

Based on example and data in: Kirkpatrick, L. A., & Feeney, B. C. (2003). *A Simple Guide to SPSS for Windows (revised edition)*. Belmont, CA: Wadsworth/Thomson Learning.

A one-way between-groups Analysis of Variance (ANOVA) was performed to determine whether 5-year-old children of secure, avoidant, and anxious-ambivalent attachment styles differ in their sleeping patterns. It had been hypothesized that insecurely attached children may less time in deep sleep than securely attached children. The ANOVA used the percentage of sleep time spent in deep (delta) sleep as the dependent variable. The overall ANOVA was significant,  $F(2,27)=41.43$ ,  $p<.01$ ,  $\eta^2 = .75$ , and the effect was a very strong one with attachment style accounting for 75% of the variance in deep (delta) sleep. A Tukey post-hoc test was used to determine significant differences among the three attachment style groups. The securely attached children ( $M = 22.60$ ,  $SD = 1.26$ ) spent a significantly higher proportion of sleep time in deep (delta) sleep than both the anxious children ( $M = 15.90$ ,  $SD = 2.28$ ) and the avoidant children ( $M = 17.50$ ,  $SD = 1.43$ ). There was no significant difference between the anxious and avoidant children. The study illustrated a strong link between a 5-year-old's attachment style and the proportion of time spent in deep sleep, with securely attached children spending a higher percentage of sleep time in deep (delta) sleep than the anxiously and avoidantly attached children. Of course, it is difficult to make a firm cause and effect inference given the possibility of potential confounding variables that may covary with attachment style. In addition, this analysis focused on proportion of sleep time spent in deep sleep and did not take into account possible differences in total sleep time. However, the securely attached children did spend more time in deep sleep than children with insecure (anxious or avoidant) attachment styles.

Note:  $\eta^2 = SS_{\text{between}} / SS_{\text{total}} = 244.867/324.667 = .75$ .