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As you are aware over the last few years we have been working on sleep patterns in developmental syndromes. With your grant support, we have been able to make an initial extension of our research to the study of sleep patterns in Williams syndrome. This first phase of our research involved sending sleep questionnaires to 170 parents of children with WS, and the use of actigraphs (little computers the size of tiny watches that children wear 24 hours a day and which record their sleep/wake patterns) with 20 children with WS. So far, our results have shown that most school-aged children with Williams syndrome (WS) and with Down syndrome (DS) suffer from a variety of sleep disturbances, but these turn out to be of a different nature across the two syndromes. Both syndromes display problems with sleep onset and sleep anxiety, but those with WS show greater sleep onset problems, whereas those with DS display obstructive sleep breathing (apnea). Moreover, sleep length shows great individual differences, with some children sleeping the normal 7 hours whereas others engage in nearly 13 hours of sleep per night. Despite this, 61% of children with WS are sleepy during waking hours. Finally, children with WS report body pains during the night which cause disruptions in sleep cycles.

We know from research on animals and on human adults that sleep plays a critical role in the consolidation of learning and affects creativity. We therefore believe that it is critical to continue our sleep studies, examining syndrome-specific sleep disturbances and patterns of REM and non-REM sleep in far more depth and on a much larger population. If we find that memory and creativity are affected by sleep disturbances in Williams syndrome, our studies will clearly have important implications for intervention.

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#### Recent references

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