

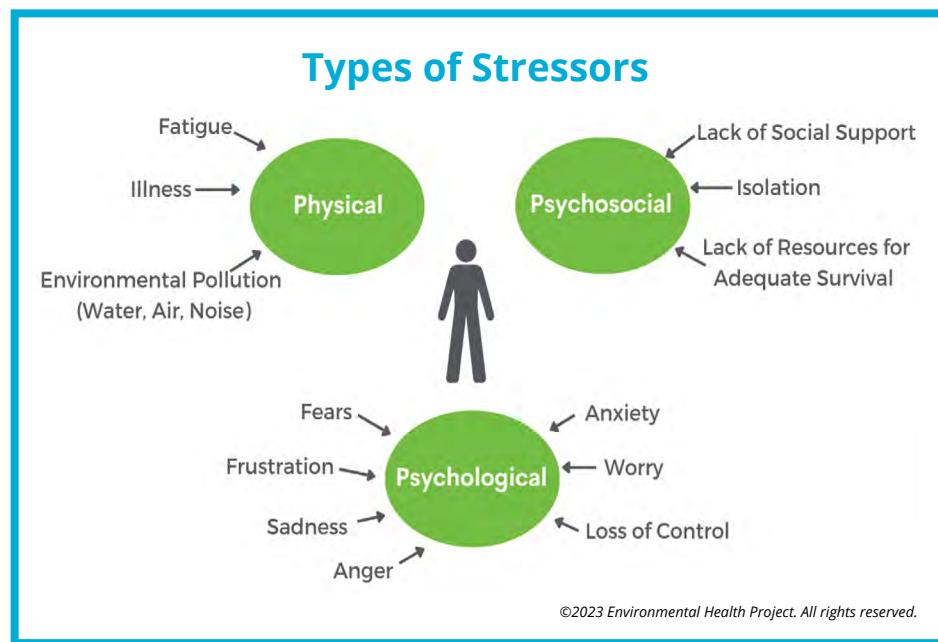
Mental Health and Shale Gas Development

Mental health is important at every stage of life, from childhood through adulthood. According to the Centers for Disease Control (CDC), mental health includes our emotional, psychological, and social well-being. Not only does it affect how we think, feel, and act but it can help us to better understand how we handle stress. It is important to remember that a person's mental health can change at any time due to various factors in their life. For example, if certain demands in a person's life exceed their coping abilities, their mental health may be impacted (Centers for Disease Control and Prevention, 2021).

Researchers have found that residents who live or work in a community with shale gas development (SGD), often called fracking, may experience a variety of environmental stressors, including:

- Noise, light, and vibration often lasting days or weeks at a time
- Air or water quality changes
- Uncertainty regarding potential toxic exposures
- Increased emissions, dust, and travel delays caused by truck traffic
- Uncertainty over health and that of family members

As this graphic shows, stress falls into one or more of the following categories:



Chronic or long-term stress can weaken the immune system and lead to serious health problems. These health problems may include heart disease, stroke, cancer, headaches, backaches, and high blood pressure. In addition, stress may lead to feelings of irritability, anxiety, and depression.

Research in recent years has resulted in a greater understanding of how those living near SGD can experience stress, anxiety, or depressed feelings.

- Aker et al. (2022) evaluated the association between shale gas well density/proximity and mental illness and substance use among 6,278 pregnant individuals who gave birth at Fort St. John hospital in Northeastern British Columbia, Canada, between December 30, 2006, and December 29, 2016. They found that there was some correlation between depression and proximity to shale gas wells for pregnant individuals living within 5 km (3.1 miles) and 10 km (6.2 miles). No association was observed for pregnant individuals living within 2.5 km (1.5 miles).

- Hirsch et al. (2018) reviewed 23 articles published between 2012 and 2017 to summarize what is known about SGD and psychological function. They found that residents near SGD experienced worry, anxiety, and depression about changes to their health, safety, lifestyle, financial security, and physical landscape.
- Casey et al. (2018) evaluated the association of SGD with depression symptoms and disordered sleep diagnoses using the Patient Health Questionnaire-8 and electronic health record data from Geisinger adult primary care patients in Pennsylvania. Analyses included 4,762 participants with no, mild, moderate, and moderately severe or severe depression symptoms in 2014–2015 and 3,868 disordered sleep diagnoses between 2009 and 2015. They found an association between living closer to more and bigger gas wells and depression symptoms but not disordered sleep diagnoses.
- Blair et al. (2017) conducted noise monitoring at four residences located between 320 m (1049.9 ft.) and 550 m (1804.5 ft.) from the center of an oil and gas well site between February and April 2017 when well pad construction and drilling activity occurred. The operations at this site used sound mitigation including the use of a sound wall that was 32 ft. high surrounding the site. Even with sound mitigation in place, they found that exposures to both audible and low-frequency noise exceeded the level that can cause annoyance, sleep disturbance, cardiovascular impacts, and other health effects.

Residents who are experiencing stress, anxiety, or depressed feelings should talk to a trusted health or mental health professional. More resources for support or assistance can be found on our website.



Photo courtesy of Scopio from NounProject.com

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