

## Factors Predicting the Development of Psychopathology Among First Responders: A Prospective, Longitudinal Study

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**Objective:** Previous research has shown that first responders exhibit elevated rates of psychopathology. Factors predicting the development of this psychopathology, however, remain understudied. This study longitudinally examined predictors of posttraumatic stress disorder (PTSD), depression, and anxiety symptoms in first responders. **Method:** Participants included 135 emergency medical service (EMS) providers. Multiple linear regressions were used to model predictors of change in PTSD, depression, and anxiety symptomatology from baseline to 3-month follow-up. Baseline levels of social support, sleep, emotional stability, and perceived stress were examined as potential predictors. **Results:** Results revealed that (a) increases in PTSD symptoms, (b) increases in depression symptoms, and (c) increases in anxiety symptoms at 3-month follow-up were each predicted by worse sleep and lower social support at baseline. In particular, the sleep subscale of disturbed sleep and the social support subscale of appraisal appeared to be driving these effects. **Conclusion:** These results highlight the importance of social support and sleep hygiene in protecting against increases in psychopathology symptoms in EMS providers, and set the stage for future interventions to target sleep disturbances and encourage deeper social connections in order to foster resilience in first responders.

### Clinical Impact Statement





This study finds that poor sleep hygiene and lower social support are key risk factors for posttraumatic stress disorder, depression, and anxiety symptoms in paramedics and emergency medical technicians. Specifically, having trouble sleeping and not having someone to confide in predict increases in these symptoms 3 months later.

**Keywords:** first responders, psychopathology, social support, sleep, stress

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Emergency first responders are exposed to highly stressful and often traumatic events at frequencies far beyond that of almost any

other occupation (Haugen, Evces, & Weiss, 2012). The nature of the job involves processing rapid influxes of critical information while making life and death decisions, often under extreme time pressure. Perhaps unsurprisingly, therefore, research on firefighters, police officers, and emergency medical service (EMS) providers (paramedics and emergency medical technicians [EMTs]) has consistently found them to exhibit elevated rates of stress-linked psychopathology (Alexander & Klein, 2001; Morganstein, Benedek, & Ursano, 2016). For example, whereas in the general population the 12-month prevalence rate of depression is 7%, the point prevalence rate of depression in first responders ranges from 15% to 26% (Kessler, Chiu, Demler, Merikangas, & Walters, 2005; Kleim & Westphal, 2011). Lifetime prevalence rates of PTSD range from 7% to 10% in the general population and 8% to 11% in adults who have been exposed to at least one traumatic event (Kilpatrick, Badour, & Resnick, 2017). In first responders, a

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