# HEALTH RESEARCH ABSTRACT SUBMISSIONS #39

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| **Educational Level** * | Undergraduate |
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| **College** * | College of Nursing |
| **Department** * | Not Applicable |
| **Title of Research** * | Is Sleep Deprivation Related to Obesity Among Law Enforcement Officers? |
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| **Introduction & Purpose** * | Sleep deprivation may play a role in the prevalence of obesity. The mechanisms responsible for obesity are not fully understood. Cortisol and C-reactive protein (CRP) are two biochemicals elevated in obese individuals and individuals who experience sleep loss. Literature suggests that chronic fatigue and obesity are problems among law enforcement officers (LEOs) but the relationship among the two has not been explored.<br><br>Purpose-To describe sleep patterns among LEOs and examine the relationship between sleep duration, sleep quality, CRP, cortisol, and body fat. |
| **Experimental Design** * | Cross-sectional study of 84 male LEOs ages 20-63 in a Midwestern community. Sleep was assessed using the Pittsburgh Sleep Quality Index (PSQI). Salivary cortisol was collected upon wakening of the subjects, 30 minutes later, and then again 12-14 hours later. Other measurements included BMI and body fat percent—measured with dual energy x-ray absorptiometry (DXA). Serum CRP levels were drawn at random times and assayed using sandwich enzyme IA techniques. |
| **Results** * | The non-day shift workers were twice as likely to self-report poor sleep quality than counterparts on the day shift and were more than 6 times as likely to report getting less than 6 hours of sleep per night. Sleep time (hours) was inversely correlated with the cortisol workday diurnal variance and was significant where r=-0.23 (p=0.0056) as greater sleep time correlated with a greater difference in the a.m. cortisol value and the nighttime value. |
| **Conclusions** * | Poor sleep is of concern for a high proportion of LEOs, especially those working evening and night shifts. The data suggests that sleep may be associated with an individual's cortisol secretion pattern. Although a high proportion of police officers were obese as defined by % body fat, this was not directly related to sleep loss or the cortisol secretion pattern. Better understanding of the relationship between sleep and obesity will help direct future interventions. |

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