

# twin research and human genetics

The official journal of the **International Society for Twin Studies** and the **Human Genetics Society of Australasia**

Covering all areas of  
human genetics  
with an emphasis on  
twin studies, genetic  
epidemiology, psychiatric  
and behavioral genetics,  
and research on  
multiple births in the  
fields of epidemiology,  
genetics, endocrinology,  
fetal pathology, obstetrics  
and pediatrics.

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**Nicholas G. Martin**

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*Twin Research and Human Genetics* is the official journal of the International Society for Twin Studies and, as such, is the successor journal to *Acta Geneticae Medicae et Gemellologiae*, which was founded in 1952 by Luigi Gedda. He edited it until its cessation in 1998, with Paolo Parisi as Acting Editor and then Executive Editor from 1968 to 1992. *Acta* became the official journal of ISTS when the society was established in 1974. The subtitle *Twin Research* was adopted in 1979. It was published by The Mendel Institute in Rome, except for the years 1979 to 1983, when it was published jointly with Alan R. Liss in New York.

*Twin Research* itself was founded in 1998 by Robert Derom, who edited it in 1998 and 1999. It has been edited by Nick Martin since 2000. It was published by Stockton Press (which became part of Nature Publishing Group) from 1998 to 2000, and since 2001 has been published by Australian Academic Press.

The title *Twin Research and Human Genetics* was adopted from the beginning of Volume 8 in 2005 and is a translation of *Acta Geneticae Medicae et Gemellologiae*, Luigi Gedda's original title.

In 2008, *Twin Research and Human Genetics* was also adopted as the official journal of the Human Genetics Society of Australasia.

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generally attenuated and most estimates were close to 1 (HR = 1.02 (CI 95% (0.77–1.36) to HR=1.12 (CI 95% 0.77–1.62)), except for men born 1921–35 who displayed estimates of the same magnitude as in the standard analysis. For the largest educational contrasts ( $\leq 7$  years vs. 15+ years), education still seemed to have an independent effect on mortality risk. We found no significant effect modification of education by zygosity. **Conclusions:** Since associations were attenuated in the intra-pair analyses and no differences in effect were observed among MZ and DZSS twin pairs, the results are most compatible with an effect of early environment in explaining the educational inequality in mortality. However, for males born 1921–35, there might be a more direct effect of education on mortality. Large educational differences were still reflected in mortality risk within twin pairs.

### THE INDIVIDUAL DIFFERENCES IN TEMPERAMENT IN RUSSIAN ADOLESCENT TWINS AND SINGLETONS

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We have conducted the comparative analysis of means on the M. K. Rothbart's temperament questionnaire in twins and singletons, both groups aged 10 to 17 years old. Non-twin children from the younger group (10–14 years old) had higher scores on Activation Control, Inhibitory Control, Attention, Frustration, Aggression and Depression scales, that is, on Effortful Control and Negative Affectivity. Younger group of adolescent twins (10–14 years old) are less frustrated, aggressive and depressive, and at the same time, they have lower self-regulation scores in comparison to singletons. Non-twin children from the older group (15–17 years old) reported having higher scores on Fear, Sadness, and Affective and Associative Perceptual Sensitivity scales. Twins of this age have higher Sociability scores. The slightly higher emotional background is more characteristic of twins than singletons. The gender differences were also found for the scales of M. K. Rothbart's temperament questionnaires. Female twins from the 10- to 14-year-old group have higher scores on Affiliation, Depression, Fear and High Intensity Pleasure scales male twins from this younger age group had higher scores on Activity. Female twins from the 15- to 17-year-old group have higher scores on Fear, Sadness, Affective and Associative Perceptual Sensitivity male twins from this older age group have higher Activation Control and Higher Intensity Pleasure. It's worth mentioning that gender differences in twins are less pronounced than in general sample of singletons, but the main patterns remain: boys are more active and girls are more emotional.

