THE ROLE OF GENES AND ENVIRONMENT IN ATTENTION PROBLEMS THROUGHOUT AGING

Kees-Jan Kan, PhD
Department of Biological Psychology, VU University, Amsterdam, The Netherlands

Not all adults originally diagnosed with attention deficit/hyperactivity disorder (ADHD) during childhood still meet the full criteria for ADHD by 25 years of age, fifteen percent do, however, and 65% continue to exhibit symptoms, such as having attention problems. ADHD therefore demonstrates both change and stability.

A Twin Study of Attention Problems

Dr. Kees-Jan Kan and colleagues conducted a retrospective, longitudinal twin study to examine how environmental and genetic factors contribute to change and stability in attention problems. The study was based on data from The Netherlands Twin Registry, which is now in its 25th year. Symptom ratings for attention problems of more than 44,000 children, adolescents, and adult twins were analyzed. For twins up to 12 years of age these symptom ratings were provided by their mothers. Older twins provided self-ratings.

There wasn’t much heritability research in attention problems or ADHD in adults, says Dr. Kan. “Most of the existing studies are limited to children, which suggests that genetic or environmental effects change somehow between childhood and adulthood.” However, this has not been previously investigated.

To get a developmental view of attention problems, Dr. Kan employed a statistical model that effectively pooled together overlapping repeated measures of the Dutch twin sets registered at birth and the twin sets that were recruited later. This provided a study population ranging from early childhood to late adulthood. This study evaluated subjects’ mean scores for attention problems. Subjects were not assessed using ADHD diagnostic criteria, and this study did not account for any existing ADHD diagnoses.

Research Findings

Individual differences in attention problems turned out to be quite stable, especially in adulthood. Stability was due to both genetic and environmental factors. Changes were also present. These were mainly due to environmental factors. Environmental effects appear to accumulate throughout the lifespan of attention problems.

Conclusions

Individual differences in attention problems are stable throughout the lifetime, but changes are present as well. Environmental effects keep accumulating throughout the lifetime and therefore play an important role in the development of attention problems.

“Environmental effects clearly affect the prominence and prevalence of attention problems,” says Dr. Kan. “Existing research shows that low birth weight appears to have an association with developing attention problems and ADHD, but, in general, we know very little about other potential environmental factors. Our findings make a case for further research into what kind of environmental factors are at play in attention problems. Greater knowledge of these factors could allow us to recognize and modify them early on, potentially affecting the severity and prevalence of attention problems throughout adulthood.”

PHOTO: "This is therapy. I’m not trying to ‘push you out’.", flickr.com/photos/heretoforth/5666290872

References:

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