gression to learning problems such as attention deficit disorders to physical problems such as obesity. However, few studies look at the etiology of television viewing itself. Previous analyses of Colorado Adoption Project (CAP) data for children at ages 3, 4, and 5 demonstrate that there is a genetic contribution to time spent watching television (R. Corley, J. C. DeFries, and D. W. Fulker, 1990, Psychological Science, 1, 371–377). We now extend the previous study, using both a larger sample and data collected at later ages to conduct parent–offspring and sibling analyses. For CAP probands, matched controls, and their younger siblings, interview data on television viewing have been collected from parents at ages 3–8 and by self-report at ages 9–15. Further, 185 proband and 7 sibling 16-year-olds have completed a paper-and-pencil report identical to the one completed by both biological and rearing parents on their entry into the project. Paper-and-pencil data are also available from 179 older siblings of the core CAP subjects. Although the previous results suggest that the genetic influence on television watching found in early childhood is not mediated through IQ or temperament, we reexamine these possible mediators as well as other factors such as activity level as measured in infancy and early childhood. Preliminary exploration of consequences of television viewing are also discussed.

Soo Hyun Rhee,339 Irwin D. Waldman,340 David A. Hay,341 and Florence Levy,342 Sex Differences in Genetic and Environmental Influences on DSM-III-R Attention-Deficit Hyperactivity Disorder (ADHD). Approximately 5% of all school-aged children are diagnosed with attention-deficit hyperactivity disorder (ADHD). More boys are affected than girls, with reported sex ratios ranging from 3:1 to 8:1. Conclusive evidence has not yet been found for the causes of ADHD or of sex differences in the prevalence and liability for ADHD. In the present study, we examined genetic and environmental influences on ADHD, as well as a number of different questions regarding sex differences in the prevalence and liability for ADHD. The subjects were 2350 4- to 14-year-old pairs of male and female twins and their nontwin siblings sampled from the Australian NIMHRC Twin Registry, a nationwide, population-based volunteer registry. Zygosity was determined from mothers’ responses to questions concerning the zygosity and physical similarity of the twins. The twins’ mothers completed a questionnaire assessing the presence of the 14 DSM-III-R ADHD symptoms. Due to departures from normality, the log-transformed number of ADHD symptoms was used in analyses in addition to the actual number of symptoms. The DeFries and Fulker (DF) multiple regression analysis of twin data (J. C. DeFries and D. W. Fulker, 1985, Behav. Genet., 15, 467–473) and its extensions were used to test for additive genetic, dominance, and environmental influences on ADHD. Two models, the polygenic multiple threshold model and the constitutional variability model, have been proposed in the past to explain sex differences in the prevalence of ADHD. Extensions of DF analysis also were used to contrast these two sex difference hypotheses. The results suggest that ADHD is highly heritable and does not appear to be influenced by shared environment \( h^2 = .92 \pm .07 \) (SE), with 8% of the variable attributed to nonshared environment and measurement error. Evidence tended to support the polygenic multiple threshold model as opposed to the constitutional variability model of sex differences in ADHD. Little evidence for sex moderation of \( h^2 \) and \( c^2 \) was found, and specific genetic influences were highly similar, though not identical, for males and females.

Marjolein J. H. Rietveld,343 C. E. M. van Beijsterveldt,344 J. R. Koopmans,344 and D. I. Boomsma.345 P300 in Twins and Alcohol Use in Parents. Measures of event-related brain potential (ERP) were recorded from 213 adolescent twin pairs. A visual oddball task was used to elicit the P300 ERP component: Two types of stimuli were presented, infrequent stimuli and frequent stimuli. The subjects were instructed to count the infrequent stimuli. P300 was recorded at 14 positions on the scalp. Differences in the P300 amplitude have been associated with differences in family history of alcoholism and alcohol consumption in children of alcoholics (J. P. Polich, V. E. Pollock, and F. E. Bloom, 1994, Psychological Bulletin, 115, 55–73). The present study explored the relationship between P300 amplitude measured in twins and alcohol consumption of their parents. A total of 153 twin pairs who participated in the ERP experiment provided information on their alcohol use by questionnaire. This information was also obtained from both parents. Alcohol use in parents was divided into two categories based on the average consumption of the sample. Fathers who drank no or less than 14 glasses a week were considered light drinkers; those who drank 14 glasses or more were classified as heavy drinkers. For mothers the average was 6 glasses a week. P300 as elicited by the infrequent stimuli was influenced by parental alcohol use. When mother’s alcohol consumption was low there was a clear difference between offspring of fathers with a low and a high consumption: children of fathers with a high consumption had a lower P300. However, this trend was reversed in offspring of mothers with above-average alcohol consumption. There was no difference in P300 amplitude between twins who used alcohol themselves and twins who did not.

F. V. Rijndijk,346 P. A. Vernon,346 and D. I. Boomsma.347 Genetic Mediation of the Correlation Between Peripheral Nerve Conduction Velocity and IQ. It has been suggested that both brain nerve conduction velocity and peripheral nerve conduction velocity (PNCV) are correlated with intelligence as a result of genetic variability in the structure and amount of transmission proteins which set limits on information processing rates (T. E. Reed, 1984, Nature, 311, 417). Therefore, heritable differences in NCV may explain part of the well established heritability of intelligence. Vernon and Mori (1992, Intelligence, 16, 273–288) were the first to find significant correlations between PNCV and MAT IQ, but up till now, these results were not replicated. PNCV and WAIS IQ (Dutch translation) were obtained in a group of 318 17-year-old Dutch twins. The phenotypic correlation between PNCV and WAIS IQ-score was statistical significant but low in magnitude (.16). Genetic analyses showed that this correlation was due solely to genetic factors (genetic correlation was .19). There was no environ-

339 Department of Psychology, Emory University, Atlanta, GA 30322.
340 Department of Psychology, LaTrobe University, Bundoora, Victoria 3083, Australia.
341 Department of Child and Adolescent Psychiatry, The Prince of Wales Children’s Hospital, High Street, Randwick, NSW 2031, Australia.
342 Department of Psychopharmacology, Vrije Universiteit, De Boelelaan 1111, 1081 HV Amsterdam, The Netherlands.
343 Department of Psychonomics, Vrije Universiteit, De Boelelaan 1111, 1081 HV Amsterdam, The Netherlands.
344 Department of Psychology, University of Western Ontario, London, Ontario, Canada N6A 5C2.