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**Children's Sleep in the Family Environment:
A Pilot Study Using Actigraphy with
6 – 8-Year-Old New Zealand Children**

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Diane P. Muller

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Abstract

Historically, children were considered to rarely experience sleep problems and daytime sleepiness in middle childhood (5 – 12-years of age), however more recent findings indicate this may have changed. Psychosocial and environmental factors, such as technology use and bedtime routines, have been associated with reduced sleep quantity and/or quality. Links have also emerged between shorter sleep duration in children, and an increased risk of obesity in childhood and adulthood. Although a number of studies have investigated children's sleep internationally, data are limited on both average sleep duration and the stability of sleep patterns of New Zealand children. This study aimed to collect normative data on the sleep of 6 – 8-year-olds, living in New Zealand, across both school and non-school nights, identify modifiable factors that impact on children's sleep within the family environment, explore the relationship between children's sleep and BMI, and pilot methods for potential future research. Actigraphy and diaries were used for seven consecutive days and nights, as well as a questionnaire incorporating the Children's Sleep Habits Questionnaire (CSHQ), with 52 families living in the Wellington region. Stable objectively measured sleep patterns were identified, consistent with findings of Nixon et al. (2008). School night sleep duration was found to be, on average, longer than non-school night sleep, and parents tended to over-estimate their children's sleep duration. Mean school night sleep duration was 9.9 hours ($SD = 0.5$) and non-school night sleep duration was 9.5 hours ($SD = 0.7$). No differences were identified between boys' and girls' sleep, and the 14% of children categorised as being overweight did not exhibit significantly different sleep patterns from the rest of the sample. Modifiable factors of technology and caffeine use were associated with differences in children's sleep, as were non-modifiable familial factors of shiftworking adults living in the home, childcare duration and finishing times, and younger children in the household. Recommendations for future research include increasing the size and diversity of the sample, extending actigraphic recording to at least 10 consecutive days and nights to incorporate two weekends, using PSG with a sub-sample of children, and implementing a longitudinal study.

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