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### **E90 Statistical Analysis of Key Components of Alcohol-Related Sexual Assault in the Military**

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After attending this presentation, attendees will understand the pervasiveness of alcohol as a contributing factor in sexual assault and the importance of applying a holistic approach when investigating such a complex crime as sexual assault, breaking down key components of sexual assault into the offender and victim demographics, and environmental and social factors combined with the proper identification, collection, and examination of physical evidence.

This presentation will impact the forensic science community by providing results from a statistical analysis of 317 sexual assault Reports Of Investigation (ROIs) investigated by four different geographically dispersed field offices of the United States Army Criminal Investigation Command (CID) over a two-year period (2012 and 2013), providing a broad perspective that forensically encompasses the identification, collection, preservation, and laboratory examination of physical evidence (i.e., DNA, fingerprints, or hair/fibers) as well as the analysis of intangible components of a crime.

Analysis of 317 sexual assault ROIs were categorized into sex (male versus female); alcohol-related versus non-alcohol-related sexual assault; four demographic age groups (18-25 years old, 26-34 years old, 35-49 years old, and 50 years and older); four different military rank groups (Enlisted Rank E1-E4, Enlisted Rank E5-E9, Officer Rank O1-O5, and Warrant Officer Rank WO or Civilian); and a monthly breakdown of ROIs (January through December, 2012 and 2013) in order to identify the age and rank groups of offenders and victims who were at the highest risk of being involved in alcohol-related sexual assault and to determine if seasonal climate changes were a contributing factor in the increase in alcohol-related sexual assault. This study used a quantitative analysis, using a contingency table analysis (the Chi-square analysis). It determined that the offenders and victims of all age and rank groups were in the likelihood of being involved in alcohol-related sexual assault with the p value greater than .05, except for the offender age group 50 years or older, ( $X^2(1, N=164)=4.01, p=.045$ ). Using the ratio comparison method, this study determined that 65% (207 of 317) of sexual assaults were alcohol related; 53% (109 of 207) alcohol-related sexual assault offenders and 72% (148 of 207) alcohol-related sexual assault victims were 25 years of age or younger (referred to as the target age group hereafter); 54% (112 of 207) alcohol-related sexual assault offenders and 56% (115 of 207) alcohol-related sexual assault victims were in the rank of E4 and below (referred to as the target rank group hereafter). Further, the analysis of the climatic factor confirmed a correlation between warm weather and the prevalence of alcohol-related sexual assault.

In conclusion, this study statistically substantiated that the offenders and victims of the target age and rank groups were at a higher risk of becoming an offender and/or a victim of alcohol-related sexual assault than those in all other age and rank groups. This study also substantiated that warm weather was a contributing factor in alcohol-related sexual assault. According to the military demographics prepared in 2012, service members who were 25 years old or younger made up 42.7% of the total active service member population (1,388,028). Well-thought-out alcohol-related sexual assault prevention policies and programs tailored to the target age and rank groups can potentially prevent the 42.7% of active duty population from becoming offenders or victims of sexual assault while enabling society to save an untold amount of resources (i.e., the laboratory expenses and/or investigative hours) associated with the conduct of sexual assault investigations.

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#### **Alcohol, Sexual Assault, Military**