



Drones Having Psychological Impact on Soldiers

by Anthony Pino and Scott Pettigrew

Ukraine and Russia are using unmanned aerial systems (UAS) far more than combatants in previous conflicts, driving fear and anxiety in soldiers because of their pervasiveness, distinctive sounds, and high-profile exposure on social media. Ukraine has contracts to produce more than one million UAS—commonly referred to as drones—in 2024 to support combat operations.¹ Russia is also employing drones at a rate far exceeding past conflicts, including thousands purchased from Iran to augment its domestic fleet.² The daily presence of hundreds of drones on the battlefield has extended mental stressors beyond the fear of bombs, bullets, and isolation.

The fear and stress from near-persistent drone presence creates anticipatory anxiety, a form of post-traumatic stress disorder (PTSD) similar to the World War I (WWI) concept of shell shock and the World War II (WWII) concept of battle fatigue. Research on populations who live in fear of drone strikes has shown that persistent surveillance and intermittent missile strikes create apprehension toward routine behavior among the targeted population.³ Populations subjected to constant drone activity report “exaggerated startle responses, fleeing indoors and hiding when seeing or hearing drones, fainting, poor appetite, psychosomatic symptoms, insomnia, and startled awakening at night with hallucinations about drones.”⁴ In WWI, soldiers exposed to daily artillery fire developed “shell shock,” with symptoms including fatigue, headaches, confusion, and nightmares.⁵ Medical doctors determined the symptoms were purely psychological, with no evidence of physical injuries.⁶

The unique sound of drones is a psychological trigger. Drone engines and propellers produce a distinct sound, often heard on the ground, activating fear and anxiety and altering behavior.⁷ Civilians exposed to repeated drone attacks have been shown to change their patterns of life to avoid appearing suspicious or immediately seek cover when a drone is heard overhead, even when it cannot be seen.^{8,9} A journalist kidnapped by the Taliban in 2008 reported feeling fear even though he wasn’t the intended target: “The drones were terrifying...it is impossible to determine who or what they are tracking...the buzz of a distant propeller is a constant reminder of imminent death.”¹⁰ Even simulated drone presence can induce mental trauma. For example, according to players of an online video game that replicates drone warfare from the perspective of both the operator and the target, the game’s sights and sounds produce feelings of “anxiety, fear, disgust, and profound sadness.”¹¹



Fears can persist beyond the drone's presence, enhancing a soldier's anxiety and stress even when out of harm's way. Fear of the unknown can be severe even when not in combat. U.S. Army Soldiers anticipating future combat missions during the Vietnam War reported an increase in nonspecific medical complaints with no identifiable physical causes.¹² A psychiatrist with the 25th Infantry Division noted that when deployment to Vietnam was uncertain, there was an increase in psychiatric referrals and complaints that decreased once deployment became definite.¹³ Drones amplify the uncertainties of war because rear areas are less secure as long-range drones extend danger zones beyond that of artillery and rockets. The feeling of nowhere being safe exacerbates anxiety even when drones are not present. Some drones, such as first-person view (FPV) quadcopters, can maneuver around cover and pursue soldiers to deliver precise munitions with devastating effects.¹⁴ Traditional methods of using terrain and structures as protection from direct and indirect fires can be circumvented by highly maneuverable drones, limiting the ability of troops to protect themselves by seeking cover.

Social media videos magnify the threat and extend the fear beyond first-person battlefield accounts. In one video, a Russian soldier negotiates with a drone that has identified him. The soldier reveals the location of his comrade huddled nearby in a trench and gestures at the drone to attack his comrade instead of him. The drone operator obliges by dropping a grenade on his comrade, instantly decapitating him. The drone returns to finish off the first soldier in the same manner.¹⁵ Ukrainian military bloggers and social media account managers for military units recognize this and encourage the spread of fear. Ukrainians call their night-capable, large hexacopter "Vampire," but Russian soldiers call it *Baba Yaga*, a witch from Slavic folklore.¹⁶ Parents told their children stories about Baba Yaga to frighten them into obedience. As a result, Ukrainians publish FPV videos to social media accounts with haunting soundtracks, drones chasing down Russian soldiers, and quick cuts of agony to enhance the fear and convey a sense of "nowhere to hide."



Figure 1: Ukrainian "Vampire" or "Baba Yaga" drone.¹⁷

IMPLICATIONS FOR THE U.S. ARMY

The psychological effect of drones in the Ukraine conflict suggests several lessons related to their employment, as well as the prevention and treatment of drone-induced PTSD.

- **Employment.** Units could use the psychological effect of drones as a type of nonlethal fires. Targeted harassment could force the enemy to seek cover and disrupt their mission-oriented posture. Drones could be used as airborne obstacles by flooding specific areas with more extensive than usual presence, denying terrain, and channeling the enemy into areas that benefit friendly forces.
- **Prevention.** Research has shown that Soldiers who are well-trained and -led are less susceptible to the psychological trauma of war. By incorporating a more persistent UAS presence into live, virtual, and constructive training, units can build confidence in counter-UAS technology and weaponry and minimize the psychological effects. Additionally, several studies of battle fatigue revealed that PTSD among Gulf War soldiers was higher for those in units with leadership problems before deployment.¹⁸ American units with the lowest level of readiness before the WWII invasion of Normandy in 1944 reported more than double the rate of noncombat-related injuries as those with the highest readiness rates.¹⁹
- **Treatment.** PTSD treatment can reduce the impact of drone-induced mental trauma. Psychologists in WWI believed that shell shock could be successfully treated through cognitive and affective reintegration.²⁰ Their approach included timely treatment at a safe location near the front while communicating to the Soldier that they would return to their unit.²¹ For Soldiers exhibiting mental strain, early treatment is crucial to reducing the symptoms and returning the Soldier to duty and combat readiness quickly.



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