>• Anxiety</li> <li>• Depression</li> </ul>	<ul style="list-style-type: none"> <li>• Healthy diet</li> <li>• Positive coping</li> </ul>	<ul style="list-style-type: none"> <li>• Unvaccinated</li> <li>• Unhealthy diet</li> </ul>
			<ul style="list-style-type: none"> <li>• Sleep problems</li> </ul>	<ul style="list-style-type: none"> <li>• Completion of vaccinations</li> </ul>	<ul style="list-style-type: none"> <li>• Local family</li> <li>• Negative coping</li> <li>• Non-only child</li> </ul>
Lyons et al. [72]	2020	Australia	<ul style="list-style-type: none"> <li>• Psychological distress</li> </ul>	<ul style="list-style-type: none"> <li>• Resilience training</li> <li>• Exercise</li> <li>• Healthy diets</li> <li>• Self-efficacy</li> <li>• Rich interpersonal interaction</li> <li>• Optimists</li> <li>• Social support</li> <li>• Emotional flexibility</li> </ul>	<ul style="list-style-type: none"> <li>• Negative effects of COVID-19 on daily learning and life</li> <li>• Rising stress levels</li> </ul>
Allen et al. [73]	2022	The United Kingdom	<ul style="list-style-type: none"> <li>• Psychological distress</li> <li>• Anxiety</li> <li>• Loneliness</li> </ul>	<ul style="list-style-type: none"> <li>• Government's proactive response to the outbreak</li> <li>• Trust in government</li> <li>• Cultural beliefs</li> <li>• Values</li> <li>• Positivity</li> </ul>	<ul style="list-style-type: none"> <li>• Negative views and mindset</li> <li>• Wrong guidance from the government</li> <li>• Lack of PPE* and nucleic acid testing</li> <li>• Low well-being</li> <li>• Fake information</li> </ul>

PPE: Personal protective equipment.