### FAMILY CHANGES IN TWIN PREGNANCIES

L.A.M. Manue

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The studies developed in recent decades brought about a more effective intervention with families, but the complexity and diversity associated, continually places us new questions. In this context, the understanding of how the family reorganizes and adapts to twin parenthood is still little explored. The objective of this study is to search for specific experiences, of how the families adapt to twins, and how family cohesion after the birth of twins evolves. To this end, we developed a quantitative, longitudinal, descriptive, correlation of repeated measures study between 2001 and 2009. The sample consisted of 35 families with twins born in 2001 in a hospital located in the North of Portugal, and of which 29 cases finished the monitoring process. The instruments of data collection were questionnaires carried out in five moments where the three latter were self-filled and sent and received by conventional mail. The study focused on the control of the following variables: socio-demographic characteristics, perception of family functioning, family cohesion, family adaptability, the nature of the pregnancy, concerns about the future, resources recognized by the family, depression and allocation of

family roles. To operationalize it, we used the following instruments: FACES III (Family Adaptability and Cohesion Evaluation Scale) – Olson H. Portner, J. and Lavee, Y. (1985) family rating scale APGAR family is a scale developed by Smilkstein (1978) EPDS (Edinburgh Postnatal Depression Scale) rating scale of depression of Cox, Holden, & Sagovsky (1987). The results show that: families have changes in their functioning from the birth of the child until the age of six women have mainly their spouses' support. The family changes occur at cohesion and adaptability level suggesting broken up and chaotic families. The social support recognized by the family focus on the extended family, the nursery school and the health center. The major difficulties perceived by families are economic, social participation and availability of time.

### BASIC ASPECTS OF MATERNAL SPEECH TO TWIN AND NON-TWIN INFANTS IN THE COURSE OF EARLY INFANCY

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This longitudinal and naturalistic study aimed to investigate the emotional and the verbal expressions, the focus and the syntactical form of maternal speech to twin and non-twin infants in the course of early infancy. Nine first infant-mother twin and nine infant-mother non-twin dyads were observed (through video recording) during spontaneous interactions at home, from the second to the sixth month after birth in a Greek sample from Crete. The groups were matched on maternal age, infant gender and family socioeconomic and education level. It was hypothesized that differences would be evident in certain aspects of maternal speech to twins compared to non-twins, summarized as follows: (a) negative emotional expressions and emotional mismatching than positive facial expressions of emotional and emotional matching would be more frequent in the course of maternal speech to twin infants compared to non-twin infants, (b) maternal speech during twin infant-mother dyadic interaction would be more directive (contain fewer questions), less infant-focused and less responsive to infant cues than that of maternal speech to non-twin infants. Preliminary results from the microanalysis of three infant-mother twin and three infant-mother non-twin infants will be presented and discussed in the frame of the theory of innate intersubjectivity.

### THE INTERACTION OF TWIN AUTISTIC BROTHERS WITH TEACHERS AND PEERS IN A SPECIAL NURSERY UNIT: A CASE STUDY

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The aim of the present study is to explore interactions between dizygotic autistic twins of preschool age with their teachers and peers in a Special Nursery Unit. We observed interaction episodes in a naturalistic setting for 4 days (1 day per week for a whole month). Data analysis was carried by nonparametric tests due to the small size of the sample. Results showed significant differences between the twins: proximity to the teachers during interaction is higher with the first born than with the second born twin. The firstborn displays negative feelings before interaction episodes that usually turn into positive during the episodes. The secondborn twin displays a rather stable emotional condition before, during and after interactions. Further, he involves in interaction episodes more frequently than the firstborn (65% in comparison to 35% of the firstborn). There were no significant results regarding interactions with peers. It is more likely that the twins are going to make the first step in order to come into contact with peers although it is the teachers who always initiate interactions with the two brothers. Besides, both teachers initiate interaction more frequently with the secondborn, which results in a higher involvement with interaction games (75%). When the firstborn is involved in an interaction episode, this takes the form of solitary play in a dyad, or interactive play.